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Circumscription and Compromise: A Developmental Theory of Occupational Aspirations

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This monograph presents a theory of the development of occupational aspirations. The first section provides definitions of key constructs and an overview of the theory. The second section reviews evidence showing that all social groups share the same images of occupations. It presents a hypothetical cognitive map of occupations that summarizes those images and the dimensions of people's occupational preferences. The third section describes the progressive and usually permanent circumscription of occupational preferences according to one's developing self-concepts. Four stages of development of self-concept and preferences are proposed: orientation to size and power (ages 3–5 years), orientation to sex roles (ages 6–8 years), orientation to social valuation (about ages 9–13 years), and orientation to the internal, unique self (beginning around age 14 years). This development is highly conditioned by both cognitive development and one's social environment (e.g., social class). The fourth section of the monograph discusses people's perceptions of their opportunities for implementing their choices and the priorities they use in reaching a compromise among conflicting goals—a situation many people face. Finally, research and counseling implications are discussed.

This monograph presents a theory of how occupational aspirations develop during the preschool through the college years. The theory was stimulated by the following observations:

1. The major psychological theories of vocational choice focus primarily either on the process of development or on its content; that is, some focus on how people make decisions and others on which occupations they choose. For example, Super, Starishevsky, Matlin, and Jordaan (1963) detail the process by which people attempt to implement their self-concepts at different stages in career development. Holland's (1973) theory of personality types organizes information about people and jobs and predicts which types of work people will seek and enjoy. A more thorough integration of speculations from these process and organizational approaches would be useful.

2. Most theorists acknowledge that socioeconomic background and intelligence are important predictors of vocational aspirations. However, their theories largely ignore or minimize these variables (c.f., Osipow, 1973) and concentrate instead on what seem to be weaker predictors of aspirations—usually values and interests of youngsters and their parents. The importance of social class, intelligence, and sex are often taken for granted; it would be useful to be able to systematically explain their importance.

3. The major psychological theories of vocational choice are built on the funda-

mental assumption that people attempt to implement their self-knowledge in the type of work they choose and therefore that vocational adjustment and satisfaction are determined by the degree to which job and self are compatible. Self-concept is a useful link with which to integrate the process and organizational approaches to career development. Social class and intelligence would seem to be natural candidates for incorporation into a self-concept theory of occupational choice.

4. The importance of self-concept may seem self-evident to most psychologists, but most nonpsychological perspectives on vocational choice (e.g., the social systems perspectives described by Osipow, 1973) pay little attention to personality or self-concept and focus instead on influences in the social or economic environment that channel people into occupations regardless of their wishes. In turn, psychological theories have little to say about the environmental contingencies, many of which are probably associated with social class, intelligence, and sex. A better integration of the psychological and nonpsychological approaches would provide a more comprehensive explanation of the development of vocational aspirations.

5. Both research and theory focus primarily on vocational development in the high school and college years, even though self-concept is acknowledged to develop earlier. Furthermore, some aspects of vocational choice such as level or masculinity/femininity of jobs preferred seem well established by adolescence. Theory might usefully be extended further back into childhood. Although Roe's (1956) theory of early influences on development has been found wanting (Osipow, 1973), there is no reason not to search for better theory.

6. The importance of compromise has been well noted by some of the major theorists (e.g., Ginzberg, Ginsburg, Axelrad, & Herma, 1951; Super, 1953), but vocational theory has almost nothing to say about what compromises individuals face in their careers and how they cope with them. This is a difficult topic for which little evidence is available, but some forays into this theoretical territory might be productive.

Like Super's theory, the one presented here is developmental. Like Holland's theory, it tries to explain why people are attracted to particular occupations. It accepts the fundamental importance of self-concept in vocational development, that people seek jobs compatible with their images of themselves. Social class, intelligence, and sex are seen as important determinants of both self-concept and the types of compromises people must make, thus the theory integrates a social systems perspective with the more psychological approaches. Empirical research will be cited to support many of the propositions, but it is illustrative only. (Occasionally interpretations of results differ from those of the authors cited.) This article is not a review of past research; it is a framework for understanding past research and planning future research. Much of the theory is speculative, but it provides testable propositions. To a large extent, the present theory builds on and complements previous theory, although a few areas of disagreement will be discussed.

This monograph is organized into five sections. The first section defines the major constructs and provides a brief overview of the theory. The next three sections discuss the major components of the theory: the development of occupational images; the progressive circumscription of aspirations during self-concept development; and the compromises people make when trying to implement their occupational choices. The last section summarizes implications for research, theory, and counseling practice.

Definitions and Overview

The following definitions are required because some of the constructs are new and because some of them have been used in divergent and inconsistent ways in the literature. A brief overview of the theory orients the reader to the general direction of the more detailed arguments. Figure 1 illustrates the relations among the major constructs.

Definitions

Self-concept

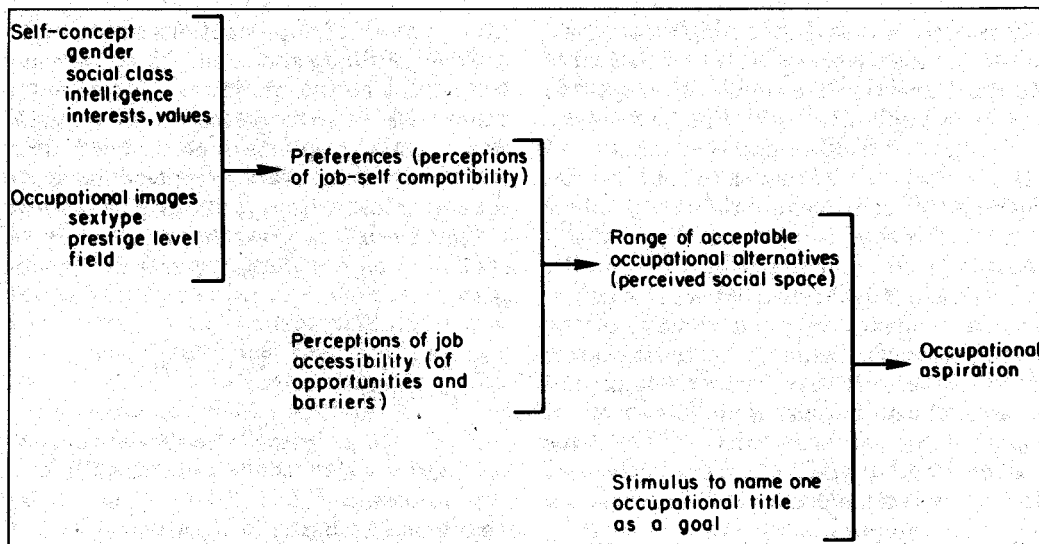Self-concept refers to one's view of one-

Figure 1. Relations among theoretical constructs.

self, one's view of who one is and who one is not. When projecting oneself into the future, self-concept also includes who one expects or would like to be. People may or may not be consciously aware of their self-concepts and they may or may not be able to articulate them, but they act on their beliefs about themselves. Self-concept is actually the totality of different ways of seeing oneself, some more important and central to one's sense of self than others; they might include one's view of one's abilities, interests, personality, or place in society. Self-concept includes a person's sense of social self as well as more psychological attributes. It refers only to one's own view of oneself, and it may not coincide with an outsider's objective assessment of that person's personality. A self-concept can be characterized according to complexity, differentiation, comprehensiveness, and numerous other dimensions (e.g., see Super et al., 1963).

