DOCUMENT RESUME

ED 160 742 CE 016 600

AUTHOR Picou, J. Steven; And Others
TITLE Significant Other Influence, Career Choice and Achievement: Selective Theoretical and Conceptual Approaches. Research and Development Series No. 111.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Jan 76
CONTRACT NE-C-00-3-0079
NOTE 70p.; Parts of bibliography may be marginally legible due to print quality

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Achievement; Background; Career Development; *Concept Formation; Interpersonal Relationship; Literature Reviews; Models; *Occupational Aspiration; *Occupational Choice; Research Needs; Self Concept; *Social Influences; Socioeconomic Influences; Status; Theories
IDENTIFIERS *Significant Others

ABSTRACT

The monograph reviews theoretical, conceptual, and empirical research on occupational choice and achievement. It begins by delineating the major macro-theoretical approaches in occupational sociology and vocational psychology, leading to a consideration of conceptual development of occupational choice. An overview of status attainment models and a perspective on the significance of status attainment literature, in terms of significant other influence, concludes the monograph. In the concluding section are comments on theoretical and conceptual convergence, career development and the life cycle, and needed research in these areas. Eight figures, two tables, and ten pages of references are provided. (MF)

Research and Development Series No. 111

SIGNIFICANT OTHER INFLUENCE, CAREER CHOICE AND ACHIEVEMENT: SELECTIVE THEORETICAL AND CONCEPTUAL APPROACHES

J. Steven Picou, Ph.D.
Texas A&M University

Evans W. Curry, Ph.D.
The Ohio State University

H. Lawrence Hotchkiss, Ph.D.
The Ohio State University

The Center for Vocational Education
The Ohio State University
1960 Kenny Road
Co bus, Ohio 43210

January 1976

THE CENTER MISSION STATEMENT

The Center for Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning and preparation. The Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

The literature on the occupational choice process is characterized by a minimum amount of rigorous theory-building and theory-testing and an overabundance of: (1) repetitive empirical investigations, and (2) broad theoretical statements which provide "sensitizing perspectives" but seldom generate clearly stated hypotheses. The interrelationship of theory and research in this area has tended to be rather disjointed, reflecting very little systematic theoretical and conceptual integration and codification.

The paucity of testable theoretical work has been noted by numerous scholars from a variety of disciplines. In 1963, Haller and Miller stated:

> We do not have a valid theory to explain and predict what occupation a person will enter; we may never have.

Musgrave (1967), four years later, echoed a similar opinion when he posited "there is at present no sociological theory of occupational choice." Osipow (1968:IX), along similar lines, has commented, with regard to sociological approaches to the occupational choice process, that:

> The sociological theories (of career development) ...are essentially nontheories...they do not attempt to organize the data descriptive of career choice in the way that other more typical theories and models ordinarily do.

In a discussion of the many fragmented "theoretical statements" which have emerged from the plethora of empirical studies conducted in this area, Kuvlesky (1970:3) states:

> ...our efforts [at theory building] consist of *ex post facto* interpretations, conceptual specification, and empirical generalizations rather than sociological theory *per se*.

Despite these claims regarding a lack of rigorous theory regarding occupational choice, many social scientists have made significant contributions toward the development of a theoretical approach to occupational choice and achievement. In this monograph an attempt will be made to review the major theoretical efforts from sociology and vocational psychology at various levels of abstraction. From this literature review a life-cycle taxonomy will be presented which hopefully will isolate some common elements of previous theories as well as providing a basis for guiding future theoretical and empirical research.

MACRO-THEORETICAL APPROACHES: AN OVERVIEW OF BASIC ASSUMPTIONS

At a very abstract level of analysis, two major approaches to career choice and achievement can be delineated. The "adventitious" and "purposive" frameworks specify different domain assumptions regarding the nature and dynamics of the choice and achievement process. The "adventitious" framework, also referred to as the "accident" or "fortuitous" perspective, has been employed by a number of social scientists (e.g., see: Caplow, 1954; Kahl, 1953; Katz and Martin, 1962). This approach assumes that occupational decisions are made without consideration of "long-range rewards" or labor market opportunities. Consequently, minimum consideration is given to the adjustment process between personal job preferences and available occupational opportunities. This perspective is readily apparent in the following statement by Miller and Form (1951: 660):

> One characteristic is outstanding in the experience of most of the case histories that have been cited. In their quest of lifework there has been a vast amount of floundering, and chance experiences appear to have affected choices more than anything else. No single motivating influence underlies the majority of the choices made. It is the compounding of various experiences and influences which has finally crystallized into a wish for a certain occupation. Chance experiences undoubtedly explain the process by which most occupational choices are made. (emphasis added)

In contrast to the "adventitious" approach, the "purposive" approach views occupational choice as the "culmination of a process in which hopes and desires come to terms with the realities of the occupational market situation" (Ford and Box, 1967: 288). A large variety of economic, psychological and sociological theories can be delineated as falling within the purview of the "purposive" or "systematic" approach. Economic approaches generally stress the fact that occupational choice is inextricably related to labor market factors (Thomas, 1956). Psychological approaches, as notes by Crites (1969: 90-116), include "trait and factor" theories (Roe, 1957), "self" theories (Ginzberg, et al., 1951; and Super, 1953) and "decision" theories (Gelatt, 1962; and Hilton, 1962). Sociological and psychological research has, in general, been based upon the purposive framework. Because of this fact, the remainder of this monograph will be solely concerned with reviewing theory development in terms of the assumptions of the purposive model.

A REVIEW OF THEORETICAL APPROACHES

Two early attempts at constructing a general theory of occupational choice were made by Ginzberg, et al. (1951) and Super (1953). Ginzberg introduced the "developmental framework" as a basis for understanding occupational choice. In this framework, it is posited that as youth mature and grow older, their ideas concerning occupational placement become increasingly realistic. Three stages are delineated: (1) the fantasy stage, (2) the tentative stage, and (3) the realistic stage.

The fantasy stage ranges approximately from the ages of six to eleven. At this life-cycle point Ginzberg contends that children have unlimited aspirations and often aspire to jobs having a "grandiose, spectacular, or adventuresome quality" (Ginzberg, et al., 1951: 62). Youth at this stage of Ginzberg's taxonomy are not aware of their own capabilities nor labor market contingencies. The tentative stage is entered between the ages of ten to twelve and continues until the ages of sixteen or seventeen. According to Ginzberg, it is during this time period that the adolescent gains:

> ...a greater understanding of the forces in the external world -- the advantages and disadvantages which attach to various types of work, the formal preparation required to enter certain occupations, and the obstacles he will encounter in seeking to realize a particular choice (Ginzberg, et al., 1951: 72).

The realistic stage commences around the age of seventeen or eighteen, where more objective appraisals begin to supplant the fantasies of prior occupational goals. As youth become familiar with the realities of the immediate occupational situation (i.e., personal interests, limitations, strengths, etc.) occupational selection begins to narrow and a final choice crystallizes (Ginzberg, 1951: 95).

The theoretical formulations of Super were developed in response to several limitations of Ginzberg's approach. Super (1953: 186-187) contends that Ginzberg's theory is: (1) limited by an inadequate research design, (2) fails to build on previous research in the area, (3) makes a false distinction between occupational choice and adjustment, (4) provides inconsistent definitions of occupational choice in each stage of the development model, and (5) fails to consider the role of compromise in the process of

occupational decision-making. In an attempt to provide a more adequate theoretical framework for research, Super (1953: 189) presented the following propositions as a general theory of vocational development:

1. People differ in their abilities, interests, and personalities.

2. They are qualified, by virtue of these characteristics, each for a number of occupations.

3. Each of these occupations requires a characteristic pattern of abilities, interests, and personality traits, with tolerances wide enough, however, to allow both some variety of occupations for each individual and some variety of individuals in each occupation.

4. Vocational preferences and competencies, the situations in which people live and work, and hence their self-concepts change with time and experience (although self-concepts are generally fairly stable from late adolescence until late maturity), making choice and adjustment a continuous process.

5. This process may be summed up in a series of life stages characterized as those of growth, exploration, establishment, maintenance, and decline and these stages may in turn be subdivided into (a) the fantasy, tentative, and realistic phases of the exploratory stage, and (b) the trial and stable phases of the establishment stage.

6. The nature of the career pattern (that is, the occupational level attained and the sequence, frequency, and duration of trial and stable jobs) is determined by the individual's parental socioeconomic level, mental ability, and personality characteristics, and by the opportunities to which he is exposed.

7. Development through the life stages can be guided, partly by facilitating the process of maturation of abilities and interests and partly by aiding in reality testing and in the development of the self-concept.

8. The process of vocational development is essentially that of developing and implementing a self-concept: it is a compromise in which the self-concept is a product of the interaction of inherited aptitudes, neutral and endocrine makeup, opportunity to play various roles, and evaluations of the extent to which the results of role playing meet with the approval of superiors and fellows.

9. The process of compromise between individual and social factors, between self-concept and reality is one of role playing, whether the role is played in fantasy, in the counseling interview, or in real life activities such as school classes, clubs, part-time work, and entry jobs.

10. Work satisfactions and life satisfactions depend upon the extent to which the individual finds adequate outlets for his abilities, interests, personality traits, and values; they depend upon his establishment in a type of work, a work situation, and a way of life in which he can play the kind of role which his growth and exploratory experiences have led him to consider congenial and appropriate.

This theoretical formulation, providing a psychological orientation, emphasizes the importance of self-concept formation and the idea of role-playing for career decisions.

Personality theorists have also emphasized the systematic development of interpersonal orientations which impact upon career decisions. Roe (1957) stressed early childhood socialization as a determinant of "people" and "non-people" personality orientations. These orientations, in turn, predispose individuals to different careers reflecting the above personality types. In a similar vein, Holland (1973) has posited a relationship between personality types and work environment. Holland's model stipulates six personal orientations which are matched with six corresponding work environments. Worker satisfaction and effectiveness are equated with "goodness of fit" between personality and work environments.

Sociologists have also made several noteworthy attempts at theory development in this area. In 1956, Blau and his associates attempted to provide a conceptual paradigm, predicated upon interdisciplinary considerations, to guide future empirical research in this area. Social structure has multiple implications for this paradigm. The authors state:

> ...on the one hand, ... (social structure) influences the personality development of the choosers; on the other, it defines the socioeconomic conditions in which selection takes place (Blau, et al., 1956: 533).

Furthermore, this dual influence must be viewed in terms of an historical perspective, as past socioeconomic opportunities and requirements may affect occupational choices that crystallize at later periods. Specifically, occupational choice is operationalized in the following manner:

> ...a process involving a series of decisions to present oneself to employment or other selectors as a candidate for a number of more or less related occupations. Each

decision is governed by the way in which the individual compromises his ideal preference and his actual expectations of being able to enter a given occupation, the latter being conditioned by previous rejections and other experiences (Blau, et al., 1956: 536).

Slocum's (1959, 1970) theoretical contributions in this area have underscored the significance of anticipatory socialization for "playing at" future occupational roles including "consideration of an occupational role by a person who has not entered the labor force, or of an alternative occupation by one who has a job" (Slocum, 1959: 142). The influence of "significant others" is also noted by Slocum. The occupational decision-making process is viewed as being conditioned by four interrelated sources of influence: (1) personal variables, (2) impersonal social and cultural factors, (3) perceived interpersonal relationships, and (4) values of reference groups.

Slocum (1970) has also developed several propositions regarding occupational and educational behavior based on a social systems model. Concerning occupational and educational projections he states:

> ..the educational and occupational aspirations, expectations, and actions of individual persons are determined by the complex interaction of personal, cultural, and social systems factors as mediated through experience in concrete situations, including perceptions of rewards and costs (Slocum, 1970: 10).

With specific regard to occupational and educational goals and plans, he develops the following propositions:

> Proposition 1. Levels of educational and occupational aspirations or preferences are positively influenced by social system values, by personal recognition and encouragement from significant others, and by knowledge that level of occupational placement determines SES.
>
> Proposition 2. Levels of educational and occupational expectations are based upon levels of aspiration, levels of appraisal by self and "significant others" of relevant ability, encouragement from significant others, perceptions of opportunity and availability of resources needed to meet costs involved in attainment of desired objectives (Slocum, 1970: 10).

These propositions are derived primarily from past empirical studies and provide a concise statement of the factors involved in the crystallization of occupational and educational orientations.

A macro-systems theoretical approach has been advanced by Rodgers (1966), who views occupational choice as a developmental process which is limited and affected by the following factors:

1. Limiting inputs include sex, mental capacity, and physical capacity of the individual.

2. Family inputs are of three broad types: structure, process, and conditions. Family structure refers to family types, power structure, division of labor, family composition, and the original position of the individual in the family. Process refers to the emotional condition, family orientation, and cliques -- isolated relations. Family conditions refer to work settings, wife-mother employment, remarriage, adoption, illegitimacy, and health.

3. Societal inputs are of two types: interactional and conditional. The interactional type inputs are school, peer groups, family associates, voluntary organizations, and work experience. Conditions are situational factors such as relative socioeconomic status, community facilities, community-character, work opportunity, ethnic group, and residence (Rodgers, 1966: 219-220).

Approaching the theoretical issue of occupational choice from a role-theory perspective, Musgrave (1967) has stated that the scope of such an undertaking should include "the whole process of first choice of occupation and take account of influences operating on any individual from birth onwards" (Musgrave, 1967: 33). Socialization is viewed by Musgrave as a role-learning process, in which roles are specified in terms of the number of settings in which they are played.

> Primary socialization will refer to roles played in all settings, secondary socialization will refer to roles played in some settings, and tertiary socialization will cover those roles only played on one setting (Musgrave, 1967: 35).

The concept of "economic socialization" is introduced and specifically refers to "that important cluster of roles that relate to the economic institutions of any culture" (Musgrave, 1967: 35). Occupational choices develop with regard to the nature of the role-socialization process. This process is delineated into four observable stages: (1) pre-work socialization, (2) entry into the labor force, (3) socialization into the labor force, and (4) job changes.

Ford and Box (1967: 288) have suggested that occupational choice "is a function of...values and...perception of the chances of realizing them in the alternative occupations." Two major propositions constitute the basis of this theoretical approach:

1. In choosing between alternative occupations, a person will rank the occupations in terms of the relation between his values and the perceived characteristics of the occupation, the higher the coincidence between the characteristics and his values the higher the rank.

2. The higher a person perceives the probability that he will obtain employment in the higher ranked occupation, the more likely he is to choose that occupation (Ford and Box, 1967: 239).

Several sociologists have presented theoretical schemes that include many of the factors mentioned above. In Miller and Form's (1951) classic work in industrial sociology, five work stages in the life cycle are delineated. The first stage of this scheme is labeled "the preparatory work period." At this stage of development, the individual's occupational future begins to crystallize. Peer group influences and occupational role models are considered to be important factors for the development of one's occupational orientations. Adjustment to the world of work continues through "initial," "trial," and "retirement" stages of occupational development.

Haller, Burchinal, and Taves (1963) have presented a taxonomic listing of five factors which should be taken into consideration in an assessment of the determinants of occupational choice. These factors are:

1. The youth's occupational decisions and concerns including interest in the future, level of occupational aspiration, and particular occupational choices.

2. Changes in occupations themselves, including obsolescence, new duties for old occupations, new occupations, a general rise in the skills required for most occupations, closer dependence of occupations on formal education, and an increasing supply of trained people.

3. The immediate situation of the youth including his physical facilities namely, the accessibility and quality of schools and his financial resources, and also the expectations of others like parents, teachers, counselors, and the dominant culture which influence his own self-conceptions and sometimes affect his actual job chances.

4. Other life decisions including education, marriage, and preferred residence.

5. The youth's personality including his measured intelligence, his conceptions of his ability, his occupational self-conceptions, and his conceptions of behavior appropriate to his sex. (Haller, Burchinal, and Taves, 1963: 4-5.)

Most recently, Kuvlesky (1970), Cosby and Legere (1971), and Falk (1975) have proposed theoretical formulations of the occupational choice process. Kuvlesky's paradigm of status projection development includes structural and personal factors which influence the crystallization and development of occupational projections. Structural factors, viewed as "antecedents" of occupational crystallization, are delimited in terms of socialization processes and role allocation (Kuvlesky, 1970: 7). Agencies of socialization include role models, reference groups, significant others, and social, cognitive, and cathectic development. Status recruitment structures and the division of labor that exist in a societal setting are also noted as being antecedent structural factors.

Concerning the development of personal antecedents for status projection development, Kuvlesky states:

> The personal antecedents of value orientation (i.e., Parsons' pattern variables), achievement abilities, and opportunity are seen as prime determinants of status projection phenomena (Kuvlesky, 1970: 14).

Aspirations "evolve first as specifications of values" (Kuvlesky, 1970: 14). The development of occupational role aspirations has additional consequences for social adjustment. Perception of opportunity structures and the emergence of a self-concept may induce goal modifications and the occupational expectations of individuals may differ substantially from goals. Anticipatory occupational goal deflection and variations between occupational projections and actual job attainment are viewed as sources of disruptive personal and social adjustment.

Kuvlesky also states, in a manner similar to other theorists noted above, that three broad stages of occupational development exist. These stages are listed as (1) the "pre-work stage," (2) the "work-life stage," and (3) the "post-work stage" (Kuvlesky, 1970: 20).

Cosby and Legere (1971: 1-3) present a "cumulative model of the occupational selection process" which takes into account the fact that occupational choices are a "cumulative product of prior influence as well as current circumstances." After an insightful critique of occupational projection research, these authors construct a detailed typology of occupational orientations which includes six dichotomous components. Occupational orientations are viewed as potentially consisting of any number of combinations of the following dichotomous components; (1) specific versus diffused, (2) desirable versus undesirable, (3) anticipated versus unanticipated, (4) realistic versus unrealistic, (5) high motivation versus low motivation, and (6) adequacy versus inadequacy. These components yield sixty-four distinct, possible orientations toward occupations. At this time, there are no empirical data to substantiate the existence of one

or all of these orientations. The importance of this conceptualization is that it sharply points up the possibility that a single model defining career development for all individuals simply does not exist.

Most recently Falk (1975) has proposed a systems approach to occupational choice which provides a macro-level framework from which substantive theoretical submodels can be deduced for testing at a "middle range" level of analysis. Key variables in this include "structural factors" (reference group influence, social origins, mental ability, sex) "intervening mechanisms" (needs, socialization experiences, perception of opportunity) and "self-concept formation." Falk (1975: 68-70) also notes the importance of socialization as a primary mechanism through which career choices are influenced. Five basic propositions delineate the systems approach:

1. Structural antecedents will, at different points in time, exert differential effects on all subsequent behavior.

2. Structural antecedents will combine with intervening processes to affect an individual's occupational choice.

3. An individual's occupational choice, at any point in time will be the result of an interactive rather than a linear process.

4. As a result of structural antecedents and intervening processes, the individual will develop a perception of reality about the occupational world in which some occupations will be perceived as more desirable than others.

5. The individual will engage in a compromise process so that some occupation is crystallized and chosen (Falk, 1954: 71-73).

The macro-theoretical approaches reviewed above have several common themes. First, all of the above theorists have implicitly or explicitly noted the developmental character of occupational choice and placement. The problems of career choice and attainment are clearly limited to a life-cycle framework. Labor market entry and career pattern tend to be viewed in conjunction with individual maturation and growth. Secondly, the emphasis on socialization processes, which characterizes many of these approaches, stems logically from the developmental perspective. Socialization and the internalization of "appropriate values" is viewed as a necessary element for occupational choice and achievement at every stage of the developmental process. From early childhood to "on the job" training and retraining, many theorists have stressed the crucial role of socialization. Finally, as would be expected, the significance attributed to self-concept formation for career choice

is consistent with the theme of socialization. Theorists from Super (1953) to Falk (1975) have systematically emphasized the important role one's conception of self has upon career achievements.

There have been few comprehensive empirical evaluations of these "theories." Consequently, the utility of these frameworks for explaining the career behavior of both ethnic and nonethnic minorities has not been empirically evaluated (Osipow, 1975: Falk, 1975).

OCCUPATIONAL CHOICE: CONCEPT FORMATION IN VOCATIONAL PSYCHOLOGY AND OCCUPATIONAL SOCIOLOGY

Career decisions of youth have been traditionally operationalized in terms of future occupational and educational aspirations and expectations. However, more specific attention has been given to concept development and refinement of occupational orientations than educational orientations. Nonetheless, educational decisions consistently have been operationalized in a manner similar to occupational decisions. Therefore, with limited exceptions, the statements made with regard to measures of occupational choice are also generalizable to educational choice.

Psychologists became interested in various aspects of goal-directed behavior between 1930 and 1950. During this period, the concept "level of aspiration" was introduced into the psychological literature (Dembo, 1931) and subsequently this topic became a major research focus. Dembo's (1931) early introduction of the "level of aspiration" concept was anticipated in an empirical investigation by Hoppe (1930) who inferred "aspiration" or "goal-setting" behavior of students in terms of feelings of success or failure occurring immediately after task-performances in an experimental setting.

An explicit definition of "level of aspiration" was first provided by Frank (1935), out of experimental studies where participants were given a "performance scale" and asked "how well" they "intended to do" on the next task. "Level of aspiration" was operationalized as: "the level of future performance in a familiar task which an individual...explicitly undertakes to reach" (Frank, 1935: 119). In this study, Frank also developed two measures of discrepancy and attainment discrepancy. These measures determined the difference between level of last performance and level of the new goal and difference between goal level and the subsequent performance, respectively. It is important to note that this early formulation represents, primarily, an expectancy state, i.e., an achievement which is expected by the individual.

Lewin's (1944) conceptual work posited that the "level of aspiration" concept included a continuum with realistic and unrealistic extremes. Differences in "wishful" and "realistic" goal-setting behavior were considered to result from the nature of discrepancy scores obtained by experimental subjects. The early studies by Dembo (1931) and Hoppe (1930) ignored this distinction as their initial research on the "level of aspiration" concept was primarily concerned with goals or individual preferences.

Irwin (1944) noted that "level of aspiration" included both "cognitive" and "affective" components and introduced the "level of expectation" concept in experimental research in psychology. The "expect"-"hope" distinction has continued as an analytical dimension in the psychological literature and appears to be a valid conceptualization in terms of expressions of personal preferences and anticipations (Irwin and Mintzer, 1942; Holt, 1946; Preston, et al., 1947; Ricciuti and Schultz, 1953; and Lockette, 1956).

Sociologists have also directed considerable attention to the development of reliable and valid indicators of occupational choice. Concerning their "level of aspiration" scale, Haller and Miller (1963) note that this concept is but one dimension of the occupational choice process and fundamentally the concept connotes the action of a person or group towards a goal. A person's level of occupational aspiration is operationalized as "the area (a point or a limited range of points) of the occupational prestige hierarchy which an individual views as realistically probable versus idealistically desirable for him, and by the goals he has set for the near future versus the distant future" (Miller and Haller, 1964: 448).

Kuvlesky and Bealer (1966: 267) further refine the "occupational choice" concept by stating that occupational choice designates "only the psychological preferences or desires that the individual has regarding work statuses." An aspiration is defined as "a person's or grouping of persons' orientation toward a goal" (Kuvlesky and Bealer, 1966: 269). Three specific analytical components are delineated:

1. a person or persons

2. wanting, having an orientation toward or about

3. a social object (i.e., a goal) (Kuvlesky and Bealer, 1966: 270).

It is also noted that adolescents give simultaneous consideration to a variety of goals. Youth have orientations concerning future educational, income, residential, and marital statuses. The "intensity" of one's aspirations in each "goal-area" is thought to be important for predicting attainment (Kuvlesky and Bealer, 1966: 272).

A conceptual distinction between occupational aspirations and expectations has been made by Kuvlesky and Bealer (1966: 273). In contra-distinction to an aspiration, an expectation is operationalized as "the individual's estimation of his probable attainment in reference to a particular goal area, i.e., what occupational position he expects to reach" (Kuvlesky and Bealer, 1966: 273). The rationale for distinguishing between these two concepts is that

the object involved in an expectation is anticipated and may or may not be desired by the individual. When viewed as separate analytical constructs, aspirations and expectations may vary independently of each other, giving rise to "an analytically distinct and researchable element" -- anticipatory goal deflection (incongruent occupational aspirations and expectations). This phenomena may have "some actual bearing on deprivation, psychological and social satisfactions, self-image, and perhaps directly or indirectly on social interaction" (Kuvlesky, 1966: 14). This conceptualization is similar to the goal discrepancy concept which evolved out of early efforts in the psychological literature.

The two conceptual schemes noted above share a similar theoretical basis, but appear to differ in the manner that the "dimensions" of occupational choice are operationalized. The occupational aspiration scale devised by Haller and Miller (1963) is a composite evaluation of idealistic versus realistic and long-range versus short-range occupational orientations. Kuvlesky and Bealer's (1966) conceptualization may be tapping the limits of the idealistic versus realistic occupational orientations of youth for long-range job attainments. The fact that empirical research on anticipatory goal deflection reveals this phenomena to be related to class and [illegible] factors such as "goal-impedence" indicates that the "asp[illegible] expectation" distinction may provide important information about the dynamics of the occupational choice process which is not readily available from the OAS (Cosby and Picou, 1971B; and Curry and Picou, 1971). However, as noted by Haller (1968: 484-485), the use of "expectation" in this research area must be specified since a primary source of influence on occupational choice is the expectations significant others hold for ego.

The implications of viewing occupational choice as occupational preference and occupational aspiration merit further consideration. With regard to equating occupational choice with occupational preference, Crites (1969: 129) has stated:

> ...when an individual expresses a preference he ranks two or more occupations along some continuum of desirability or liking. In contrast, when he makes a choice, he ranks two or more occupations along a continuum of his estimated chances of actually entering them. In expressing a preference, he indicates what he would like to do; in making a choice, he predicts what he probably will do.

Equating occupational choice with occupational aspiration has additional implications. Kuvlesky and Bealer (1966: 267) specifically equate "occupational choice" with the ideal occupation one desires. Trow (1941) equated this dimension of occupational choice as reflecting only occupational fantasies. However, sociologists have often equated choice with aspiration and in so doing have

apparently confused the relationship between the dynamics of the choice process and occupational attainment.

The concept "occupational choice" appears to be more comprehensive than either occupational preference or occupational aspiration. Crites (1969) has attempted to clarify these various conceptualizations in a manner similar to Trow (1941). Specifically, the operational differences between occupational choice, preference, and aspiration are made in the following manner:

> In making a choice, the individual considers as many factors as possible which may affect his employment and progress in an occupation and selects one which he thinks will provide him with the greatest degree of success and satisfaction. In expressing a preference, the individual indicates which occupation he likes the best, and would enter, if certain contingencies, such as financial support for training, could be arranged. In stating an aspiration, the individual indulges in fantasy and conceives of the "merely possible" -- what he wishes he could do if he could enter his ideal occupation.

This brief review of conceptual approaches to occupational choice is presented graphically in Figure 1. As operationalized by Kuvlesky and Bealer (1966), Lewin (1944), and Trow (1941) the concepts "occupational aspiration," "idealistic aspiration," and "occupational fantasy choice" appear to represent a person's desire for a future ideal job as does the "fantasy state" of Ginzberg (1951) and "growth stage" of Super (1957). Minimum consideration of reality contingencies appear to impinge on the formation of this dimension of occupational choice. "Possible" and "preferred" occupational choices, as operationalized by Trow (1941) and Crites (1969) are suggestive of more consideration of reality contingencies on the part of the chooser than "ideal" choices or aspirations. However, it should be noted in Figure 2 that "possible" occupational choices and "vocational preferences" still do not elicit maximum reality considerations on the part of the chooser. On the other hand, "occupational expectations" (Kuvlesky and Bealer, 1966), "realistic aspirations" (Lewin, 1944), "probable occupational choice" (Trow, 1941), "vocational choice" (Crites, 1969), and "level of expectation" (Irwin, 1944) appear to be similarly operationalized concepts which connote a maximum amount of alternative reality contingencies (e.g., personal ability, family financial support, etc.) for the selection of an occupation.

The OAS, developed by Haller and Miller (1963), appears to be one of the few composite operationalizations in the literature. The OAS provides, in addition to the ideal-real distinction, a long-range versus short-range dimension. The OAS has been found to be an important predictor of career achievements of youth and appears

to be valid and reliable for research on male and female high school youth from high and low SES levels (Otto, Haller, Meier, and Ohlendorf, 1973).

Type Concept	Author(s) and Date	Reality Consideration of Subject and Terms Used		
		Minimum	Moderate	Maximum
Developmental	Ginzberg (1951)	Fantasy Stage	Tentative Stage	Realistic Stage
	Super (1957)	Growth Stage: Fantasy	Exploration Stage Tentative	Exploration Stage Tentative & Trial
Concurrent	Crow (1941)	Phantasy	Possible	Probable
	Lewin (1944)	Idealistic Aspiration		Realistic Aspiration
	Haller & Miller (1963)	Idealistic Aspiration	OAS (composite of extremes	Realistic Aspiration
	Kuvlesky & Bealer (1966)	Aspiration		Expectation
	Crites (1969)		Vocational Preference	Vocational Choice
	Picou & Curry (1971)	Ideal Aspiration	Intended Aspiration	Expectation

Figure 1: Schematic Representation of Relation of Concepts in Literature to Consideration of Reality Factors

Two observations concerning Figure 1 are necessary. First, while it is clear in the work concerning concurrent concepts that the various types of choice can coexist, it is not clear whether the developmental stages are posited as replacing one another or whether elements of earlier stages remain as part of the social psychology of the individual. Second, the OAS of Haller and Miller (1963), which include a long-range short-range dimension, cannot be adequately reflected in the figure.