Occupational Images

An occupational image is a generalization a person makes about a particular occupation. The term *occupational image* corresponds to the term *occupational stereotype* as it is usually used in the literature, but the former is used here because the term stereotype is often imbued with negative connotations. An occupational image may potentially include many types of generaliza-

tions about an occupation; for example, the personalities of people in those jobs, the type of work they do, the type of lives they lead, the rewards and conditions of the work, and the appropriateness of the job for different types of people. Like self-concepts, occupational images can be characterized by their complexity and differentiation, and their comprehensiveness and specificity. Likewise, they can be judged for their accuracy (the extent to which they agree with the judgments of experts).

Cognitive Map of Occupations

Although people may have fairly detailed images of some occupations, they tend to judge the similarities and differences among occupations along a few simple dimensions such as sextype (masculinity/femininity), level of work, and field of work. These dimensions help organize one's images of various occupations into a more unified view, or map, of the occupational world. A cognitive map is a generalization about occupations that links the individual images to each other into a more coherent whole.

Occupational Preferences

People assess the compatibility of occupations with their images of who they would like to be and how much effort they are willing to exert to enter those occupations.

Those occupations that are highly compatible with one's sense of self will be highly valued; those that are highly incompatible will be strongly disliked. *Preferences* are one's likes and dislikes, and they range from what is most desired to what would be least tolerable. Preferences are the "wish" rather than the "reality" component of aspirations or goals. Job–self compatibility is parallel to Holland's (1973) construct of congruence, but the former is a judgment made by the person himself or herself whereas the latter refers to an outside observer's (e.g., the vocational psychologist's) judgments about compatibility or suitability. The terms *judgments of compatibility* and *preference* are used interchangeably in this article.

Perceived Accessibility of an Occupation

An occupation may be compatible with one's self-concept and yet be inaccessible. *Accessibility* refers to obstacles or opportunities in the social or economic environment that affect one's chances of getting into a particular occupation. Judgments about the accessibility of an occupation reflect opinions about how probable it is that one could enter a particular occupation and therefore influence how seriously the person will consider that occupation as a viable alternative. Judgments of accessibility could be based on many factors: availability of the job within the surrounding geographic area, perceptions of discrimination or favoritism, ease of obtaining training for the job, or lack of knowledge of how to enter the job. Accessibility is somewhat analogous to "realism," but the former is a person's own judgments about obstacles and opportunities, whereas *realism* usually refers to an outside observer's (e.g., the vocational psychologist's) assessment of the obstacles that person faces. Realism, however, is often used in the literature to refer to both the suitability and accessibility of a particular occupational choice.

Occupational Alternatives

Alternatives are preferences that have been tempered by one's sense of how realistic those choices are; stated another way, they

are the product of perceptions of both job–self compatibility and accessibility. (It may be helpful at this point to refer again to Figure 1.) If preferences are given great weight and perceptions of accessibility given little weight, the resulting alternatives are fantasy or idealistic aspirations; if the reverse is true, the alternatives are usually termed realistic aspirations, expectations, or plans.

Social Space—The Zone of Acceptable Alternatives

Social space refers to the set or range of occupations that the person considers as acceptable alternatives, although some may be considered better alternatives than others. This set is referred to as a perceived *social* space because these alternatives largely reflect the person's view of where he or she fits into society. This social space reflects the sort of person he or she would like to be or is willing to be in the eyes of family, peers, and wider society.

Occupational Aspiration

An *aspiration* is the single occupation named as one's best alternative at any given time. As perceptions of compatibility and accessibility change, so too may a person's assessment of which alternative is the best, even though the social space may be stable.

Overview of the Theory

The self-concept is composed of different elements, ranging from appearance to major life roles. The major vocationally relevant elements are gender, social class background, intelligence, and vocational interests, competencies, and values. These elements are incorporated into one's self-concept at different stages of cognitive development as one's self-concept and view of the world become more differentiated and complex. The first stage of development is that of *orientation to size and power* (ages 3–5 years), when youngsters grasp the concept of being an adult. Gender self-concept is consolidated in the next stage of development:

orientation to sex roles (approximately ages 6–8 years). Children next enter the stage of *orientation to social valuation* (around ages 9–13 years), when the more abstract self-concepts of social class and ability become important determinants of social behavior and expectations. With an increasing ability to deal with abstract, complex concepts and with the emotional stresses of adolescence, youngsters become more attuned to their own internal feelings and distinctive capacities. The fourth stage is thus an *orientation to the internal, unique self* (beginning around age 14), and is often referred to as the adolescent identity crisis.

The young child has a fairly positive view of all occupations of which he or she is aware, but with age each of the developing self-concepts is used as an additional criterion by which to make more critical assessments of job–self compatibility (i.e., more differentiated preferences). The result is a more differentiated and specific view of one's social space and a successive circumscription of occupational alternatives that are considered acceptable. Occupations that are perceived to be inappropriate for one's sex are first eliminated from further consideration. Next, youngsters begin to rule out occupations of unacceptably low prestige because they are inconsistent with their social class self-concept. At the same time they rule out occupations requiring extreme effort to obtain in view of their image of their general ability level. Only in adolescence do youngsters turn to their more personal interests, capacities, and values as criteria for further narrowing their choices. Thus, the exploration of vocational alternatives in adolescence is largely within the set of occupations that were deemed compatible at earlier ages according to one's more visible social attributes (sex, social class, and intelligence) and one's sense of what is available with reasonable effort.

Toward the end of high school, when youngsters begin to implement their choices in actually seeking training and jobs, they become more sensitive to which particular jobs are most readily available to them. Youngsters will balance their preferences for different occupations with their perceptions of the accessibility of these jobs and will try

to implement the "better bets." People will not necessarily continue to pursue their most preferred options but will often take advantage of opportunities to obtain a satisfactory job.

Problems in obtaining and completing training or education and in locating and obtaining employment are some of the barriers to fulfilling one's adolescent aspirations. With each barrier, many people may be faced with a choice between sacrificing compatibility according to vocational interests, job level, or femininity/masculinity of the job. The typical pattern of compromise will be that vocational interests are sacrificed first, job level second, and sextype last, because the latter are more central aspects of self-concept and are more obvious cues to one's social identity. Compromises continue until eventually most people report being in the type of work they want. The drive to implement one's most preferred self-concept (ego-ideal) in work may seldom be completely successful, but at least some of the more important elements, such as gender identity, may be successfully implemented and the other elements of self-concept either changed or implemented in nonwork settings.

Occupational Images

If people had idiosyncratic views of occupations, it would be difficult to predict which occupations they would find compatible with their self-concepts. However, people actually have remarkably similar perceptions of occupations. The following section reviews evidence about what those images are and how they develop. Next, a cognitive map of occupations that seems to be shared by all people will be graphically displayed and discussed.

Empirical Studies

Studies of occupational images fall under one of five major headings: occupational prestige, sextype, traits of incumbents, dimensionality of images, and general familiarity with and knowledge of occupations. Rarely are more than one of these aspects of images studied at the same time.

Prestige, Sextype, and Traits of Incumbents

Prestige studies generally ask people to rank or rate occupations according to their general desirability. Studies of sextyping examine perceptions of how suitable different occupations are for men and women, and thus provide measures of how masculine or feminine different occupations are. Studies on the traits of job incumbents ask people to give their impressions of people in different types of jobs by either having them list adjectives that describe workers or respond to given adjectives (as in a semantic differential procedure). These are the studies, for example, that reveal that accountants are perceived as methodical, unimaginative, cautious, and conformist whereas teachers are perceived as sensitive, unselfish, underpaid, and friendly (e.g., Westbrook & Molla, 1976; O'Dowd & Beardslee, Note 1).