The limitations of current operationalizations of concepts in this area have been previously specified. Juarez (1968) and Kuvlesky (1969) have both noted that current conceptualizations ignore the "intention" component of choice. Dunsavage and Kleibrink (1970: 4) allude to this problem when they state that: "In the past, aspirational studies have not differentiated between desire and desirable, the individual and societal level of normative values." In other words, a major problem concerning most operationalization in this area is that no attempt to specifically measure a person's intentions as well as one's desires and plans is presented. Picou's (1972) study of deep South youth's educational orientations and Picou and Curry's (1971) conceptualization of occupational choice into three dimensions provide some limited conceptual work in this direction.

From this brief review of concept development, it appears that both vocational psychologists and occupational sociologists have expended a lot of time and energy refining the occupational choice concept. Ostensibly considerable overlap and replication characterizes an interdisciplinary overview of the major empirical works which have accumulated during the last forty years. Future research in both disciplines would be enhanced if more attention were directed toward assessing the utility of current concepts for predicting career achievements, job satisfaction, occupational floundering, etc., than replicating previous efforts. Additionally, the viability of current occupational choice concepts for "special groups," i.e., ethnic, racial, and nonethnic minorities, needs to be determined (Picou and Campbell, 1975). Woelfel (1975) and Spencer et al. (1975) have made significant contributions regarding one native American group -- Choctaw youth. Woelfel (1975: 58) has suggested that "different populations and subcultures" may "perceive the structure of the occupational hierarchy differently." If this contention is valid, then considerable research with current concepts needs to be extended to various ethnic and nonethnic populations.

Although he was specifically dealing with the issue of the dimensionality of the occupational structure, there are at least two issues embedded in Woelfel's (1975) argument. The first entails the question of whether the hierarchy of occupations within the prestige dimension is perceived differently by different subcultural groups. The second entails the question of whether occupations are

pe ceived as comprised of qualitatively different dimensions by different subcultural groups. While research on these questions is somewhat limited, the answers to them have important implications for both research and policy.

The first of the questions has been addressed, to a limited degree, by empirical research. An early study (Inkeles and Rossi, 1956) not only suggests that a prestige structure of occupations exists internationally but that the structure is highly similar. While the study was limited to the six most highly industrialized countries, there are sufficient cultural differences between them to make the correlations among the prestige structures of the six nations striking. In another international study Hodge, Treiman, and Rossi (1966) investigated the correlations of the occupational prestige structure of twenty-three nations to the prestige structure represented by the NORC scale for the United States. Countries were drawn from every inhabited continent. Correlations ranged from .62 to .95 with an average correlation of .83 (Hodge, Treiman, and Rossi, 1966: 318). While the data upon which these results are based are by no means definitive (Hodge, Treiman, and Rossi, 1966: 321), they do suggest that a prestige structure is probably attached to the occupational structure of most nations, and further that those prestige structures are not greatly dissimilar from that observed in this country.

When attention is focused on subcultural differences in perception of prestige, empirical evidence is scant, indeed. However, in a study of sixty-one occupations from the 1947 NORC scale, Siegel (1970: 160) found that the prestige rankings assigned by black and white respondents respectively obtained a correlation of .96. Whether such a similarity exists among other subcultural groups (e.g., Hispanic Americans) is an empirical questic .

Returning to Woelfel's (1975) argument, noting the paucity of studies specifically intended to delineate the dimensions by which occupations are defined by various subcultural groups, and noting further the discussion above, the following tentative conclusions are drawn:

1. Studies which use a common prestige scale for the occupational projection of black and white youth are probably not introducing a great deal of error measurement.

2. Studies applying such a scale to other ethnic groups should be very alert for results which suggest the possibility of error measurement and very cautious in interpretation of findings.

3. Prestige is a ubiquitous phenomenon likely to be found as one dimension by which any group defines occupations.

4. As long as studies of occupational choice and occupational development concentrate solely on the prestige dimension, important insights as to the career development process may continue to escape us.[1]

STATUS ATTAINMENT MODELS

During the last decade, sociologists have systematically developed and refined causal models of the process of status attainment in American society. Implied in the structure of status attainment models is a socioeconomic life-cycle framework. The three broad stages specified are labeled family, schooling, and job (Duncan, Fatherman, and Duncan, 1972: 5). Initially, the basic model of the process of occupational achievement developed by Blau and Duncan (1967) coincided with the straightforward life-cycle framework noted above. This framework also parallels the works of numerous macro-theorists reviewed earlier. Figure 2 presents this model graphically. The two "outcome" factors of this causal system are educational and occupational variables in the model. The analytic framework of this model highlights: (1) "the extent to which inherited status" influences the career achievements of individuals; and (2) how previous life-cycle status achievements affect later achievements (Haller and Portes, 1973: 56).

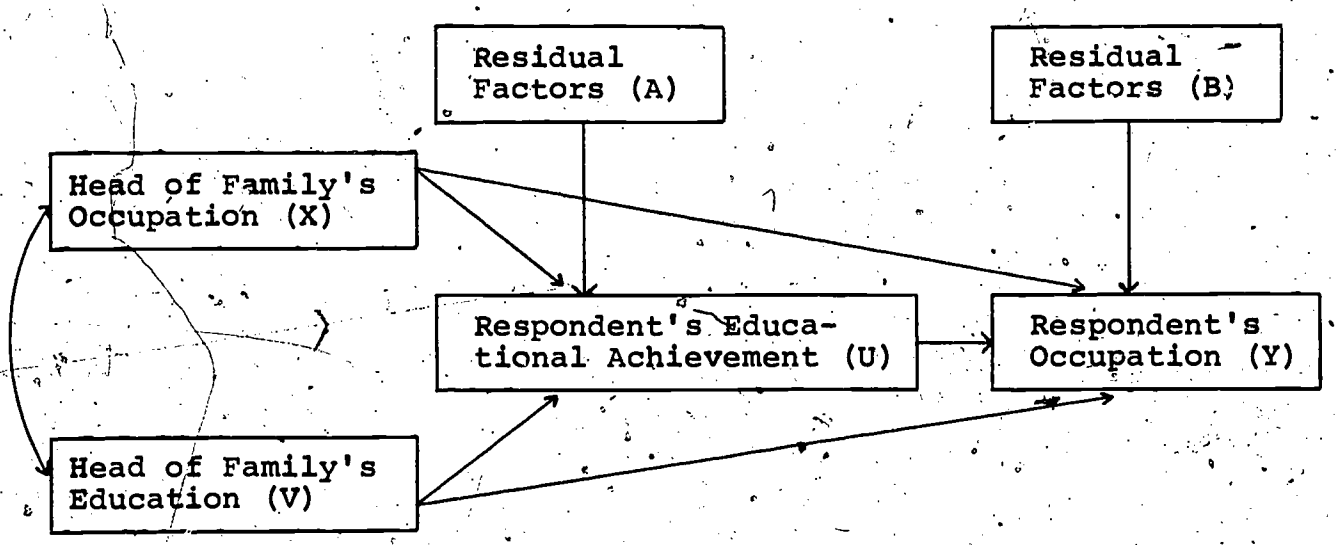

Figure 2: Blau-Duncan Model of Occupational Achievement (Blau and Duncan, 1967).

The model presented in Figure 2 is arrayed so that the relationship between socioeconomic origins and subsequent occupational achievements takes on prime significance. Stratification theorists have long noted the importance of the degree of association between social origins and achievement in terms of the concept of social

system permeability (Svalastoga, 1965). System permeability refers to the degree of flexibility or rigidity that characterizes an individual's entry to or exit from highly valued statuses in a society (Cosby and Picou, 1975). Svalastoga (1965: 39-40) describes this framework in the following manner:

> ...Of any social system we shall ask: How do the social rewards handed out to a person in terms of social status depend upon birth, that is, upon the social status of his father? If such dependence is strong, permeability is near zero; if it is weak, permeability is close to its maximum. Thus this concept allows us to list a hierarchy of stratification models in terms of increasing permeability as follows:
>
> 1. Caste Model: Permeability Zero
> 2. Estate Model: Permeability very low, but not absent
> 3. Class Model: Permeability about 40% of maximum
> 4. Continuous Model: Permeability about 80% of maximum
> 5. Equalitarian Model: Permeability perfect (maximum)

The concept of permeability and the social origin-achievement association is related in a negative manner. That is, as the permeability of a social system increases the correlation between social origins and achievement decreases, approximating the ideal equalitarian stratification model. The importance and significance of educational achievement is also noted from this perspective. The model in Figure 2 stipulates that social origins influence educational achievements, which in turn directly impacts upon occupational achievement. The role of the educational system is thus viewed as a status transmission mechanism by which social origins may indirectly affect career achievements.

Empirical studies of system permeability generally indicate that "once educational achievement has been taken into account, additional effects of parental status on occupational attainment are entirely insignificant" (Haller and Portes, 1973: 65). The importance of the educational institution in American society for career achievements is most obvious from this perspective. At this point a question arises concerning the extent of permeability in the status systems in the United States. Cosby and Picou (1975) have addressed the issue of educational status systems by systematically reviewing findings of several major studies conducted in the United States during the last seven years. Table 1 presents the results of their analysis. Generally, a continuous class model is implied. The results presented in a variety of publications from the Occupational Changes in a Generation Survey, the Project Talent Study, the Explorations in Equality of Opportunity Study, the Parnes Longitudinal Survey, and the Sewell-Wisconsin Study are very suggestive of the existence of a continuous class stratification system in the United States. Looking briefly at

the correlations for white males, derived from indicators of father's education only, permeability estimates range from approximately 18 percent to 6 percent (Cosby and Picou, 1975). Furthermore, Table 1 also reveals that the vast majority of studies in this area have been on white males. A dearth of information is available for blacks, females, and other ethnic and nonethnic group members. The correlations for white females between parents' educational achievement and educational attainment suggest that educational permeability may be less for white females than for white males. However, these differences are slight and certainly more data is warranted before firm conclusions can be made.

For the black and white males, the results from the OCG, Project Talent, and Parnes study suggests that permeability may be less for white males.[2] Apparently white males receive a greater payoff, in terms of educational attainment, from their fathers' educational achievements than do black males. Duncan (1968: 95-96) has interpreted this trend in the following manner:

> The Negro family, in other words, is relatively less able than the white to pass on to the next generation any advantage that may accrue to substantial status achievement in the present generation.

The stratification system operating for black Americans has been described as one that consistently at each life-cycle stage "gives blacks a smaller reward than it gives whites for equivalent investments or attainments" (Carter and Picou, 1975: 37). An incomplete picture of the parameters of institutional racism emerges from the few studies of black males available in the literature. Educational achievement is certainly more significant, in terms of occupational rewards, for white males when contrasted to black males. The advantage in occupational status for whites "as they obtain additional education is almost four times greater than that occurring to blacks" (Carter and Picou, 1975: 32). Ostensibly, more longitudinal data is needed to replicate and strengthen these contentions. Nonetheless, the inconsistent effects of educational achievements for occupational attainment, by race, demonstrate an area for future in-depth research.

Expansions of the Status Attainment Framework

The Blau-Duncan Model noted in Figure 2 has been expanded by Sewell and associates to include social psychological dimensions of status attainment. Figure 3 presents an expanded version of the status attainment process commonly referred to in the literature as the "Wisconsin Model." This model is more complex than the Blau-Duncan model primarily because of the addition of several social psychological variables which intervene between social origins and achievement. A three-step transmission process is outlined;

Table 1: Estimates of the Permeability of Educational Status in the United States by Race and Sex.*

SOURCE	DESCRIPTION OF DATA SET	STATUS MEASURE		WHITE[a]		BLACK	
		Parental	Filial	M	F	M	F
Duncan, Featherman and Duncan (1972). Also see: Duncan (1968) and Carter and Picou (1975).	OCG Data, 1962 Adjunct to Current Population Survey U.S. Bureau of Census: 20,700 males in the non-farm labor force age 20-64.	Fath Occ	Ed Att	.813	---	.941	---
		Fath Ed	Ed Att	.825	---	.868	---
Porter (1974)	Project Talent Data, National Panel of U.S. High Schools randomly selected; Cohort was High School seniors in 1960 with a Wave II follow-up five years later; Analysis of 14,891 white and 435 black students.	Heads Occ	Ed Att	.908	---	.987	---
Alexander and Eckland (1973); Also see Alexander and Eckland (1975)	EEO Data; National example of High Schools. Cohort was High School Sophomores in 1955 with a Wave II follow-up in 1970. Analysis of 2,077 males and females.	Fath Occ	Ed Att	.934	-b-	---	---
		Fath Ed	Ed Att	.861	-b-	---	---
		Moth Occ	Ed Att	.851	-b-	---	---
Sewell and Shah (1968)	Survey of Wisconsin High School Students. Cohort was High School seniors in 1957; predominately white; Wave II follow-up seven to eight years later; Analysis of 9,007 males and females.	Fath Ed	Ed Att	.935	.914	---	---
		Moth Ed	Ed Att	.940	.913	---	---

Table 1 (cont.)

SOURCE	DESCRIPTION OF DATA SET	STATUS MEASURE			WHITE[a]		BLACK	
		Parental	Filial		M	F	M	F
Sewell, Haller, and Ohlendorf (1970); Also see Sewell, Haller, and Portes (1969) and Sewell and Hauser (1972)	Further analysis of the Wisconsin Data for Males	SES	Ed Att	(Farm)	.932	---	---	---
				(Village)	.884	---	---	---
				(Sm City)	.790	---	---	---
				(Md City)	.854	---	---	---
				(Lg City)	.855	---	---	---
				(Total)	.826	---	---	---
Carter (1972)	Further analysis of the Wisconsin Data for males and females	Fath Occ	Ed Att	(Non-	.895	.933	---	---
		Fath Ed	Ed Att	Married)	.908	.894	---	---
		Moth Ed	Ed Att		.932	.899	---	---
		Fath Occ	Ed Att	(Married)	-c-	.936	---	---
		Fath Ed	Ed Att		-c-	.849	---	---
		Moth Ed			-c-	.859	---	---
Treiman and Terrell (1975)	Longitudinal study of Labor Market Experience of Women (Parnes, et al., 1970)	Fath Ed	Ed Att		.824	.830	.868	.865
		Moth Ed	Ed Att		.858	.815	---	.805

[a]Both the EED and Wisconsin Surveys are predominately white samples. The numbers of non-whites are estimated to be so slight that the correlations represent essentially white data.

[b]Zero Order Correlations for women were not reported in the two EED reports.

[c]The Table of Zero-Order correlations for married men was not included.