These studies of occupational images have found consistently that people perceive occupations similarly no matter what their sex, social class, educational level, ethnic group, area of residence, occupational preferences or employment, age, type of school attended, political persuasion, and traditionality of beliefs, and regardless of the decade of the study or the specific way in which questions were asked. Correlations among prestige or sextype ratings produced by different population groups generally are in the high .90s. Most research has dealt with prestige, but the patterns found in the studies of sextype and traits of incumbents show the same pattern. (See Reiss, 1961; Shinar, 1975; and O'Dowd & Beardslee, Note 1; for the best evidence for the commonality of ratings of, respectively, prestige, sextype, and traits of incumbents).

These common images develop early in life. Some first graders are willing to rate, according to prestige, many of the occupations with which they are familiar, but they rate them for personal reasons (e.g., one's father's occupation or one's own preference is often rated as the best) and they tend to rate all occupations favorably. By Grade 4 or so, youngsters have become harsher judges of occupations and have begun to rank occupations in ways similar to adults. By Grade 8 youngsters perceive a clear prestige hierarchy that is highly correlated with that perceived by adults (e.g., Gunn, 1964; Goldstein & Oldham, 1979; Lauer, 1974; Simmons & Rosenberg, 1971; Weinstein, 1958). Even kindergartners sextype jobs, and both sexes share those images (e.g., Schlossberg & Goodman, 1972; Tibbetts, 1975). Young children's perceptions of the personality traits of incumbents have not been assessed. They probably develop later than perceptions of sextype and prestige because they are more internal, less visible, and more abstract, and thus less comprehensible to young children.

Although there is consensus in ranking jobs according to prestige, sextype, and other dimensions, there are systematic differences in the absolute ratings people assign. For example, younger children and lower social class people rate jobs more positively (e.g., rate more occupations as good or very good) and lower class people have more sextyped views of occupations even though they rank jobs in the same way (e.g., Albrecht, 1976; Goldstein & Oldham, 1979; Nelson, 1963; Reiss, 1961; Simmons & Rosenberg, 1971). There also seems to be a slight "homophily bonus" in occupational ratings: Blacks, women, men, lower class, highly educated people, and incumbents of jobs rate the jobs typically held by their own social group somewhat more favorably in prestige (e.g., Himmelweit, Halsey, & Oppenheim, 1952; Reiss, 1961). Likewise, people make finer discriminations among occupations most relevant to them; for example, lower-class people make finer discriminations among lower-level jobs and higher-class people make finer discriminations among higher-level jobs (Grunes, 1957; Himmelweit et al., 1952).

Dimensionality of Occupations

Studies of this type examine how many dimensions or factors are necessary to explain why some occupations are usually judged to be similar and others are not. These studies typically have analyzed a restricted range of occupations (e.g., only high-level occupations), and thus have usually failed to reveal the major dimensions of people's cognitive maps of occupations. In a small but reasonably heterogeneous set of

(primarily male) occupations, Reeb (e.g., 1959, 1974) found a prestige level dimension and a field (white collar versus manual) distinction.

The dimensionality studies have all been done with people aged 14 and over. The cognitive map of the child is likely to be simpler than that of the adult (e.g., see Edwards, Nafziger, & Holland, 1974), gradually approximating that of the adult as the child becomes aware of more jobs and more aware of the important dimensions of jobs.

General Knowledge and Familiarity With Occupations

Investigators have noted that both adults and children (at least from Grade 6 on) have easily carried out such tasks as ranking occupations, rating large numbers of them according to their similarity to each other, or mimicking the responses of various types of workers on interest inventories (e.g., Reeb, 1974; Reiss, 1961; O'Dowd & Beardslee, Note 1). Furthermore, the task is no more difficult when only titles and not job descriptions are provided, unless the title is ambiguous or unfamiliar, in which case a description helps people to "recognize" what job they are really dealing with (e.g., Remenyi & Fraser, 1977). The ability to title and describe occupations increases steadily with age through the school years, with some occupations becoming familiar earlier than others and some groups of youngsters (e.g., more intelligent ones) being more knowledgable than their peers (e.g., Nelson, 1963).

Occupational images are relatively accurate by adulthood. Sextype scores have been found to correlate up to .85 with actual proportions of females in those occupations (Krefting, Berger, & Wallace, 1978). Prestige ratings are correlated .8 to .9 with income, education, and intelligence levels of the incumbents of the jobs rated (e.g., Canter, 1956; Gottfredson, 1980b). Ratings of the personality traits of incumbents of different occupations are similar whether they are made by college students, trainees, or incumbents themselves (Marks & Webb, 1969).

A final important conclusion from the research on occupational images is that occupational images deal almost exclusively with the life style that occupations afford an incumbent and the type of person that he or she is. These images say little about what people do in these jobs, let alone how to get them. O'Dowd and Beardslee (Note 1) make this very clear. In response to requests to describe occupations, students

invariably replied by describing how the occupant of an occupational role lives off the job, the kind of person he might be, the friends he would have, his standing in the community, etc. Rarely did anyone mention how the role occupant spends his time in the eight or more hours a day that he is engaged in his work. (p. 2)

Even with college students who had specific career plans, direct questions about the job elicited only vague responses, and "when interviewers probed for more details they met with embarrassment and hostility." O'Dowd and Beardslee continue,

Few college students have any conception of the skills, talents or personal attributes that are most important for satisfactory adjustment to high-level jobs. Indeed, most students do not know the educational and training requirements of any but a few highly visible professions (e.g., medicine and law). The primary exception to this is the knowledge a student will possess about his father's occupation. (p. 110)

It appears, then, that neither children nor adults know much about job tasks and requirements, but they certainly possess a common general understanding of what it means socially and economically to have different jobs. Their cognitive map of occupations is largely a map of social relations and life styles, which suggests that the social identity conferred by occupations is clear and of great concern to people.

A Common Cognitive Map of Occupations

Figure 2 introduces the cognitive map of occupations that most people seem to share. The map is hypothetical but fits the evidence. The major dimensions of occupational perceptions are the prestige level of jobs (shown by the vertical axis) and the sextype of jobs (shown by the horizontal axis). These two dimensions seem to be independent in real life, because their correlation in a sample of 129 occupations is −.05 (based on data to be described later). The third important aspect of the cognitive
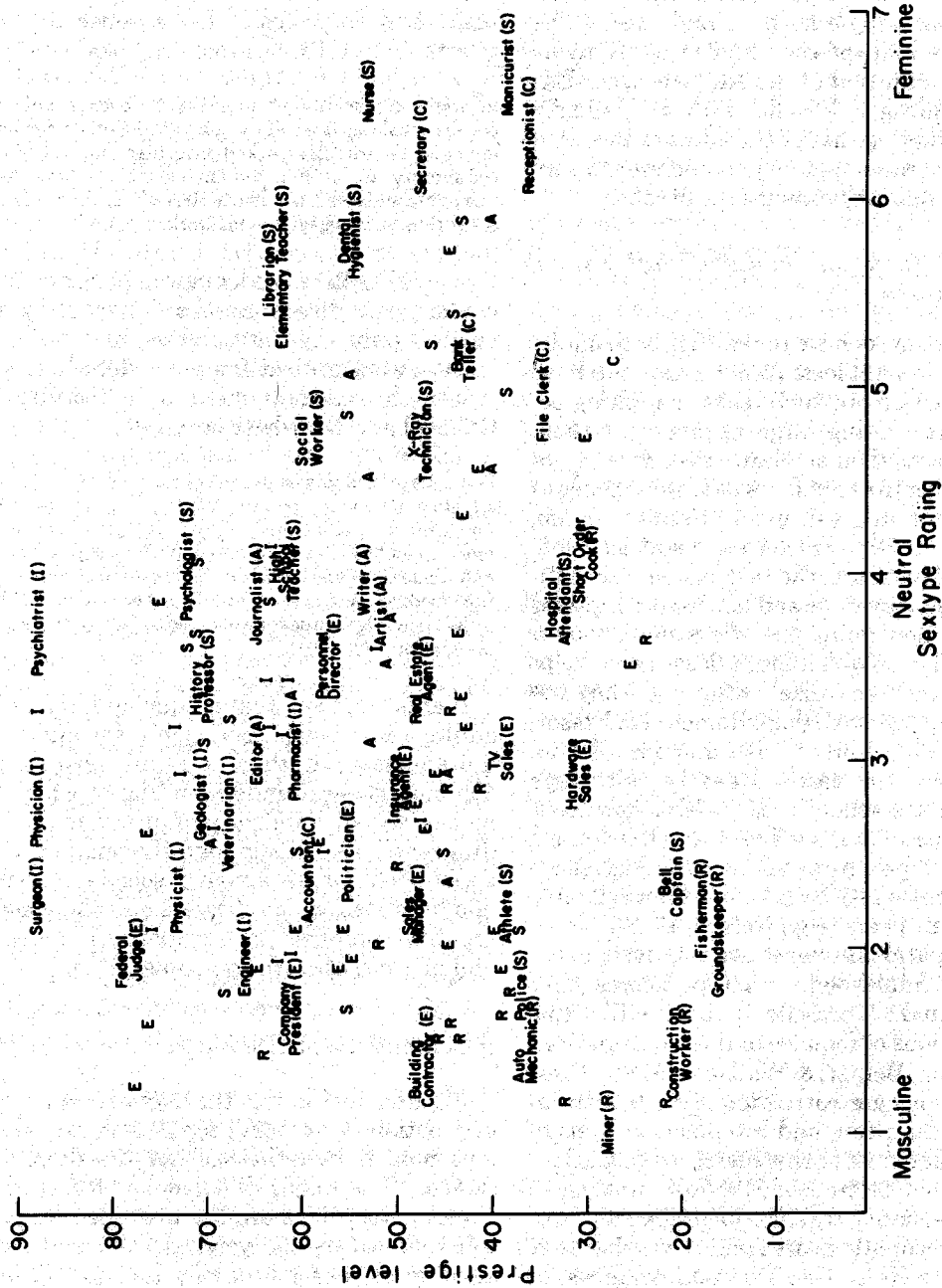
Figure 2. A map of occupations according to prestige and sextype ratings. (Occupations are denoted by a letter indicating their Holland field: R = realistic, I = investigative, A = artistic, S = social, E = enterprising, C = conventional. See text for more complete explanation.)

map is field of work. Field of work is related to both the sextype and prestige of jobs, so fields of work show up as distinct clusters within this two-dimensional map.

Figure 2 was constructed from published data. Shinar (1975) presented sextype ratings for 129 occupations. These 129 occupations were coded according to the codes for occupational prestige and Holland (1973) type of work reported by Gottfredson and Brown (1978). Each of the 129 occupations in Shinar's article is denoted by its first-letter Holland code and located on the map according to its prestige and sextype score. Holland's typology was used to characterize field of work because it is widely used in vocational research and counseling, and research reviewed and reinterpreted in later sections of this article used Holland's typology. The six categories in the typology can be used to characterize both jobs and personality types: realistic, investigative, artistic, social, enterprising, and conventional (see Holland, 1973, for a description of the six types).

The titles of a few occupations are written out in the map to provide a more concrete impression of how the occupations are arranged by this procedure. Nurse and librarian are very feminine jobs of moderately high prestige. High school teacher and artist are neutral in sextype and reasonably high in prestige, in contrast to other neutral jobs such as short-order cook. Scientific jobs such as geologist and physicist are somewhat masculine and of high prestige, whereas construction workers and miners are very masculine, low-level jobs. Physician is the most prestigious of the 129 occupations. These occupational titles are fairly representative of the fields and levels of all occupations in the United States, except that low-level realistic jobs are underrepresented.

Shinar noted that fewer jobs are typed as female than as male. This is clearly evident in the map. It is also evident that the male jobs cover a much wider range of prestige than do the female jobs. As jobs become more female, they become more homogeneous and moderate in prestige. There are no very high-level female jobs, but neither are there any very low-level female jobs. (Household work, not shown on the map, is
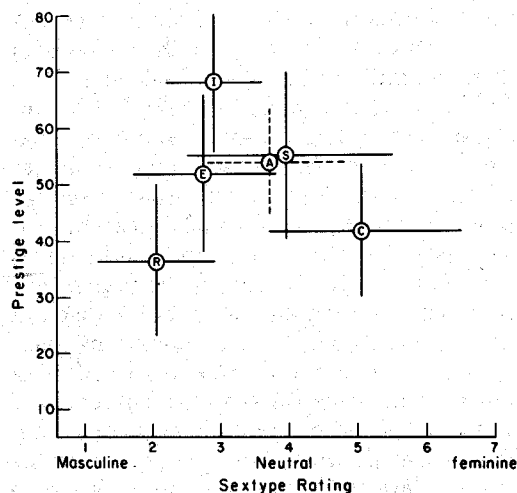

Figure 3. Prestige and sextype ratings of occupations in the different Holland fields of work. (Each field designated by a cross centered at the mean for prestige and sextype and showing one standard deviation on either side of the mean. R = realistic, I = investigative, A = artistic, S = social, E = enterprising, C = conventional.)

an exception, but such employment has been decreasing for many decades.) This pattern of occupational images tends to mirror actual employment, because perceived sextype is correlated .85 with actual percentage female in an occupation and because employed men and women have the same occupational prestige on the average (Treiman & Terrell, 1975). Because fewer women than men are employed at the highest levels of the occupational hierarchy, many people have erroneously assumed that women are employed at lower levels on the average and that women's jobs are less prestigious. By focusing on only the highest-level occupations in Figure 2, researchers have sometimes been mislead about sex differences (e.g., Barnett, 1975).

Figure 3 provides a better view of how the fields of work are related to sextype and prestige. The individual occupations have been grouped into their respective Holland fields and the means and standard deviations of prestige and sextype scores calculated for each of the six groups. Each Holland type is centered in the space according to its mean scores on prestige and sextype. A cross measuring one standard deviation to either side of the mean is shown for each field in order to indicate the area in which

most occupations in a field are located. It also shows the extent to which the fields of work overlap in prestige and sextype.