Source: Cosby and Picou, 1975: 4.

*Adopted from Cosby and Picou 1975:4. The values contained in the table relfect the operational definition of permeability ($1 - r^2$).

social origins, measured by SES indicators of parents, and son's mental ability are theoretically situated as exogenous variables which influence academic performance of students. These variables are viewed as impacting upon the encouragement and support of significant others (i.e., parents, teachers, and peers) to attend college. Significant other influence, in turn, influences the formation of educational and occupational aspirations, which affect subsequent achievements in these status areas.

With the emergence of the Wisconsin Model, a more synthetic, interdisciplinary approach to occupational choice and achievement is possible. As noted earlier, vocational psychologists and occupational sociologists have concentrated on studies of career aspirations and expectations. The formation of occupational and educational aspirations is viewed as a "central process" in the Wisconsin Model of status attainment, since these attitudes or orientations reflect the individual's "expressive orientations" toward future educational and occupational statuses. Additionally, aspirations also indicate the individual's "contextual self-evaluation" regarding future career achievements (Haller and Portes, 1973: 6B). Although some questions have been raised in the literature regarding the importance of aspirations for achievements (Kuvlesky and Bealer, 1966), the majority of recent studies suggest that aspirations are crucial determinants of early career achievements. Haller, Woelfel with Fink (1969: 5) have stated:

> ...It is safe to say that the evidence of an important relationship between educational and occupational aspirations and educational and occupational attainments is substantial.

The concern with aspiration-formation which characterizes the Wisconsin Model also implies consideration of reference groups structures that facilitate the formation of educational and occupational aspirations. The significant other conceptualization is a refined approach to assessing the social context of the formation of achievement orientations in adolescents. Social psychological studies on interpersonal influence become important because the significant other has been found to be a strong predictor of aspirations and early educational attainment (Sewell, Haller, and Portes, 1969; Sewell, Haller, and Ohlendorf, 1970). As such, it is a variable which has some potential for utilization by "change agents" who are interested in influencing the career behavior of "disadvantaged" youth. Sewell, Haller, and Portes (1969: 89-90) note the practical potential of this variable as follows:

> ...besides being a powerful explanatory factor, significant others' influence should be amenable to manipulation. It thus suggests itself as a point at which external agents might intervene to change educational and occupational attainment levels...There may well be a substantial pay-off from more refined work with this variable.

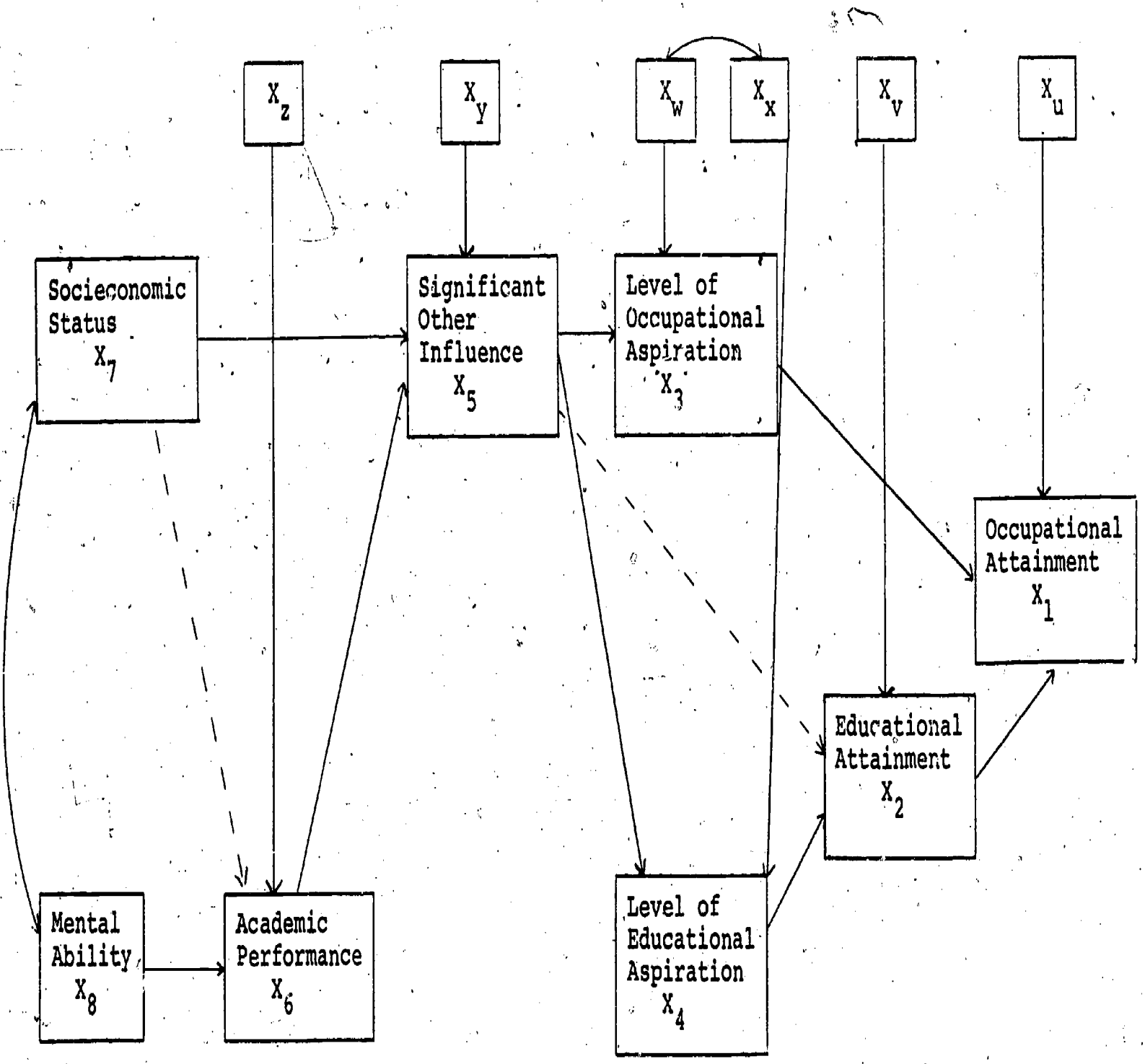

Figure 3: The Wisconsin Model of Status Attainment (Sewell, Haller, and Portes, 1969). The model as displayed represents early attempts at conceptual specification of the model. Later analysis treated the model as just identified due to the fact that some paths, not hypothesized, were in fact significant.

The intervening variables in the Wisconsin Model (between social origins and early career achievements) provide a basis for interpreting the mechanisms by which parental status advantages are transmitted to children. Higher status social origins provide an environment where youth achieve relatively more academic success, receive more interpersonal encouragement to attend college, and develop higher status career goals. As such, current status attainment research can be viewed as an attempt to theoretically interpret the process by which the permeability of a stratification system is generated. One of the most interesting elements of the Wisconsin Model and its subsequent expansions is the significant other influence variable. This component of the causal system of career choice and achievement represents a stage in career development where social change programs may be effectively instituted. Ostensibly, educational and guidance inputs could be more realistically implemented through interpersonal influence than any other component in the causal system presented in Figure 3. It would be extremely problematic to impact upon an individual's socioeconomic origins, mental ability, or school performance in a short period of time. However, if the significant others of an individual can be identified and involved in career education, then the prospect for meaningful social change appears to be a realistic programmatic goal. The fact that significant others have been successfully employed in a therapeutic manner lends support to this approach to educational change (Pinkerton and Miller, 1972). In light of this potential, the next section of this monograph will briefly review the theoretical and empirical literature on significant other influence in an attempt to derive a basis for inferring the direction of future research and development strategies utilizing the significant other influence component as a mechanism for impacting on the career development process.

INTERPERSONAL INFLUENCE: THEORETICAL BACKGROUND

The relationship of the phenomenon operationalized as "interpersonal influence," "reference group influence," or "significant other influence" to career choice and achievement can be specified in terms of a theoretical perspective in sociology commonly referred to as symbolic interaction. This orientation reflects the fact that early in its history, the discipline of sociology has recognized basic social psychological principles of human behavior. The symbolic interactionist approach is highly visible in the works of early American sociologists such as Cooley, Mead, and Thomas and pragmatic philosophers in the tradition of Dewey.

Blumer (1969: 2) has noted that symbolic interaction theory is based on three orienting premises. First, individuals "act towards things on the basis of meanings that the things have for them." Second, the meanings attached to the things one acts towards develop out of the social interaction process. Third, meanings attached to objects are identified and modified via "an interpretative process used by the person in dealing with the things he encounters." This view of human social behavior emphasizes the importance of meanings, social interaction with others, and interpretative self-interaction in light of one's definition of the situation. Thus, attitudes and behavior patterns develop from and are reinforced through relationships and interactions with people in one's social environment.

This perspective is prevalent in the writings of Mead (1934) and Cooley (1922) regarding emergence of the self-concept. Mead's (1934) focus on the role of human interaction lead to an explicit formulation of the "generalized other." It shoud be noted that Mead was primarily interested in the development of an organized self-concept in the individual and not in the formulation of influence processes of specific significant others (Haller, Woelfel with Fink, 1969: 13). Mead's account of self-concept formation in the child clearly reveals the role of internalization by ego of the evaluative responses of others:

> ...there are two general stages in the full development of the self. At the first of these stages, the individual's self is constituted simply by an organization of the particular attitudes of other individuals toward himself and toward one another in the specific social acts in which he participates with them. But as the second stage in the full development of the individual's self, the self is constituted not only by an organization

of the social attitudes of the generalized other or the social group as a whole to which he belongs...the self reaches its full development by organizing these individual attitudes of others into the organized social or group attitudes, and by thus becoming an individual reflection of the general systematic pattern of social or group behavior in which it and the others are all involved. (Mead, 1934: 158)

Cooley's (1922) conception of the "looking glass self" further illustrates the importance of interactional feedback of "others" for self-concept formation. An individual's self-concept emerges from others through the following steps, all predicated on social interaction. First, there exists the imagination of how one appears to others; second, there is the imagination on the part of ego of how others judge or evaluate this appearance; and third, a manifestation of self-feeling by ego (e.g., elation, pride, disappointment) regarding this evaluation by others (Cooley, 1922). Figure 4 provides a graphic representation of the process by symbolic interaction for subsequent behavioral influence.

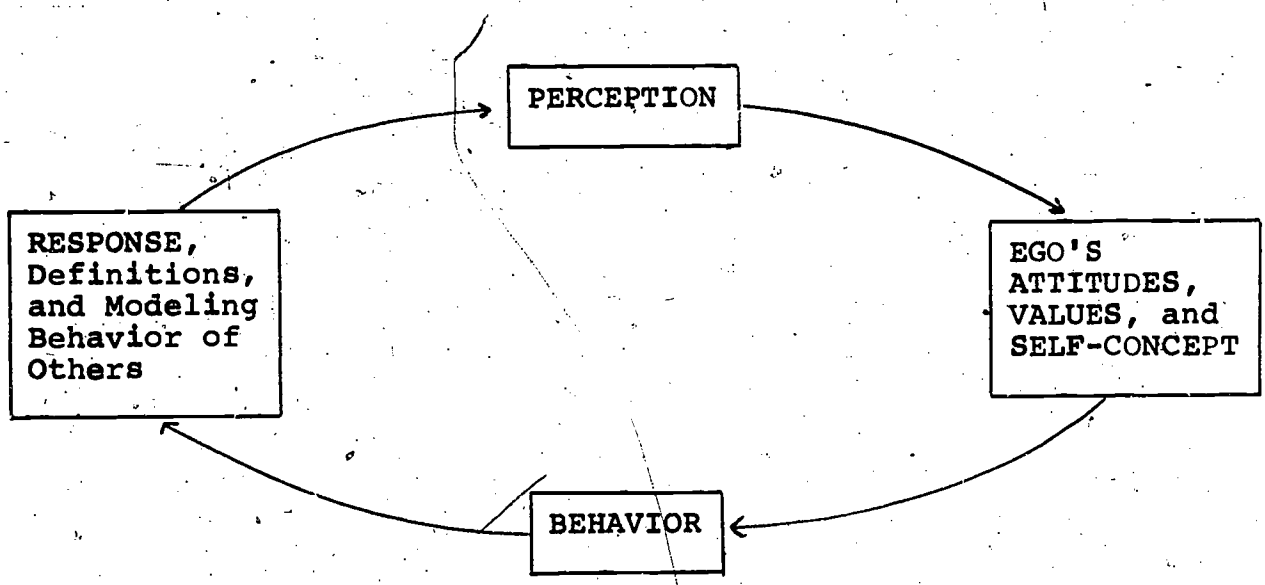

Figure 4: Schematic Representation of Relationship Between Self and Other in Interaction Situation.

The early theoretical writings noted above have provided a point of departure for later theoretical expansions and some limited empirical inquiry into the role of "others" in the attitude formation process. The crystallization of self-conceptions, attitudes, and behavior out of the interaction process has become

the orienting principle of the symbolic interactionist perspective and research is available which documents this theoretical position (Kuhn and McPartland, 1954; Miyamoto and Dornbush, 1956; Kinh, 1963; Kuhn, 1964). This perspective also underlies recent investigations of the attitude formation and status attainment processes (Woelfel and Haller, 1971; Haller and Portes, 1973).

Specifying Modes of Significant Other Influence: Numerous scholars have attempted to build upon the symbolic interactionist perspective by delineating various modes by which significant others influence the individual. Although analytical clarification has generally centered around the "mirror versus model" theme, contemporary studies of the role significant others play for the formation of career aspirations have generally overlooked such distinctions (Picou and Carter, forthcoming, 1976). Early works by Kelly (1952), Merton (1957), and Gross, et al. (1958) noted the importance of distinguishing between "normative" and "comparative" functions of reference groups. The reference group concept directs attention ot the fact that individuals "orient themselves to groups other than their own" (Merton and Rossi, 1968: 35). Specifically, normative reference groups are those orienting collectivities that serve as the basis for the development of an individual's values, attitudes, and norms; comparative reference groups provide standards of comparison for the evaluation of self (Kelly, 1952). Furthermore, an additional distinction between the reference groups and the reference individual concepts focuses explicit attention on the existence of significant others in one's social environment who exert maximum influence, both as definers and as models of normative values, attitudes, and behaviors. One of the most elaborate and theoretically consistent approaches to empirically assessing significant other influence has been carried out by Woelfel and Haller (1971). (Also see: Woelfel, 1972; Haller and Woelfel, 1972.)

The Wisconsin Significant Other Battery: The research efforts of Haller, Woelfel and associates reflect a concerted attempt to measure the influence of significant others on the attitude formation process in terms of the general theoretical notions outlined above. Of initial importance is the methodological issue of developing a research instrument to measure significant other influence which would be "valid, reliable, economical, and practicable" (Haller and Woelfel, 1972: 593). In order to meet these and other demands, Haller and Woelfel (1972: 593) have stated that the following objectives of such a battery of instruments must include the following:

> ...(a) detect each significant other (SO) for any person, and (b) directly measure those characteristics or behavior of the SO by which his influence is transmitted to that person.