The picture provided in Figure 3 is consistent with what we know about occupations, but it also highlights some properties of the occupational world that often go unappreciated in vocational research. Investigative work (science and medicine) is the field with the highest average prestige. It is somewhat masculine on the average but it is not highly sextyped because many neutral jobs can be found in the field. Moving down in prestige we see that enterprising work (sales and management) is somewhat more masculine and social jobs (social service and education) are somewhat more feminine on the average than is investigative work. Artistic (aesthetic and literary) work is approximately the same in prestige and sextype as is social work. Going further down in prestige, we find that jobs are more sextyped. Realistic (manual and technical) work is clearly masculine and conventional (clerical and accounting) work is clearly feminine on the average.

The fields of work sometimes differ considerably in the ranges of prestige they span. Investigative work is primarily in the high range; social, enterprising, and artistic work extend down into the moderate range; and realistic and conventional are generally of only moderate prestige or lower. If one wants high-level work, conventional and realistic work are poor prospects. On the other hand, if one wants high-level feminine work, the artistic and social fields offer the best prospects. Investigative work would not offer clearly feminine work, but would offer some sex-neutral jobs.

Circumscription: The Development of Self-Concept and Occupational Preferences

The previous section showed that images or stereotypes of occupations are shared by young and old, men and women, and people from all sections of American society. Individual differences in perceptions constitute only minor variations on a major theme. In contrast, people give much more diverse responses when they are asked what occupations they would like to have. Major differences in preferences are found by sex,

age, intelligence, socioeconomic status, race, region of residence, and other personal and social attributes.

If people see jobs in the same way, why don't they all want the same types of jobs? As discussed earlier, most current vocational theories maintain that people have different conceptions of themselves and therefore find different occupations compatible with their self-images. This section explores the development of self-concept and how judgments of job–self compatibility emerge with the earliest constructions of self-concept.

Developmental Principles

The formation of self-concept and occupational preferences begins in early childhood. Four stages of development are proposed: orientation to size and power, to sex roles, to social valuation, and to the internal, unique self. These stages have been adapted from Van den Daele's (1968) description of cognitive development and the formation of children's ego-ideals. Table 1 lists the main elements of the stages as they relate to children's cognitive capacities, the evolution of their self-concepts, their changing orientation to work, and the age and grade ranges to which the stages most often correspond.

There are higher stages of development relevant to vocational behavior, but they are omitted here because few people reach them—at least within the age range with which this article is concerned. For example, Van den Daele proposed a fifth stage— "integrated world view through reflective consideration of personal or human situation"—but he also concluded that only a tiny fraction of adolescents exhibited behavior at this level of development.

Van den Daele analyzed the reasoning of children and adolescents about their ego-ideals in five areas: occupation, community, social, material, and body goals. He concluded that rate of cognitive development is highly correlated with general intelligence (the relation becoming clearer with age) and that development is parallel in all five ego-ideal domains as well as in moral development. Children seem to progress through the stages in the order specified, although they develop at somewhat different rates. Older youngsters are thus more heteroge-

Table 1
Summary of Four Stages in the Development of Self-Concept and Occupational Preferences

Characteristic	1. Orientation to size and power	2. Orientation to sex roles	3. Orientation to social valuation	4. Orientation to internal, unique self
Ages (years)	3–5	6–8	9–13	14 and over
Grades	Nursery school and kindergarten	1–3	4–8	9 and over
Thought processes	Intuitive	Concrete	Less concrete	Abstract
Ability to classify objects, people, occupations	Has not achieved object constancy	Simple groupings	Two-factor groupings	Complex groupings
New elements in perceptions of self and others	Little vs. big	Gender	Social class and intelligence	Personal interests, values, and competencies
New elements in occupational perceptions and preferences	Occupations as adult roles	Sextype	Prestige level	Field of work

neous than younger ones in their reasoning about who they would like to be. There are no sex differences, and the observed differences by social background can be explained by differences in intelligence. Thus, the stages represent a general developmental process through which all children proceed, but at different rates depending on intelligence.

The ages (and grade levels) corresponding to the four stages are ages 3–5 years (preschool), 6–8 years (Grades 1–3), 9–13 years (Grades 4–8), and 14+ (Grades 9+). The cutting points are actually somewhat fuzzy because they represent the ages at which children first enter the stage in any sizable proportion. These age groupings are consistent with data presented by Van den Daele, but they are also based on impressions gathered from the literature on the content of self-images and vocational choices. It should also be noted that most research tends to include children more intelligent on the average (e.g., by typically studying middle-class or upper-class children, by not including school dropouts, and by excluding subjects who do not provide usable responses), and therefore reflects more accelerated development than might be found in more representative samples of children.

The age/grade demarcation between the stages is clearest between Stages 1 and 2;

demarcations become fuzzy at later stages because some youngsters pull ahead of others in development. Van den Daele's data suggest, for example, that although Stage 4 begins appearing around age 14, most adolescents are still in the earlier stage. If youngsters were classified according to mental age, the demarcation of stages would be clearer; most research studies, practical counseling considerations, and social expectations, however, are structured by chronological age or grade level.

The content of self-images and vocational preferences summarized in Table 1 was pieced together from a wide variety of studies of gender identity, awareness of social class membership and ability, and occupational aspirations, interests, and values, some of which explicitly used a cognitive developmental framework. These studies show clear differences in content of self-images and preferences that are conditioned both by cognitive development and social environment. Five general principles will be introduced and then illustrated later in the more detailed descriptions of the four stages.

1. The Concreteness/Abstractness Progression

Children progress from thinking in intuitive terms in their preschool years, to con-

crete thinking in elementary school, to more abstract reasoning by high school. Young elementary school children define themselves, sex roles, and occupations according to concrete, external, observable appearances and behavior, and only later do they begin to use more abstract and internal descriptions of self, others, and jobs. Hence, vocationally relevant self-concepts would be expected to develop and be incorporated in an order corresponding to their concrete and external visibility: first gender identity (Stage 2), then social class and ability self-concepts (Stage 3), and finally personal feelings, interests, and values (Stage 4). Analogously, some characteristics of occupations should become observable and salient earlier than others: first sextype, then prestige level, and finally field of work (see Table 1). With age, youngsters develop more sophisticated and complex views of the world, relating many disparate pieces of information into more unified and coherent understandings of themselves and others. It is more informative, then, to view vocational development as growth in the capacity to apprehend and organize relevant information about self and jobs than to view it simply as the accumulation of information.

2. Interactive Development of Self-Concept and Vocational Preferences

As youngsters become aware of who they are, they concurrently develop notions of who they want to be in the future. They may not actually think much about the future, but they make judgments about what roles and activities are compatible or not compatible with their images of who they are or are trying to become. Occupation is one of the most important and observable differentiators of people in our society, so it is not surprising that even the youngest children use occupational images in their thinking about themselves. Stereotypes of adult roles (e.g., sex roles and occupational roles) may even be used by children to help create or consolidate their sense of self, just as an adult may pursue a particular job in order to become the type of person (e.g., outgoing, competent) that does that job (cf., Galinsky & Fast, 1966; Kohlberg, 1966). The point is that the development of self-concepts and of vocational preferences are

intimately related, perhaps developing in a leap-frog manner.

3. Overlapping Differentiation–Incorporation Sequences

Each stage of development represents a period in which youngsters are incorporating more abstract concepts of self into their overall self-concept. This is mirrored by the successive addition of new criteria for determining preferences: sextype of occupation, prestige level, and field of work. However, each stage of incorporation is preceded by a period in which youngsters recognize or become aware of these new dimensions for defining self and occupation. For example, youngsters are aware of gender differences in Stage 1, but it is only in Stage 2 that they have developed the notion of a stable gender identity that applies simultaneously to both children and adults.

4. Irreversible Progressive Circumscription (Elimination) of Alternatives

As each new element of self-concept is incorporated, the self becomes more complex but more clearly delineated. As each new criterion for judging the compatibility of occupations is applied, preferences become more complex but more narrow. In Stage 1, youngsters eventually restrict themselves to adult occupations (rather than magical or nonhuman states of being, for example); in Stage 2 jobs perceived as inappropriate for one's sex are rejected; in Stage 3, jobs of unacceptably low prestige or high difficulty are rejected; and in Stage 4 preferences are further narrowed to be compatible with one's particular interests and abilities. Once rejected according to an earlier criterion, these rejected options will not be reconsidered except in unusual circumstances. To a large extent, vocational choice is the elimination of alternatives from further consideration, a process that considerably simplifies the choice process.

5. Ability to Display but not to Verbalize Spontaneously the Bases of Preference

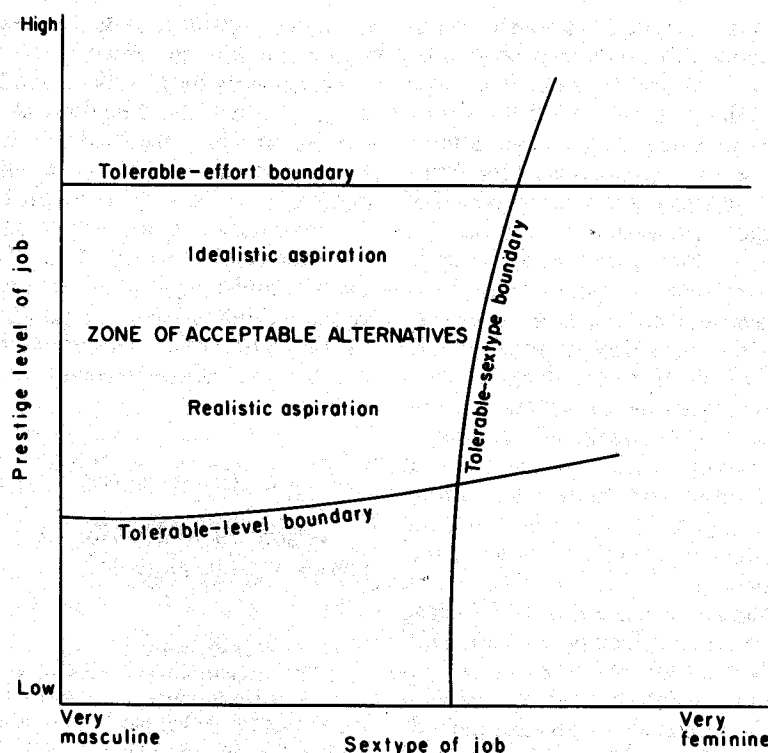When presented with a list of occupations to rate according to likeability, people clearly

Figure 4. The circumscription of occupational aspirations according to one's perceptions of job–self compatibility: The example of a hypothetical middle-class boy of average intelligence.

show their distaste for jobs of the "wrong" sextype or low prestige (e.g., Slocum & Bowles, 1968), but if asked to list spontaneously their least preferred occupations, they rarely list low-level or sex-inappropriate jobs. O'Dowd and Beardslee (Note 1) demonstrated this general phenomenon quite clearly when they asked college women to state the job they would least like their future husbands to have. The worst jobs most women listed were actually quite high-level ones, almost all being white-collar jobs, with the women higher in social class listing higher-level jobs. Also, people may have trouble verbalizing the reasons for why they rate some occupations better or more similar than others, and they often differ considerably from each other in the reasons they do give. However, they have no trouble rating occupations and they act as if they all shared the same images of occupations (e.g., Reeb, 1959; Reiss, 1961). Youngsters may even deny certain differences (e.g., that there are social classes), but their other responses suggest that they share clear and common stereotypes of different social classes (e.g.,

Himmelweit et al., 1952; Stendler, 1949). In short, there are many criteria for choice that people do not mention when queried, perhaps because they are so obvious that they are "forgotten," taken for granted, or considered inappropriate to even mention.

Figure 4 illustrates some of these principles more graphically and relates them to the occupational images discussed earlier. This figure represents the cognitive map of occupations defined by prestige level and sextype shown in Figures 2 and 3. This particular figure portrays the circumscription of preferences by a hypothetical middle-class boy of average intellectual and social skills. As noted in an earlier section, a child's cognitive map of occupations is simpler and less detailed than that of an adult, but what he or she is aware of is consistent with the images of adults. In Stage 1, the boy has developed a sense of what an occupation is. In Stage 2 he will emphatically reject obviously cross-sex occupations because they are inconsistent with his developing gender identity. The vertical line— the tolerable-sextype boundary—in Figure

4 represents the threshold between occupa-
tions that the boy sees as acceptably mas-
culine (on the left) and those that are too
feminine (on the right). Other boys may
differ in where they draw the line, but almost
all will reject some occupations as too femi-
nine. By the time the boy becomes aware of
the significance of prestige level, it will no
longer occur to him that these rejected
feminine jobs might be options for him. As
he becomes aware of what job levels are ac-
ceptable within his social group, he will
eliminate from further consideration jobs
that would signal that he was a "failure" if he
took them as his life's work. This circum-
scription is shown by the lower horizontal
line—the tolerable-level boundary—which
separates the jobs that would be tolerable
from those unacceptably low in prestige.
Simultaneously the boy is discovering in
school how "smart" he is, and he is adjusting
his sights accordingly. The upper horizontal
line—the tolerable-effort boundary—sepa-
rates jobs that are too difficult from those
that would be within reach given a reason-
able amount of effort. By the time the boy
enters Stage 4, he will have thus restricted
his range of potential choices to those cir-
cumscribed by the three boundaries. It is
within this self-defined social space—his
zone of acceptable alternatives—that he will
explore his options for implementing his
interests, values, and special capabilities.
When asked to state his idealistic preference,
the boy will name an occupation from the
upper part of this space; when asked to state
a realistic expectation, he will name an oc-
cupation lower in this space—an occupation
perhaps less preferred but more accessible.
Although the process is the same for all
youngsters, where they draw their bounda-
ries will differ according to their judgments
of their own abilities and motivations, the
definition of success in their community, and
the expectations other people have for
"someone like them," as well as other per-
sonal and environmental factors. Hence,
even the idealistic preferences of youngsters
differ by sex, social class, ability, interests,
and values.

The remainder of this section provides
more detail about the four stages of devel-
opment and the process summarized in
Figure 4. Two important aspects of self-
concept, age and race, will not be discussed.
Age will not be discussed because the model
concerns only preferences for adult occupa-
tions. Race will not be discussed because it
can be largely subsumed within the model
presented here. For example, the same
general patterns of development and dif-
ferentiation in aspirations have been found
for blacks and whites (e.g., Gottfredson,
1980a), and many of the racial differences
reported in the vocational literature are
probably due to the frequent failure to con-
trol for differences in social class and intel-
ligence.