Previous investigations in this area, although numerous, have generally assumed on an a priori theoretical and intuitive basis the classification of certain categories of people as significant others and have resorted to a rather crude indicator of significant other influence based solely on the perceptions of ego (e.g., see: Sewell, Haller, and Portes, 1969; Kandel and Lesser, 1969; Ten Houten, et al., 1971; Williams, 1972; Picou, 1973; among others). Such a strategy, though highly economical for survey studies, suffers from several obvious limitations. First, individuals functioning as significant others may be overlooked by a priori speculations; second, the perceived instrumentation may be confounded with selective perception on the part of the respondent (for more detailed discussion of these issues, see: Haller, Woelfel with Fink, 1969 and Jencks, et al., 1972).

Several assumptions characterize the construction and use of the Wisconsin Significant Other Battery (WISOB). They have been concisely stated by Woelfel (1972: 87-88):

> These instruments...operate on the assumption that a person's attitudes are his conceptions of relatedness between person and object, and that modifications of definition either of object or of self will modify an attitude. They further assume that these definitions of self and object themselves depend upon the definitions of larger cognitive structures of "filter categories." The final assumption of these instruments is that interpersonal influence may be exercised by those persons who influence the definitions of self or object or the filter categories on which they depend, either by work (significant others of this type are called definers), or by example (significant others of this type are called models).

These assumptions fit quite well into the symbolic interaction literature. They imply that attitudes are formed in terms of symbolic structures which specify a relationship between person and object or a series of objects. Ergo, attitude change or stability is conceived in terms of modifications or maintenance of one's self-attitude or object attitude. The mode of influence for attitude change or stability may be in terms of definitions communicated to the individual regarding self or object, or exemplary behavior regarding self or object. This approach incorporates the basic analytical distinction between normative and comparative reference groups for reference individuals (i.e., significant others) while additionally specifying the component of influence for the individual (i.e., self or the object of the attitude). Figure 5 provides a graphic specification of the potential modes of significant other influence.

A person identified as a significant other who influences across all four modes is assumed to have more influence on ego than a person influencing on less than four modes (Woelfel, 1972).

Empirical work does not bear out this expectation, however, research utilizing this strategy strongly indicates that a mean score obtained from an aggregation of the expectations of all of a person's significant others is the best predictor of attitude formation (Woelfel and Haller, 1971).

Empirical Findings of Significant Other Studies: A large body of literature exists which suggests that the influence of significant others is a crucial determinant of adolescents' educational and occupational aspirations. The vast majority of these studies have utilized subjective indicators of significant other influence. Relatively few have studied minority and female youth. Some limited findings do exist which suggest that the effects of significant other influence on aspirations is greater for white than black youth (Carter, Picou, Curry, and Tracy, 1972; Porter, 1974; Curry, et al., 1975). Furthermore, some findings are available which suggest that black adolescents' mothers hold lower status expectations for their children than white parents (Lorenz, 1972). In an early study by Kahl (1953) concerning the sources of influence for the educational mobility of lower-class youth, the role of the father was cited as the important factor for mobility. According to Kahl's reasoning, the lower-class father is disappointed with his own accomplishments, so he "teaches his son that the next step up demands more education" (Kahl, 1963; 200-201). Additionally, Kahl contends that the peer group has a rather "passive" role in the achievement socialization process.

		FOCUS OF DEFINITION	
		SELF	OBJECT
TYPE DEFINITION	MODEL	MODEL FOR SELF	MODEL FOR OBJECT
	DEFINER	DEFINER FOR SELF	DEFINER FOR OBJECT

Figure 5: Alternate Modes of Significant Other Influence, Woelfel, 1972.

A rather large body of data tends to refute Kahl's thesis of the father's primary role in achievement socialization of lower-class youth (Strodtbeck, 1958; Lipset and Bendix, 1959). Ellis and Lane (1963) provide findings from a sample of Stanford undergraduates which tends to refute this thesis, as do Gurin and Epps (1966) in a large-scale study of poor black youth attending deep South colleges. Ellis and Lane (1963) found for lower-class respondents that the mother was named as a primary source of influence for college attendance. Furthermore, 85 percent of the lower-class students said a teacher was helpful in their college decisions. Additionally, relatives and peer influence were found to be more frequently mentioned as an influence source for lower-class youth. Ellis and Lane (1963: 753-755) summarize their findings as follows:

1. The impetus for mobility has its roots in the nuclear family; but, contrary to Kahl's thesis, it is the mother more often than the father whose reaction to the family's status in life is the catalyst for mobility.

2. While the family may provide the initial leverage to propel the lower-class youth toward college, mobile youth must also gain outside social support and direction for their college plans.

3. The chief source of outside support is the school teacher, often overlooked as a factor in mobility.

More theoretical issues, relating to extended kinship relationships, become salient when one considers the sources of interpersonal influence for aspiration formation of black youth. In a recent study of extended kinship patterns of black and white families, Hays and Mindel (1973) found that black families interacted more frequently with a broader range of relatives than did white families and that black families received more child-rearing aid from extended kin. The authors conclude that:

> The findings of this study tend to support a view of the black extended family as a supportive structure which acts as a source of aid and comfort in what externally can be characterized as a somewhat hostile environment.

The study by Gurin and Epps (1966) provides more definitive information on specific sources of interpersonal influences for attending college. These authors found that black youth from low-income backgrounds relied more heavily upon nonfamily figures for their decisions to enter college. This finding held true when family stability was controlled. The mother and teacher were singled out as important interpersonal influences for the respondents. Gurin and Epps (1966: 33) posit, with regard to their findings, that:

> ...It is especially the high school teacher who has differential importance to the various income groups, being mentioned much more frequently as the most influential person by lower income groups.

Among non-intact families, siblings and other relatives also found to be important, along with mothers and teachers, as sources of interpersonal influence for attending college (Gurin and Epps, 1966: especially table 5, p. 34). Peers were also found to be an important indirect source of influence in terms of their modeling behavior.

From these studies, it appears that a different (in terms of greater breadth) matrix of achievement socialization agents characterize the lower-class white and black adolescent experience. Of particular importance is the role of the mother, along with the teacher, in providing interpersonal support for aspiration formation and college attendance. Furthermore, the more active extended kin relations of black families provides contact and intimacy with a greater range of relatives, thereby affording more sources of significant other influence.

Despite the findings and theoretical rationale presented above, recent evidence from a study of black and white youth found that teachers were perceived to have almost no impact on the aspirations of black and white youth (Carter, Picou, Curry, and Tracy, 1972). Picou and Carter (forthcoming, 1976) have also pointed out that investigations of significant other influence have failed to adequately differentiate between peer definer and peer modeling influence. Studies which have found that parental influence is greater for aspiration formation have, therefore, made comparisons of parental definer behavior vis-a-vis peer modeling behavior (Simpson, 1962; Kandel and Lesser, 1969; Hauser, 1972; Williams, 1972). From their analysis, Picou and Carter (1973) found that for white urban male youth, parental definer and peer modeling behavior were the most important sources of significant other influence for aspiration formation.

Table 2 provides a specification of correlations between a variety of significant other influence measures (i.e., global or specific reference individuals and subjective or objective indicators) and educational plans of youth from several recent studies. It should be noted that these correlations are gross estimates of association and their magnitudes would be reduced if controls were exerted for other confounding variables (e.g., socioeconomic status, academic performance, etc.). Nonetheless, these relationships reveal that rather consistent patterns emerge when contrasts are made by race/ethnicity and type of index. Lower correlations obtain for black and Mexican-American youth across four studies (Ten Houten, et al., 1971; Picou, et al., 1972; Porter, 1974; and Curry, et al., 1975). Although one cannot preclude error measure-

Table 2: SOI Correlations with Educational Expectations

STUDY	RESPONDENTS	PARENTS	TEACHERS	PEERS	GENERAL SOI INDEX
Picou, et al. (1972)	Urban White	--	--	--	.468
	Urban Black	--	--	--	.152
	Rural White	--	--	--	.241
	Rural Black	--	--	--	.181
Ten Houten, et al. (1971)	Mexican-American Males	.31	--	.33	--
	Anglo Males	.50	--	.32	--
	Mexican-American Females	.36	--	.23	--
	Anglo Females	.60	--	.42	--
Porter I1974)*	Black Males	--	--	--	.237*
	White Males	--	--	--	.391*
Sewell, et al. (1969)	White Males	--	--	--	.59 (.57)*
Hauser (1972)	White Males	.535	.429	.507	--
Woelfel & Haller (1971)	White Males	--	--	--	.66[A]
Curry, et al. (1975)	White Males	.764[A]	--	--	.639
	Black Males	.449[A]	--	--	.320

*Correlation of SOI indicator with educational attainment

[A]SOI variable measured in terms of expectations of significant other; all other variables are perceived operationalizations.

ment as one potential source of these observed discrepancies (e.g., see Kerchoff, Mason, and Poss, 1973), the data presented suggest consistent differences at this one stage of the status attainment process. White youths' educational plans appear to be consistent with the influence provided by significant others. This difference holds across both objective and subjective measures of significant other influence. The similar correlations observed for white youth for between the objective measure of significant other influence and youth's educational plans by Woelfel and Haller (1971) and Curry, et al., (1975) (.66 vs. .64) suggests that the initial research in this area appears to have accurately isolated a strong source of the formation of adolescents' educational plans. This fact, coupled with the potential for social intervention noted earlier for the significant other variable (Sewell, Haller, and Porter, 1969) provides a basis for suggesting directions for programmatic efforts. We will return to this point after a brief consideration of empirical studies of women.

Research on the status attainment process of females has been rather limited in scope. Osipow (1968:247) has noted that theories of career development are generally inadequate for explicating the career achievement process of women.

> Few special explanations or concepts have been devised to deal with the speci problems of the career development of women...s al problems exist for them as opposed to men... st of the masculine based tests and theories fail to really provide a useful vehicle for the understanding of the career development of women.

The vast majority of studies of the occupational choice process have been predicated on assumptions oriented toward male populations (Falk and Cosby, 1975). Additionally, empirical studies on the dynamics of significant other influence for the career choice and achievement of women are virtually non-existent. Sewell (1971) has noted that although women manifest better academic performances than men in high school, they are definitely disadvantaged relative to males in the amount of parental and teacher educational encouragement they perceive for attending college. Psathas (1968) contends that parents from low socioeconomic origins stress college educational achievement for sons in contrast to daughters. The final result being that females of equal academic ability to males are encouraged to have a homemaker-housewife orientation rather than an orientation toward occupational achievement. Some limited data also suggests that mothers are more important educational and occupational role models for women than fathers (Trieman and Terrell, 1975). However, more empirical information is needed to validate this contention.

Working within the status attainment framework, Falk and Cosby (1975) have outlined the structure of a status attainment

model for American women. Certain career contingencies are incorporated within their model to address the special career problems to their occupational choices and achievements. Basic factors that need to be considered, but which have been excluded in previous studies, include: mother's work and educational history, significant other influence for the housewife-homemaker role, marital orientations, fertility attitudes and plans, and early marital and fertility behavior. Falk and Cosby (1975: 314) conclude that:

> ...a review of the major occupational choice theories shows them to be biased toward males and thus inadequate in their handling of factors which influences the occupational choices of women...an examination of the Wisconsin status attainment model reveals a similar lack of sensitivity to the potential contingencies of women.

Needless to say, very little data is available regarding the nature of significant other influence for the career plans of women. In terms of strict a priori speculation, research directed toward this goal should be concerned with the content and quality of significant other influence, since women may be encouraged to achieve limited educational goals and maximum family related goals.

Significant Other Influence: A Note on Programmatic Potential: One of the most controversial, yet sobering critiques of contemporary education (Jencks, et al., 1972) suggests that differential educational and occupational achievement is primarily related to family socioeconomic status and environment. Grisson (1971: 139) has stated this fact as follows:

> We readily accept the truism that what the child is when he comes to school is crucially influenced by the social, cultural, economic, psychological, and spiritual environment in which he has lived from the moment of conception until the formal educational experience begins.

Past educational objectives of our society have precluded regular teacher interaction with parents, siblings, and extended kin and focused on working solely with the student. Responsible education apparently should be shared education. That is, teachers, parents, students, administrators, and other community members have a right to participate in the educative process (National School Public Relations Association, 1968: 6). The recent career education thrust is a movement which seeks to better integrate the educational needs of society with concrete occupational opportunities of the community (Herr, 1972: 3-11). The first step toward achieving this objective must consider the integration of school and community. However, recent history reflects a somewhat different line of development. That is, schools and communities have tended to evolve in disparate directions. In fact, contemporary educational conflict is characterized by a community versus school model. Communities and schools

have confronted each other around such issues of chaos and crisis. Figure 6 provides a graphic illustration of this trend in modern education. This perspective should not be viewed as being characteristic of all school-community relations in the United States. It is suggested as a trend and certainly the total elimination of conflict between schools and community is a rather utopian vision. In fact, under certain conditions conflict relations between school and community may have long-run positive consequences for both systems (Coser, 1959).

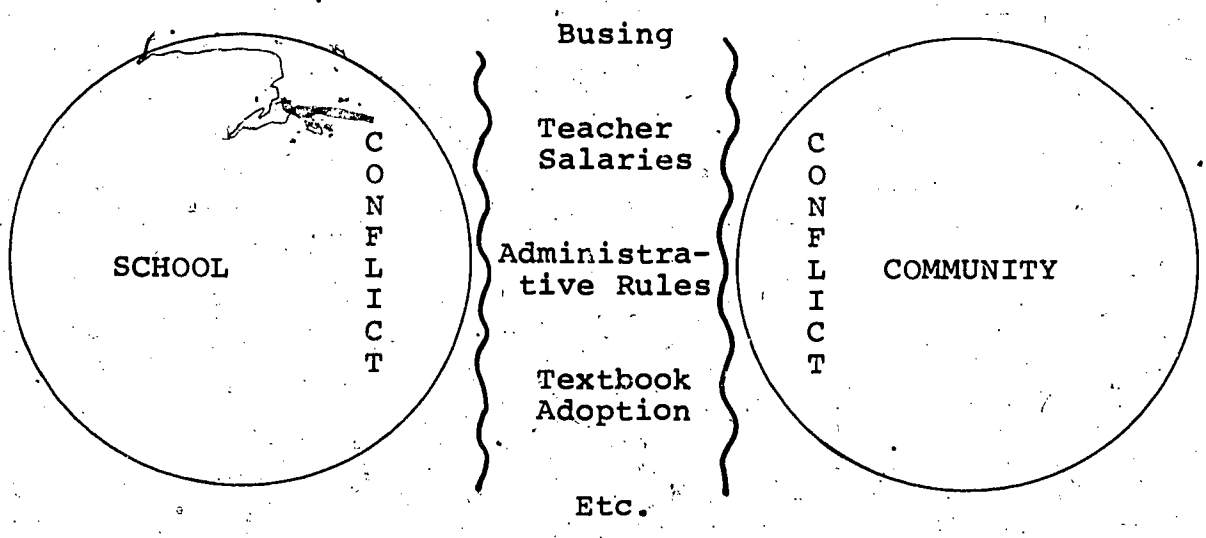

Figure 6: The Community-School Conflict Pattern

We can now address the question, "what information from status attainment and career development research has relevance for school-community relations?" Our review of empirical and conceptual research in this area has revealed a consistent emphasis at the theoretical, conceptual, and empirical levels of the importance of significant other influence for career decision-making; particularly, the influence of parents, extended kin and peers, and the lack of influence of teachers and guidance counselors (Curry, et al., 1975). In the conflict situation, students may be oblivious to teacher and guidance counselor expectations and directions. In other words, at a general level of analysis, the reintegration of school-community relations needs to be attempted or established as a goal to work toward. Such a strategy or strategies should minimize conflict.

while at the same time provide better articulation of the general flow of significant other career encouragement. One possible social mechanism for moving in this direction would involve a programmatic effort at coordinating significant other (community) and educational personnel (school) through conferences. Figure 7 reflects this strategy.

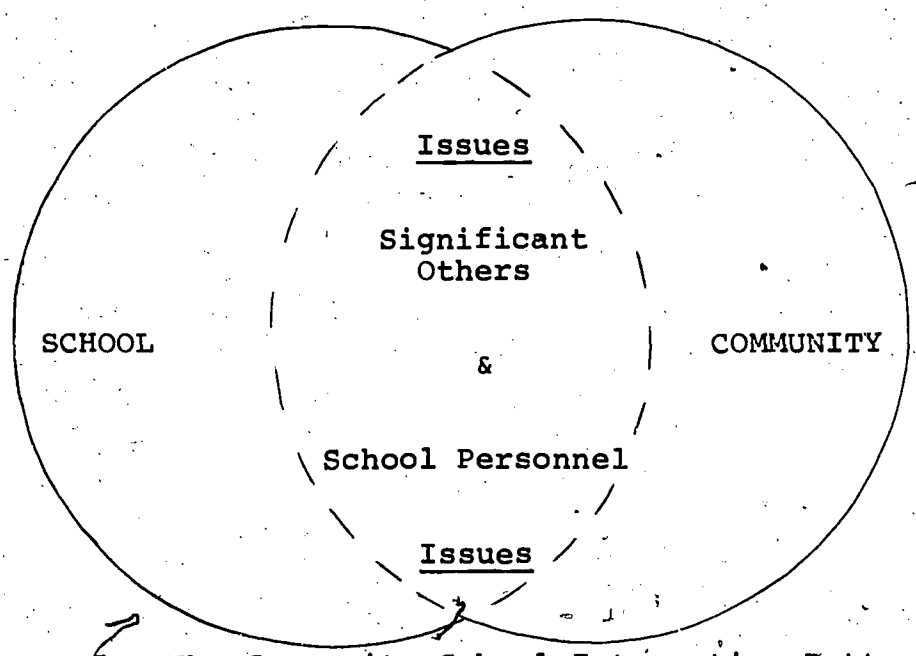

Figure 7: The Community-School Integration Pattern

Although a detailed programmatic effort directed towards this goal goes beyond the scope of this monograph and current development practices, data and programs already exist which are suggestive of such strategies. For example, Rattray (1973) has noted that significant others may be involved in action oriented programs through student-parent retreats. Pinkerton and Miller (1972) have successfully utilized significant others as change agents in "therapeutic" situations. Parents apparently follow through on suggestions provided by school personnel (Henjum and Rathney, 1969) and the potential for their impact appears to be very great from the general research literature on significant other influence. Peer social modeling and influence can also be incorporated in such programs. Thoreson and Hamilton (1972) have found peers are a very effective source for promoting career information seeking of youth. Procedures for selecting and training peer models also exist in the literature (Hamilton and Bergland, 1972). The general structure of significant other and school personnel interaction could be directed toward large conferences, which are comprised of

smaller, more intimate groups (parents-teachers-kin) that interact with the intent of maximizing the information upon which students base their career decisions. D'Evelyn (1963), among others, has presented practical considerations for parent-teacher conferences. The general goal of the creation of these intermediate groups between the school and community reflects an attempt to articulate mutual understanding and coordination of the educative objectives which have immediate benefits for students (Grissom, 1971).

In summary, our review of status attainment research suggests that the significant other influence variable has relevance for future educational policies directed toward impacting on the career behaviors of youth. Basic research information, however, is still limited regarding various ethnic and nonethnic minorities. Moreover, it was noted that a programmatic strategy should be developed which attempts to incorporate community and family members as participants in intermediate groups, which could serve as a source of career guidance and meaningful community-school interaction.

SUMMARY AND CONCLUSIONS

The primary objective of this monograph was to review theoretical, conceptual, and empirical research on occupational choice and achievement. Initial concern was directed toward delineating the major macro-theoretical approaches originating from past work in occupational sociology and vocational psychology. This objective leads to a consideration of conceptual development regarding occupational choice in both disciplines. An overview of the emergence of status attainment models and subsequent empirical expansions of these models constituted the third major undertaking of this study. Finally, a general perspective on the programmatic significance of the status attainment literature, in terms of significant other influence, was briefly considered. In this concluding section some general remarks will be made concerning interdisciplinary theoretical and methodological convergence and needed research.

Comments on Theoretical and Conceptual Convergence

Although a continuing debate exists in the social science literature regarding "what is theory," we consider any "logical deductive-inductive system of concepts, definitions, and propositions which states a relationship between two or more selected aspects of phenomena and from which testable hypotheses can be derived" as a definition of theory (Ward, 1975). Most of the macro-theoretical approaches reviewed meet, to some degree, the requirements of this definition. Morever, specific lines of convergence are apparent between theories coming from the occupational sociology and vocational psychology literature.

Career Development and the Life-Cycle: A major point of convergence between macro-theoretical approaches in vocational psychology and occupational sociology is the common concern with (diachronic systems) which specify significant life-cycle points for occupational socialization, individual development, and entry, maintenance, and exit from the labor market (Picou and Campbell, 1975). Ginzberg, et al., 1951), Super (1953), Blau, et al., (1956), Rodgers (1966), Blau and Duncan (1967), and Sewell and associates, among others, all explicitly approach career behavior as a dynamic process, which has correspondence with the maturation of the individual. This agreement between disciplines is one of the merits of the theoretical perspectives which have emerged in the last quarter of a century. However, it does appear ironic that until recently most research conducted in both disciplines ignored the

obvious diachronic character of these theoretical frameworks and, with few exceptions, conducted analysis on cross-sectional data. Longitudinal research is explicitly needed for empirical validation of the major theories in both disciplines. This theoretical methodological inconsistency has had two limiting consequences. First, valid investigations of career development and life-cycle theories have not materialized; and second, the older frameworks may have become entrenched, thereby obfuscating the possibility of the emergence of new macro-theories or serendipitous modifications of the original theories.

One strategy for alleviating this dilemma is the construction and analysis of middle-range theories which systematically incorporate variable relationships associated with limited segments of the life-cycle framework (Falk, 1975). The long-range goal of this approach would necessitate the continued follow-up of such analysis to include ever-increasing portions of the life-cycle framework through longitudinal research designs. Some of the possible concerns of such basic research are provided in a life-cycle taxonomy presented in Figure 8.

It should be noted that this life-cycle taxonomy serves to sensitize research direction rather than posit another macro-theory of occupational behavior. However, our sensitization strategy is framed within the parameters of career development and status attainment theory. Because of this fact, specific components of inquiry which are unique to certain life-cycle or career stages are isolated, as well as viewed in terms of the larger matrix of other life-cycle stages relevant for career behavior. This taxonomy hopefully reveals points of research specialization as well as areas for potential synthetic theoretical integration.

The taxonomy begins with a consideration of prenatal factors and culminates with career exit, retirements, and leisure behaviors. Further, it specifically recognizes that both social and non-social factors impinge on the environment in which one enters the career development process. The following discussion briefly elaborates some of the important contingencies of this process.

Although limited, there is research evidence to suggest that factors in the prenatal environment may act to affect the career development of the individual. This research concentrates primarily on the implications of the prenatal environment for cognitive development. Laboratory research suggests that the consequences of malnutrition may extend beyond malnourished parents, through offspring to the third generation. This "effect" appears to hold even if the second generation maintains an adequate nutritional base (Zamenhof, et al., 1971). Furthermore, nutritional rehabilitation may encompass a persistence of adequate protein for more than one generation, suggesting that a correction of the effects of malnutrition may be more complicated than is often presumed

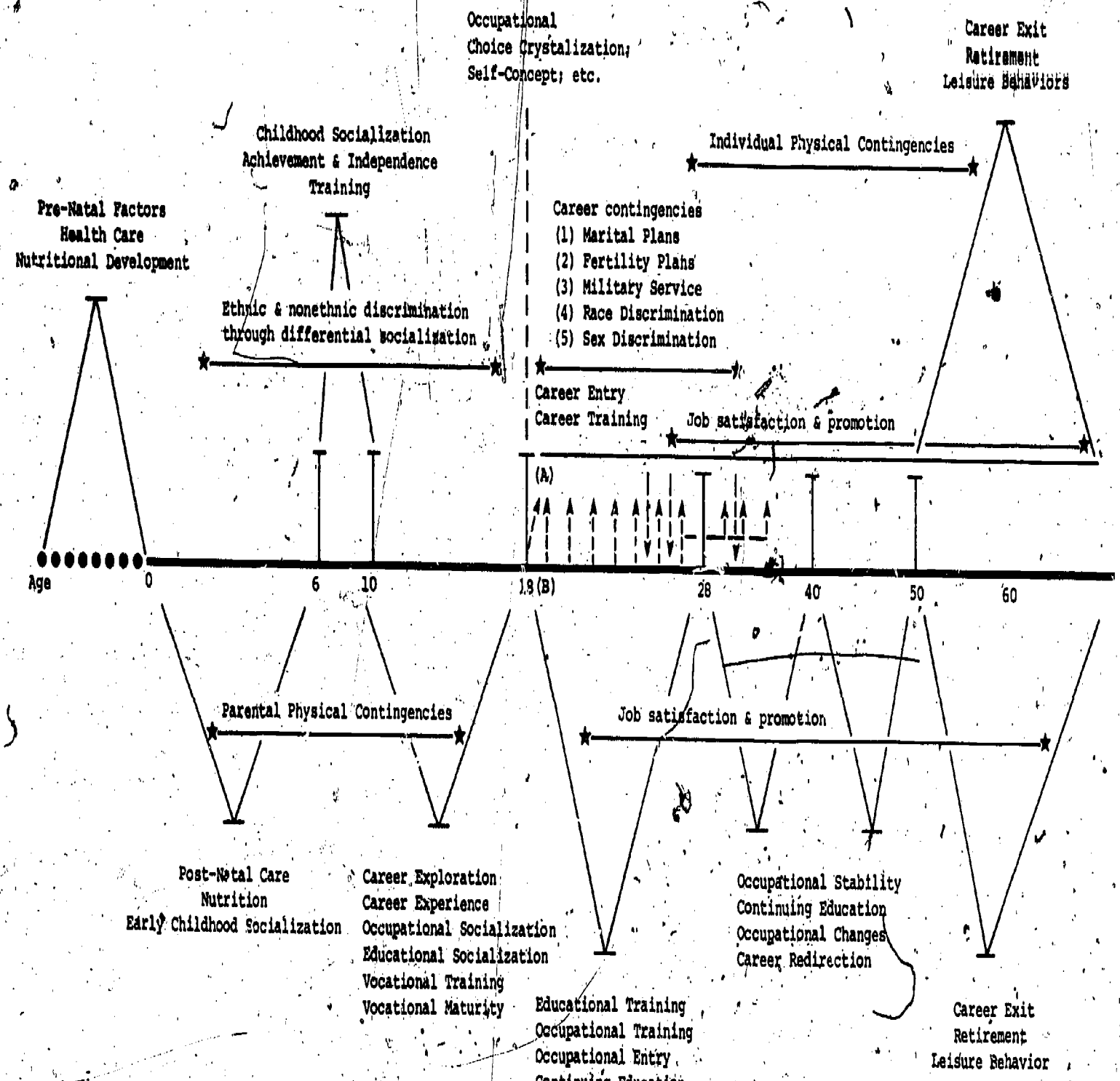

Figure 8: A Life-Cycle Taxonomy of Career Behavior

(Crowley and Griesel, 1966). The significance of intrauterine malnutrition for humans has been expressed by Neligan (1971: 453):

> It must be said at once that the results all point to the same direction, suggesting that there is an adverse effect upon intelligence and emotional development -- however, difficult it may be in individual studies to eliminate or allow for the effects of associated peri-factors or those of associated adverse environmental factors in later childhood.

Similar adverse consequences have been noted in a variety of sources for post-natal malnutrition (e.g., see: Benedict, et al., 1919 and Keys, et al., 1950). Such vital organs as the heart and brain are influenced by malnutrition as well as factors such as emotional stability. The significance of pre- and post-natal care, malnutrition and corresponding family environments for career behavior is relatively unknown. As Shneour (1974: 186) has noted:

> Early-life malnutrition is a probable cause of brain deficiencies. The problem is now a social one for which a scientific solution exists. Implementation of that solution lies where social priorities are established: in the political sphere.

The life-cycle taxonomy also highlights the significance of early childhood socialization and achievement training. (For a review of such studies, see Elder, 1968.) The impact of historical patterns of ethnic and nonethnic discrimination for differential socialization cross-cut these rather traditional concerns. Although little research has been directed toward this problem, Osipow (1975: 17-19) has noted some of the very real limitations of current career development theories for blacks and women. Apparently, the possibility that for disadvantaged groups "socialization for survival" may conflict with "socialization for achievement" has been mostly overlooked in the vast literature on career behavior socialization.

The specification of parental physical contingencies overlaps with a concern for individual physical contingencies in the taxonomy. The relevance of ascribed and contingent mental and physical handicaps for career behaviors throughout the life-cycle has been noted by Overs (1975). The importance and significance of such special difficulties for status attainment has received little direct attention in the literature in this area.