Stage 1: Orientation to Size and Power

Nelson (1978) describes the thought pro-
cesses of children in Stage 1: first there is
an

orientation to excitation, [which] is characterized by
magical, egocentric, capricious thinking, with little
distinction between past, present, and future. Objects
are chosen for speed, motion, perceived glamour, or
power. Choices involve fantasy and immediate grati-
fication, with little conception of future time as different
from present. (p. 289)

Then there is a shift to

dichotomous thinking that to do or act like the parent,
particularly the same-sex parent, is good, but with little
understanding of parents' purposes. Objects are chosen
to manipulate or operate. The world is divided into
big–little, good–bad distinctions representing an or-
ientation to the adult as the "controller of resources."
(p. 289)

The shift from magical thinking (where
persons and objects are not always differ-
entiated) to the notion of the future and
adulthood is evident in the aspirations ex-
pressed by nursery school students in Nel-
son's study (see also Vondracek & Kirchner,
1974). Half of the 3–4-year-olds were at the
earlier level of magical thinking, and over a
third of this age group expressed fantasy
wishes (e.g., princess, bunny rabbit). In
contrast, most 4–5-year-olds had progressed
beyond magical thinking and most expressed
aspirations for adult roles or activities (e.g.,
clean house, doctor).

By age 5, most children have progressed
from associating power with magic to asso-
ciating it with adulthood, they associate

adulthood with occupational roles, and they are able to project themselves into future adult roles. Still, adulthood has a restricted meaning. Around ages 4–5, children orient to size differences between themselves and adults (and between adult males and females). Because of the concreteness of their thought, they use size to define power (Kohlberg, 1966). Age and size are not clearly differentiated. To "grow up" or become a "big person" are age and time concepts for adults, but, as the terms themselves suggest, are size concepts at first for children.

Occupational preferences are clearly sextyped at the earliest ages assessed, but Nelson argues that these choices reflect the desire to command the resources and ability possessed by (same-sex) adults rather than an orientation to sex roles per se. During Stage 1, most children do not have stable coherent concepts of male and female roles, but they are clearly laying the groundwork for such development. According to Kohlberg (1966), gender self-labeling occurs around ages 2–3, and in the next 2 years children learn to correctly label others by gender according to concrete and observable behaviors and appearances (particularly clothing and hair style).

By the age of two, there are a number of quite clear sex differences in behavior and interests, including differences in the interest value of toys . . . , in activity rate, in aggressiveness . . . , and fearfulness . . . . These early sex differences are specific interest differences; they are not a reflection of general masculinity–femininity values, or an expression of a desire to maintain a masculine or feminine self-concept. (p. 112)

Children also prefer same-sex peers by age 3–4 years. By age 4–5 children are aware of some of the differences in the adult roles of men and women, for example, that only men have roles involving violence or danger (e.g., policeman, soldier, fireman). But it is not until age 5–6 (Stage 2) that children seem to have an abstract concept of male versus female, because it is not until this age that they will group together same-sex figures of diverse ages. And not until age 6 or so will all children have grasped the constancy of objects and therefore will emphatically deny the possibility of a male becoming a female or vice versa by changing their outward ap-

pearances—a possibility that many are willing to grant at earlier ages (Kohlberg, 1966).

Stage 2: Orientation to Sex Roles

Whereas younger children are aware of sex differences, it is only in Stage 2 that they begin to grasp the concept of sex *roles*—that sets of behaviors belong to each sex. Because of the concreteness of their thought, youngsters focus primarily on the most visible cues of sex role, such as overt activities and clothing. Many perceive sex-appropriate behavior as a set of rules for behavior, even as a moral imperative, and they may be more rigid than adults in their demands for adherence to those rules (Kohlberg, 1966).

Sex role stereotypes appear to develop in the same way that occupational images do. There is a consensus about sex differences among people of all sexes, marital and educational statuses, and most ages (Broverman, Vogel, Broverman, Clarkson, & Rosencrantz, 1972). Stereotypes of sex role activities (e.g., wash the dishes, mow the grass) are shared by children from at least the early elementary years (Tibbetts, 1975), and this consensus on sex stereotypes among children occurs despite known variability in parental role behavior (Kohlberg, 1966). As with occupational images, there are some variations in adolescent and adult stereotypes, but these are small in relation to the overall pattern. As with occupational images, there is a developmental pattern that appears to be associated with cognitive development.

There is disagreement in the literature about the developmental course of sex stereotypes; for example, whether they become stronger or weaker with age. These apparent inconsistencies result from using methods that capture different aspects of development and that are differentially sensitive to cognitive development. As youngsters advance in cognitive development, they comprehend more abstract concepts and begin to recognize the more subtle aspects of sex stereotyping. For instance, they will recognize more abstract differences in personality traits assigned to the sexes (such as being logical, ambitious, and fickle) in addition to the more observable ones (such as

being aggressive and strong). Because they recognize more of the components of adult stereotypes, older youngsters will appear to have increasingly stereotyped notions when asked to respond to a list of items stereotyped by adults. (This explains the results found by Williams, Bennett, & Best, 1975.) However, each of these items will tend to be endorsed less strongly with age. Young children tend to be dichotomous thinkers; they are less able to make fine distinctions in response categories, and therefore they are more likely to use the extremes of rating scales (Garrett, Ein, & Tremaine, 1977). Using only items that youngsters already associate with one sex or the other would result in less stereotyped responses with age when multiple response categories are provided for judging sextype (e.g., Shepard & Hess, 1975). On the other hand, when people are given the option to describe themselves with a variety of items, some of which are stereotyped and others not, the more developmentally advanced may endorse more items and thus appear less stereotyped. For example, Kohlberg (1966) reasons that sex stereotyping decreases in adolescence because interests broaden. Higher level activities—that is, mental activities—are fairly neutral in sextype and are seen as more feminine than other masculine activities and more masculine than other feminine activities. As youngsters orient to higher level activities, they will endorse more of these less stereotyped items (along with the usual stereotyped ones) and thus seem less stereotyped. Differences in intelligence and developmental level would therefore be expected to be associated with more "androgynous" interests, and this does seem to be the case because people who aspire to high-level jobs have less sextyped interests than people who aspire to low-level ones (e.g., Diamond, 1971).

Children's occupational preferences in Stage 2 clearly reflect a concern with doing what is appropriate for one's sex. Boys and girls agree closely on which sex should do various jobs, and the most popular choices for girls tend to be the least popular choices for boys and vice versa (e.g., Tibbetts, 1975). Spontaneously expressed most- and least-preferred occupations reveal that Stage 2 youngsters have circumscribed their options

according to sextype. Although at this stage youngsters aspire to jobs at all prestige levels, none mention a clearly cross-sex job as either a most- or least-preferred option. The main difference between the lists of most- and least-preferred options (within each sex) is that the latter include morally repugnant "jobs" such as robber, pick-pocket, and slave (Siegel, 1973). Sex differences in preferences do not change much from the early elementary grades through high school (e.g., Nelson, 1963), so preferences are still very sextyped by the end of high school (e.g., Slocum & Bowles, 1968).

One could claim, as many do, that sex differences in preferences reflect perceptions by girls that some of their options are "foreclosed," and they are already accepting their less favored status in society. However, most research on preferences and sex stereotypes suggests that both males and females actively support these gender stereotypes (e.g., Broverman et al., 1972). Furthermore, both boys and girls think their own sex is superior. The Tibbetts (1975) study of 1st through 4th graders found that both sexes think their own sex is kinder, better behaved, braver, smarter, quieter, has more fun, and gives up less easily. The sexes agreed only that girls cry more and boys like to fight and throw things more. Older people tend to see some of the foregoing personality traits as more stereotyped than did these youngsters (e.g., Broverman et al., 1972; Williams et al., 1975), perhaps because the youngsters do not comprehend the less concrete sorts of sex differences. But the children's responses make clear that girls' stereotypes are not necessarily a devaluation of their own sex and they may reflect actual differences in what girls and boys find compatible with their images of who they want to be. Kohlberg (1966) also reports studies showing that children from ages 5 to 14 years indicate that their own sex is best.