The bulk of research in occupational sociology and vocational psychology has been generated from the "transition from school to work" stage of the taxonomy (Crites, 1975). As such, a phlethora of studies abound on aspiration formation, career socialization, vocational maturity, self-concept formation, and other related aspects of this substage of career development. Although Falk (1975)

has gone a long way toward formalizing theory development in this transition phase, additional middle-range strategies also appear viable to the researcher. For example, the role theory perspective in sociology has definite possibilities for additional middle-range theoretical development. Turner's (1974: 165-169) specification of the causal imagery of role-theory provides a sound basis for theoretical expansion. Additional concerns should attempt to determine the importance of "role-playing capacities" for self-concept formation and "role enactment" for career development. However, a word of caution is advisable at this point. Although empirical research has concentrated on this area, a lack of information exists on "the transition from school to work stage" for ethnic and nonethnic minorities. This point cannot be overemphasized, for implicit in this fact is the very real possibility, depending on the special group in question, that an exploration of potential in different occupations may never occur. Early labor market entry for others (females) may preclude considerations of a true exploration stage (Osipow, 1975). The consequences of a "non-exploration pattern" could possibly provide understanding of occupational floundering and chronic unemployment patterns.

Following concern with the transition from school to work stage is the related matter of career contingencies. Career contingencies refer to a number of situational variables which are thought to have relevance for occupational placement and achievements. The taxonomy presents these contingencies as factors which initially impact upon career patterns at the career entry stage. Career training, job selection, and educational-vocational training are viewed as potential areas of adjustment to a variety of contingencies. Social psychological and other social structural contingencies are alluded to in the form of fertility plans, military service, and types of discrimination. Furthermore, it should be noted that two rather distinct lines of occupational achievement are analytically noted (A and B). Line A reflects immediate career entry patterns following completion of high school (or its equivalent), while line B connotes a career pattern which incorporates maximum educational and vocational training. Movement back and forth between these forms of career development are reflected by the dotted arrows between the two lines. Movement back and forth may be conceptualized as floundering, or accommodation to the impact of career contingencies.

In a recent overview of early career development and adjustment problems, Haccoun and Campbell (1972) propose that more specific hypotheses and empirical research is necessary for future research in this establishment stage of career development. Along these lines we would add the necessity of utilizing longitudinal data in order to discern the nature of work-entry problems in light of career contingencies. What initially may appear as non-purposeful occupational movement (floundering) may reflect necessary adjustments to unanticipated career contingencies or "thwarting

conditions" (Haccoun and Campbell, 1972).

The final components of the taxonomy isolate job satisfaction and promotion as concerns for research directed at the more "stable" later life phases of career behavior. However, the stability of this stage in the career life-cycle remains to be empirically documented. Longitudinal data could obviously shed light on theoretical questions relative to the impact of "floundering history" on the job satisfaction, promotions, and later life job changes. Finally, also implied at the career exit stage are forms of psychological and sociological adjustment and conflict which are generated by required role changes at this life-cycle point.

The taxonomy should be viewed as a heuristic device for overviewing the potential range of career-related behaviors throughout the life-cycle. Although many specific theoretical issues are submitted by the taxonomy (e.g., role transition processes for occupational socialization), the diachronic nature of career development is emphasized. This does not mean that synchronic relations within the life-cycle stages are irrevelant for theoretical convergence. The common interest and interdisciplinary overlap of conceptualizations of occupational choice provide an instance of synchronic convergence. However, such advances are limited without an understanding of the process of occupational choice within the status attainment and career development frameworks.

Comments on Methodological Convergence and Research Lacuane

The tendency for theoretical and conceptual convergence to emerge out of the somewhat common concerns of occupational sociology and vocational psychology should not be overemphasized. Along with convergence, both disciplines maintain unique interests dictated by their subject matter. These differential interests (e.g., structural inequality and motivational development) reflect variations in the "units of analysis" for both disciplines, as well as points of theoretical, conceptual, and empirical divergence. On the other hand, recent developments in sociology, notably the emergence of status attainment models, focuses attention on the individual (as the unit of analysis), thereby providing a basis for some limited methodological convergence between the disciplines (Picou and Campbell, 1975: 2).

Future inquiries, utilizing longitudinal data sets, should strive to incorporate the development of career-relevant personal characteristics at appropriate stages in the life-cycle. The emphasis placed on such cognitive characteristics by past vocational psychology research could then be evaluated in light of structural and group characteristics emphasized by previous sociological inquiries. Once a stochastic-causal model, appropriate to longitudinal design is developed, integration of cognitive development

processes (e.g., career maturity, Crites, 1973) with status attainment processes could be made. In situations where theoretical predictions of career behavior processes are not linear and additive, interaction analysis could be utilized by focusing on selected life-cycle stages and applying appropriate laboratory experiments. Such methodological strategies would specify non-linear components of segments of the status attainment process, such as Crites' (1975) career adjustment process, at appropriate life-cycle stages (transition from school to work, on the job training, etc.), thereby moving research in the direction of the formulation of a comprehensive model of career development.

The development of such a comprehensive view of career development would also involve an expansion of present data sources to include comparable information for special groups (Picou and Campbell, 1975). Longitudinal data is needed on a variety of ethnic and nonethnic minorities who have traditionally experienced unique barriers in the career achievement process. Expansions need to be made across populations as well as over time for future career behavior research. An evaluation of current macro-theoretical approaches for minority groups is imperative for the development of programs which will have a significant impact on the life chances of individuals in these groups.

At this point it appears that alternative theoretical models are needed for accurately specifying the process of career development for special groups. Recent findings reported by Picou, et al., (1972); Porter (1974) and Curry, et al., (1975) strongly suggest that significant other influence patterns vary in structure and impact for black Americans. Furthermore, Falk and Cosby (1975) have specified the nature of differential intervening variables for the status attainment process of women, in contrast to men. The process of career decision-making and subsequent career development of special groups should not be theoretically approached from a middle-class, white male model. However, at this point in development of cumulative knowledge regarding career development research, the importance and significance of differential error measurement, by specified populations (race, class, mental ability, etc.) should not be overlooked (see: Kerckhoff, Mason, and Poss, 1973 and Stahura and Curry, 1975). Future research needs to answer two equally important questions about the career development of special groups -- (1) what alternative theoretical models are appropriate for special groups? and (2) what is the relation between differential error measurement and the structure of such alternative theories?

Concluding Caveats

In summary, this monograph has attempted a synthetic overview of the main themes in career development research in occupational

sociology and vocational psychology. This emphasis has precluded due consideration of the economic structure of society and economic theories of career choice (e.g., see: Freeman, 1971). This does not mean that labor market trends and policies are irrelevant for the construction of a comprehensive model of career development. They are of crucial significance as a conditioning and determining element for occupational choice and achievement. Some economic factors are visible in the career development taxonomy, e.g., investments in education, job satisfaction and promotion, etc. However, a more detailed consideration of economic factors, vis-a-vis sociological and psychological factors is certainly needed in future studies.

Finally, this monograph has only given minimum consideration to policy directives. This fact tends to reflect the inadequacies of current theory and research in this area, rather than the interests of the authors. The development of programmatic efforts to enhance social change demands accurate theoretical and empirical studies. The most important step toward the development of future educational and vocational programmatic efforts, therefore, resides in the quest for empirical validation of a comprehensive theory (or theories) of career development.

FOOTNOTES

1. Klatsky and Hodge carried out canonical correlation analyses on two intergenerational mobility tables and one intragenerational mobility table. The canonical method is equivalent to choosing scoring schemes for occupations which maximize the correlation between fathers' and son's occupation, or between time one and time two occupation of the son. The authors found that the canonical weights correlate quite highly with prestige weights assigned by Duncan's SEI. Klatsky and Hodge did not analyze any canonical variables except the first, but do note a substantial correlation for the second pair of canonical variables. This observation implies that nonprestige dimensions of occupation may be worth further investigation. Goldthorpe and Hope (1972) also find some evidence that the prestige dimension is not the only aspect of occupations that systematically differentiates between occupations. In a small pilot study they showed that the three Weiberian dimensions and a "value to society" dimension produce somewhat different rankings of occupations.

2. It is important that the reader understand what this contention is not saying. Recall that permeability as it is used herein, refers strictly to the degree to which ascribed socioeconomic status determines achieved socioeconomic status. It makes no reference to the relationship between other ascribed statuses and achieved socioeconomic status. Therefore, to say that there appears to be greater permeability for blacks than for whites is simply to say that the achievement of blacks is less determined by parents' socioeconomic status. Research cited in the following narrative suggests that very real and obdurate boundaries to achievement of socioeconomic status due to the ascribed status of being black probably does exist. Given this fact, it is clear that the greater permeability for blacks exists within the boundaries to achievement forced on them by the larger society.

REFERENCES

Benedict, F.G.; Miles, W.R.; Roth, P.; and Smith, H.M. *Human Vitality and Efficiency Under Prolonged Restricted Diet.* Washington, D.C.: Carnegie Institute, 1919.

Blau, P.M., and Duncan, O.D. *The American Occupational Structure.* New York: John Wiley and Sons, 1967.

Blau, O.M.; Gustad, J.W.; Jessor, R.; Parnes, H.S.; and Wilcox, R.C. "Occupational Choice: A Conceptual Framework." *Industrial and Labor Relations Review* 9(July):531-543, 1956.

Blumer, H. *Symbolic Interactionism: Perspective and Method.* Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1969.

Bodin, A.M. "A Proposal for New Bibliographic Tools for Psychologists." *Journal of Counseling Psychology* 10:193-197, 1963.

Caplow, T. *The Sociology of Work.* Minneapolis: University of Minnesota Press, 1954.

Carter, T.M., and Picou, J.S. "Status Attainment Theory and Black Male Youth." Pp. 23-40 in Picou, J.S. and Campbell, R.E. (eds.), *Career Behavior of Special Groups.* Columbus, Ohio: Charles E. Merrill Publishers, 1975.

Carter, T.M.; Picou, J.S.; Curry, E.W.; and Tracy, G.S. "Black-White Differences in the Development of Educational and Occupational Aspiration Level." Paper read at the annual meeting of the American Sociological Association, New Orleans, August 1972.

Cooley, C.H. *Human Nature and the Social Order.* New York: Scribner, 1922.

Cosby, A.G., and Legere, C.L. John. "The Occupational Selection Process: The Argument for a Cumulative Model." Paper presented at the Rural Sociology Section, A.S.A.W. Meetings, Jacksonville, Florida, February 1971.

Cosby, A.G., and Picou, J.S. "Vocational Expectations of Adolescents in Four Deep-South States." *Vocational Guidance Quarterly* (March):177-182, 1971.

Cosby, A.G., and Picou, J.S. "Models of the Transmission of Educational Status: Sex-Race Differentials." In Miller, H.M. (ed.), *Rural Social in the South: 1975.* New Orleans, Louisiana, Proceedings of the Rural Sociology Section SAAS Meetings, 1975.

Crites, J.O. *Vocational Psychology.* New York: McGraw-Hill Book Company, 1969.

_____. *A Comprehensive Model of Career Development in Early Adulthood.* Occasional Paper. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1975.

Crowley, J.J., and Griesel, R.D. "The Effect on Growth and Behavior of Rehabilitating First-and-Second-Generation Low Protein Rats." *Animal Behavior* 14:506-517, 1966.

Curry, E.W., and Picou, J.S. "Rural Youth and Anticipatory Occupational Goal Deflection." *Journal of Vocational Behavior* 1(October): 136-149, 1971.

Curry, E.W.; Picou, J.S.; Hotchkiss, H.L.; Scritchfield, S.; and Stahura, J. *Significant Other Influence in Career Decisions of Black and White Male, Urban Youth.* Research and Development Series No. 107. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1975.

Dembo, T. "Der Anger als Dynamisches Problem." *Psychologische Forschung* 15:1-144, 1931.

D'Evelyn, K.E. *Individual Parent-Teacher Conferences.* New York: Teachers College, Columbia University, 1963.

Duncan, O.D. "Inheritance of Poverty or Inheritance of Race?" Pp. 85-110 in Moynihan, D.P. (ed.) *On Understanding Poverty.* New York: Basic Books, Inc., 1968.

Duncan, O.D.; Featherman, D.L.; and Duncan, B. Socioeconomic Background and Occupational Achievement: Extension of a Basic Model. Ann Arbor: University of Michigan, Population Studies Center, 1968.

Dunsavage, E., and Kleibrink, M. "The Relationship of Aspirations and Expectations to Values: A Conceptual Analysis." Paper presented at the Texas Academy of Sciences Annual Meetings, San Angelo, Texas, March 1970.

Elder, G.H., Jr. *Adolescent Socialization and Personality Development.* Chicago: Rand McNally Company, 1968.

Ellis, R.A., and Lane, C. "Structural Supports for Upward Mobility." *American Sociological Review* 28:743-756, 1963.

Falk, W.W. "An Integrative Model of the Occupational Choice Process." In Picou, J.S. and Campbell, R.E. (eds.) *Career Behavior of Special Groups*. Columbus, Ohio: Charles E. Merrill Publishers, 1975.

Falk, W.W., and Cosby, A.G. "Women and the Status Attainment Process." *Social Science Quarterly* 56(September, 75) pp. 307-314, 1975.

Ford, J., and Box, S. "Sociological Theory and Occupational Choice." *American Sociological Review* 15(March):287-299, 1967.

Frank, J.D. "Individual Differences in Certain Aspects of the Level of Aspiration." *American Journal of Psychology* 47:119-128, 1935.

Freeman, R.B. *The Market for College-Trained Manpower: A Study in the Economics of Career Choice*. Cambridge: Harvard University Press, 1971.

Gelatt, A.B. "Decision-Making: A Conceptual Frame of Reference for Counseling." *Journal of Counseling Psychology* 9:240-245, 1962.

Ginzberg, E.; Ginsburg, S.W.; Axelrad, S.; and Herma, J.L. *Occupational Choice*. New York: Columbia University Press, 1951.

Goldthorpe, J.H., and Hope, K. "Occupational Grading and Occupational Prestige." Pp. 19-79 in Hope, K. (ed.), *The Analysis of Social Mobility: Methods and Approaches*. Oxford: Clarendon Press, 1972.

Grissom, C.E. "We Must Listen Beyond Words." *Childhood Education* (December):139-142, 1971.

Gross, N.; Mason, W.S.; and McEachern, A.W. *Explorations in Role Analysis: Studies of the School Superintendency Role*. New York: John Wiley, 1958.

Gurin, P., and Epps, E. "Some Characteristics of Students from Poverty Backgrounds Attending Predominately Negro Colleges in the Deep South." *Social Forces* 45,1(September):27-40, 1966.

Haccoun, R.R., and Campbell, R.E. *Work Entry Problems of Youth: A Literature Review*. Columbus, Ohio: The Center for Vocational Education, The Ohio State University, 1972.

Haller, A.O. "On the Concept of Aspiration." *Rural Sociology* 33 (December):484-487, 1968.

Haller, A.O.; Burchinal, L.G.; and Taves, M. Rural Youth Need Help in Choosing Occupations. Michigan State Agricultural Experiment Station, 1963.

Haller, A.O., and Miller, I.W. *The Occupational Aspiration Scale: Theory, Structure and Correlates.* East Lansing: Michigan Agricultural Experiment Station Technical Bulletin 288:56-66, 1963.

Haller, A.O., and Portes, A. "Status Attainment Processes." *Sociology of Education* 46(Winter):51-91, 1973.

Haller, A.O., and Woelfel, J. "Significant Others and Their Expectations: Concepts and Instruments to Measure Interpersonal Influence on Status Aspirations." *Rural Sociology* 37(December): 591-621, 1972.

Haller, A.O.; Woelfel, J.; and Fink, E.L. *The Wisconsin Significant Other Battery: Construction, Validation, Reliability of Tests of Questionnaire Instruments to Identify "Significant Others" and Measure Their Educational and Occupational Expectations for High School Youth.* Madison: The University of Wisconsin, 1969.

Hamilton, J.A., and Bergland, B.W. "A Strategy for Creating Peer Models." *Vocational Guidance Quarterly* 20(June) 1972.

Hauser, R.M. "Disaggregating a Social-Psychological Model of Educational Attainment." *Social Science Research* 1(June):159-188, 1972.

Hays, W.C., and Mindel, C.H. "Extended Kinship Relations in Black and White Families." *Journal of Marriage and the Family Living* 35(February):51-57, 1973.

Henjum, R.J., and Rathney, J.W.M. "Parental Action on Counselor's Suggestions." *Vocational Guidance Quarterly* 18(September) 1969.

Herr, E.L. *Review and Synthesis of Foundations for Career Education.* ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational Education, The Ohio State University, 1972.

Hilton, T.L. "Career Decision-Making." *Journal of Counseling Psychology* 46:153-158, 1962.

Hodge, R.W.; Treiman, D.J.; and Rossi, P.H. "A Comparative Study of Occupational Prestige." Pp. 309-321 in Bendix, R. and Lipset, S.M. (eds.), *Class, Status and Power: Social Stratification in Comparative Perspective.* 2nd ed. New York: The Free Press, 1966.

Holland, J.L. *Making Vocational Choices.* Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Holt, R.B. "Level of Aspiration: Ambition or Defense." *Journal of Experimental Psychology* 36:398-416, 1946.

Hoppe, F. "Erfolg and Misserfolg." *Psychologische Forschung* 44: 1-62, 1930.

Inkeles, A., and Rossi, P.H. "Comparisons of Occupation Prestige." *American Journal of Sociology* 61:329-339, 1956.

Irwin, F.W. "The Realism of Expectations." *Psychological Review* 51:120-126, 1944.

Irwin, F.W., and Mintzer, M.C. "Effects of Differences in Instructions and Motivation Upon Measures of the Level of Aspiration." *American Journal of Psychology* 55:400-406, 1942.

Jencks, C. *Inequality: A Reassessment of the Effect of Family and Schooling in America.* New York: Harper and Row, 1972.

Juarez, R.Z. *Educational Status Orientations of Mexican American and Anglo American Youth in Selected Low-Income Counties of Texas.* Unpublished Master's Thesis. Texas Agricultural and Mechanical University, 1968.

Kahl, J.A. "Educational and Occupational Aspirations of 'Common Man' Boys." *Harvard Educational Review* 23:186-203, 1953.

Kandel, D.B., and Lesser, G.S. "Parental and Peer Influences on Educational Plans of Adolescents." *American Sociological Review* 34,2(April):213-223, 1969.

Katz, F.E., and Martin, H.W. "Career Choice Process." *Social Forces* 41:149-154, 1962.

Kelly, H.H. "Two Functions of Reference Groups." Pp. 410-414 in Swanson, G.E., Newcomb, T.M., and Hartley, E.L. (eds.), *Readings in Social Psychology.* Rev. ed. New York: Holt, 1952.

Keys, A.; Brozeic, J.; Henschel, A.; Mickelsen, O.; and Taylor, H.L. *The Biology of Human Starvation.* Minneapolis, Minnesota: University of Minnesota Press, 1950.

Kerckhoff, A.C.; Mason, W.M.; and Poss, W.W. "On the Accuracy of Childrens Reports of Family Social Status." *Sociology of Education* 46(Spring) 1973.

Kink, J.W. "A Formalized Theory of the Self-Concept." *American Journal of Sociology* 68(January(:481-486, 1963.

Klatzky, S.R., and Hodge, R.W. "A Canonical Correlation Analysis of Occupational Mobility." *Journal of the American Statistical Association* 66:16-22, 1971.

Kuhn, M.H. "The Reference Group Reconsidered." *Sociological Quarterly* 5(Winter):6-21, 1964.

Kuhn, M.H., and McPartland, T.S. "An Empirical Investigation of Self-Attitude." *American Sociological Review* 19(February): 68-76, 1954.

Kuvlesky, W.P. "A Synthetic Overview of Research on Rural Youths' Projections for Occupational and Educational Attainment: A Progress Report." Paper presented to the Rural Sociological Society Research Committee on Educational Behavior, San Francisco, California, August 1969.

_____. "Dynamics of Occupational and Educational Status Projections: A Theoretical Perspective." Paper presented to the 1970 Rural Sociological Society Research Committee on Educational and Occupational Behavior, Washington, D.C., August 1970.

Kuvlesky, W.P., and Bealer, R.C. "A Clarification of the Concept 'Occupational Choice'." *Rural Sociology* 31(September): 265-276, 1966.

Lewin, K.; Dembo, T.; Festinger, L.; and Sears, P.S. "Level of Aspiration." V.I.:333-378 in Hunt, J.Mc.V. (ed.), *Personality and the Behavior Disorders*. New York: Tite Ronald Press Co., 1944.

Lipset, S.M., and Bendix, R. *Social Mobility and Industrial Society*. Berkeley: University of California Press, 1959.

Lockette, R.E. "The Effect of Level of Aspiration Upon the Learning of Skills." Unpublished Ph.D. Dissertation. University of Illinois, 1956.

Lorenz, G. "Aspirations of Low Income Blacks and Whites: A Case of Reference Group Processes." *American Journal of Sociology* 78, 2(September):371-398, 1972.

Mead, G.H. *Mind, Self and Society*. Chicago: University of Chicago Press, 1934.

Merton, R.K. *Social Theory and Social Structure*. New York: The Free Press, 1957.

Merton, R.K., and Rossi, A.K. *Contributions to the Theory of Reference Group Behavior*. Pp. 28-68, Hymay, H.H., and Singer, E. Readings in Reference Group Theory and Research. New York: Free Press, 1968.

Miller, D.C., and Form, W.H. *Industrial Sociology*. New York: Harper and Row, 1951.

Miller, I.W., and Haller, A.O. "The Measurement of Level of Occupational Aspiration." *Personnel and Guidance Journal* 42(January):448-455, 1964.

Mijamoto, S.F., and Dornbusch, S.M. "A Test of Interactionist Hypotheses of Self-Conception." *American Journal of Sociology* 61(March):399-403, 1956.

Musgrave, P.W. "Towards a Sociological Theory of Occupational Choice." *American Sociological Review* 15(March):33-46, 1967.

National School Public Relations Association. *Working with Parents.* Washington, D.C.: NSPRA, 1968.

Neligan, G.A. "The Effects of Intrauterine Malnutrition upon Later Development in Humans." *Psychiatria, Neurologia, Neurochirurgia* 74:451-456, 1971.

Osipow, S.H. *Theories of Career Development.* (First Edition). New York: Meredith Corporation (Appleton-Century-Crofts), 1968.

_____. "The Relevance of Theories of Career Development to Special Groups: Problems, Needed Data, and Implications." Pp. 9-22 in Picou, J.S. and Campbell, R.E. (eds.), *Career Behavior of Special Groups.* Columbus, Ohio: Charles E. Merrill Publishers, 1975.

Otto, L.B.; Haller, A.O.; Meier, R.F.; and Ohlendorf, G.W. "An Empirical Evaluation of an Occupational Aspiration Scale." Paper presented at the annual meetings of the American College Personnel Association, Cleveland, Ohio, April 1973.

Picou, J.S. "Adolescents' Educational Projections: A Three Dimensional Conceptualization and Empirical Evaluation." *LSU Journal of Sociology* 2(Spring) 1972.

_____. "The Formation of Educational Goals: A Causal Model." *Urban Education* 7(January):383-392, 1973.

Picou, J.S., and Campbell, R.E. *Career Behavior of Special Groups.* Columbus, Ohio: Charles E. Merrill Publishers, 1975.

Picou, J.S., and Carter, T.M. "Significant-Other Influence and Aspirations." *Sociology of Education* (Winter 1976, in press).

Picou, J.S., and Curry, E.W. "The Occupational Choice Process: A Reconceptualization." Paper read at the annual meetings of the Rural Sociological Society, Denver, Colorado, August 1971.

Picou, J.S.; Curry, E.W.; Olivero, G.; and Cosby, A.G. "The Social Psychologies of Blacks and Whites: Different Paths to Educational Achievement Expectations." *The Journal of Afro-American Issues* 1,1(Summer):35-54, 1972.

Pinkerton, R., and Miller, F. "The School as a Surrogate Family." *Personnel and Guidance Journal* Vol. 51, November 1972.

Porter, J.N. "Race, Socialization and Mobility in Educational and Early Occupational Attainment." *American Sociological Review* 39(June):303-316, 1974.

Prathas, G. "Toward a Theory of Occupational Choice for Women." *Sociology and Social Research* 52(January):253-268, 1968.

Preston, M.G.; Spiers, A.; and Trasoff, J. "On Certain Conditions Controlling the Realism and Irrealism of Aspirations." *Journal of Experimental Psychology* 37:48-58, 1947.

Rattray, P.R. "A Student-Parent Retreat." *Personnel and Guidance Journal* 52(October) 1973.

_____. "A Student Parent Retreat Look-On Sheet." 1973.

Ricciuti, H.N., and Schultz, D.G. *Development of Group Measures of Level of Aspiration, An Exploratory Study.* Human Resource Research Center Bulletin 51-24, Lackland AFB, San Antonio, 1953.

Rodgers, R.H. "The Occupational Role of the Child: A Research Frontier in the Developmental Conceptual Framework." *Social Forces* 45(December):217-224, 1966.

Roe, A. "Early Determinants of Vocational Choice." *Journal of Counseling Psychology* 4:212-217, 1957.

Sewell, W.H. "Inequality of Opportunity for Higher Education." *American Sociological Review* 36(October) 1971.

Sewell, W.H.; Haller, A.O.; and Portes, A. "The Educational and Early Occupational Attainment Process." *American Sociological Review* 34(February):82-92, 1969.

Sewell, W.H.; Haller, A.O.; and Ohlendorf, G.W. "The Educational and Early Occupational Attainment Process: Replications and Revisions." *American Sociological Review* 35(December):1014-1027, 1970.

Shneour, E. *The Malnourished Mind.* Garden City, New York: Anchor Press, 1974.

Simpson, R.L. "Parental Influence Anticipatory Socialization, and Social Mobility." *American Sociological Review* 27:517-522, 1962.

Slocum, W.L. "Some Sociological Aspects of Occupational Choice." *American Journal of Sociology* 18(January):139-147, 1959.

_____. "The Influence of Reference Group Values on Educational Aspirations." *Rural Sociology* 32(September):269-277, 1967.

_____. "Climbing the Ladder: Toward a Sociological Paradigm for Educational and Occupational Behavior of Males." Paper presented to the 1970 Rural Sociological Society Research Committee on Educational and Occupational Behavior, Washington, D.C., August 1970.

Spencer, G.B.; Windham, G.O.; and Peterson, J.H. Jr. "Occupational Orientations of an American Indian Group." In Picou, J.S. and Campbell, R.E. (eds.), *Career Behaivor of Special Groups*. Columbus, Ohio: Charles E. Merrill Publishing Company, 1975.

Stahura, J., and Curry, E.W. "Efficiency of the Family as an Information Processing Unit." Paper read at the annual meeting of the Midwestern Sociological Society, Chicago, Illinois, April 1975.

Strodtbeck, F.L. "Family Interaction, Values, and Achievement." Pp. 135-194 in McClelland, D.C., Baldwin, A.L., Bronfenbrenner, U., and Stradtbeck, F.L. (eds.), *Talent and Society: New Perspectives in the Identification of Talent*. Princeton: Van Nostrand, 1958.

Super, D.E. "A Theory of Vocational Development." *The American Psychologist* 8(May):185-190, 1953.

Super, D.E., and Bachrach, P.B. *Scientific Careers and Vocational Development Theory*. New York: T.C.B.P., 1957.

Svalastogo, K. *Social Differention*. New York: David McKay Company, Inc., 1965.

Ten Houten, W.D.; Lei, T.; Kendall, F.; and Gordon, C.W. "School Ethnic Composition, Social Contexts, and Educational Plans of Mexican-American and Anglo High School Students." *American Journal of Sociology* 77(1):89-107, 1971.

Thomas, L.G. *The Occupational Structure and Education*. Englewood Cliffs, New Jersey: Prentice-Hall, 1956.

Thoreson, D.E., and Hamilton, J.A. "Peer Social Modeling in Promoting Career Behaviors." *Vocational Guidance Quarterly* 20 (March) 1972.

Trieman, D.J., and Terrell, K. "Sex and the Process of Status: A Comparison of Working Women and Men." *American Sociological Review* 40(April) 1975.

Trow, W.D. "Phantasy and Vocational Choice." *Occupation* 20:89-93, 1941.

Turner, J.H. *The Structure of Sociological Theory*. Homewood, Illinois: The Dorsey Press, 1974.

Ward, T.J. "Definitions of Theory in Sociology." Pp. 28-40 in Denisoff, R.S., Callahan, O., and Levine, M.H. (eds.), *Theories and Paradigms in Contemporary Sociology*. Itasca, Illinois: F.E. Peacock Publishers, Inc., 1975.

Williams, T.H. "Educational Aspirations: Longitudinal Evidence on Their Development in Canadian Youth." *Sociology of Education* 45(Spring):107-133, 1972.

Woelfel, J. "Significant Others and Their Role Relationships to Students in a High School Population." *Rural Sociology* 37,1 (March):86-97, 1972.

_____. "A Theory of Occupational Choice." In Picou, J.S., and Campbell, R.E. (eds.), *Career Behavior of Special Groups*. Columbus, Ohio: Charles E. Merrill Publishing Company, 1975.

Woelfel, J., and Haller, A.O. "Significant Others, the Self Reflexive Act and the Attitude Formation Process." *American Sociological Review* 36(February):74-87, 1971.

Zamenhof, S.; Van Martens, E.; and Grauel, L. "DNA (Cell Number) in Neonatal Brain: Second Generation (F_2) Alteration by Maternal (F_0) Dietary Protein Restriction." *Science*, 172, 1971.