Furthermore, children may avoid gender-ambiguous choices and accentuate stereotypes in order to consolidate their own sense of gender identity (cf., Kohlberg, 1966). This is consistent with the finding that youngsters' own preferences are more sextyped than their judgments about what is appropriate for their sex (e.g., Schlossberg & Goodman, 1972).

Stage 3: Orientation to Social Valuation

At this stage of development, youngsters are still oriented to external expectations and definitions of self. They become very sensitive to peer group evaluations and then to more general social expectations, values, and evaluations (Van den Daele, 1968). At the beginning of Stage 3 (around Grade 4), youngsters begin to resemble adults somewhat in their views of who and what is valued highly in society. They begin to recognize prestige differences among jobs as well as social class and ability differences among people. Their preferences for prestige level of work come to differ considerably by social class and ability level, differences that change only in detail from high school onwards. Social class, sex, and ability differences are so much a part of everyday life that they are taken for granted and may not even be "conscious"; the associated differences in aspirations also seem "natural" to youngsters, parents, and those around them, perhaps explaining why these characteristics play so little part in vocational theory.

The remainder of this section discusses the development of social class awareness, a concern with occupational prestige, and the circumscription of aspirations according to social class and ability level.

Awareness of Social Class

In a study of English 13–14-year-olds, Himmelweit et al. (1952) concluded that "Although 60 per cent of the adolescents did not know what the *term* 'social class' meant, there can be little doubt that the boys had already acquired a very thorough understanding of our social class system" (p. 170). For example, they found that only 17% said they could not tell how important a man was by his speech and only 11% said they could not according to his dress. The authors say that the striking agreement between adolescents and adults probably exists because "class distinctions form so much a part of the day-to-day experiences of boys that when asked to talk about them they can do so without difficulty" (p. 170). Stendler (1949) reaches the same conclusions from a study of American children in Grades 1 through 8. Thus social class images appear to be as

commonly held and naturally learned as are stereotypes of jobs and the sexes, and they are firmly entrenched by the end of Stage 3. As will be illustrated below, social class images follow the same developmental course as do these other stereotypes.

There are many elements or symbols of social class (e.g., education, occupation, income, place of residence, clique membership). The development of social class awareness is best conceptualized as a process spanning several years in which the most concrete and observable of these symbols or cues are recognized first, with the most abstract or unobservable ones being gradually recognized later. The readiness or ability to recognize and assimilate each of the cues seems to be determined in large measure by one's level of cognitive development, because there are large differences in awareness of specific symbols by age or grade level in the elementary years and because brighter children are sometimes several years ahead of their peers in the recognition of these symbols (Goldstein & Oldham, 1979; Stendler, 1949). The culmination of the process is the integration of these diverse cues into a coherent whole reflecting an "understanding" of the web of factors constituting social class position.

Stendler (1949) provides a concrete picture of this developmental process. First graders (in Stage 2) used terms denoting social class (e.g., rich and poor), but were only in what Stendler calls a preawareness stage. Although many of these youngsters were willing to rate the social class level of various types of jobs, homes, clothing, recreational activities, classmates, and themselves, their responses indicate that they were responding in terms of a general dichotomy between good and bad (or clean vs. dirty) that often had little relation to the items being judged. They generally rated people they liked as richest and people they did not as poorest, and made few distinctions among people (e.g., they thought that most people, including themselves, were rich). Between Grades 4 and 6 (the earliest years of Stage 3), there was a spotty but growing awareness of class symbols. Concrete social class cues perceived first-hand (e.g., possessions brought to school, clothing, rough behavior) were recognized first, followed by

those cues observable in the expanded arena of activities of the slightly older child (e.g., homes, recreation), and then by the more abstract symbols (e.g., parents' jobs, education). Although the recognition of social class symbols begins to resemble that of adults by Grade 4, only youngsters in Grade 6 were giving economic reasons (rather than morality and cleanliness) to explain their favorable ratings of particular homes, clothing, recreation, or jobs. By Grade 8, all youngsters appeared to have adopted adult stereotypes (see also Goldstein & Oldham, 1979; Weinstein, 1958). By the end of junior high school, youngsters were quite specific and sophisticated in their judgments and reasoning; they recognized the link between education, jobs, wealth, and social class. As youngsters became more sophisticated in their understanding of social class, they were more sensitive about displaying that knowledge, which is a sign of understanding in itself. Stendler found 8th graders reluctant to identify any particular person in their school class as lower class and they generally would no longer identify themselves as upper class even if they were. Neither would they identify themselves as lower class.

The development of social class stereotypes parallels that for occupational prestige, which was described earlier. This parallel is not surprising because jobs are perhaps the most important determinants of social class.

The Development of Preferences for Level of Work

During Stage 3, youngsters become more differentiated in the levels of work they prefer, and these differences are patterned according to ability and social class. The following discussion provides evidence for why these differences develop as they do. Awareness of one's social class has already been discussed. Awareness of one's ability level will not be discussed because it is assumed that youngsters, especially the more concrete thinkers, will judge how smart they are according to their school grades (cf., Ginzberg et al., 1951, p. 84). Grades provide frequent and public feedback about ability levels, feedback to which many parents are also quite sensitive.

Evidence for a growing concern with occupational level. The occupational preferences of both adolescents and adults reflect a great concern with occupational prestige (e.g., Reeb, 1974), but prestige is irrelevant to the average first grader. As youngsters develop an awareness of prestige differences among jobs, their aspirations begin to reflect a concern with prestige level.

At the beginning of Stage 3, boys are still expressing aspirations for jobs such as policeman, truck driver, and athlete, and girls are still interested primarily in nurse and teacher. Rosenberg and Rosenberg (in press) point out that these are occupations easily recognized by their uniforms, equipment, frequent personal contact, or the gross motor activity or excitement that attract young children. Both very high- and very low-level jobs will be named by both girls and boys.

As children become capable of more subtle observations, they recognize new occupations and judge them according to prestige level. Expressed preferences become more varied, very low-level jobs are no longer mentioned, and the proportion of both boys and girls saying they want manual or unskilled work drops dramatically by adolescence (Rosenberg & Rosenberg, in press). Gray's (1944) study of black children provides a very clear example of the rejection of low-level jobs with age. Around 30% of 6-year-old boys wanted to be factory workers, taxi drivers, porters, houseboys, and launderers, and a third of the girls wanted to be domestics or laundresses. These jobs were undoubtedly familiar within the children's immediate environment, but these choices largely disappeared by age 9. Interests in carpenter, teacher, postman, musician, and beautician—more prestigious jobs available in the black community—rose with age.

Boys' occupational preferences rise considerably in prestige level during Stage 3 as they shift away from blue-collar work toward major professional and executive jobs. In contrast, girls' preferences move toward lower-level jobs—from jobs as lesser professionals (e.g., teacher and nurse) and toward semi-professional and clerical work. Even though the trends go in opposite directions, they reflect the same growing

awareness of prestige and produce much the same result. As Rosenberg and Rosenberg point out (also Goldstein & Oldham, 1979), girls' original aspirations are much higher than those of boys in the early grades, probably an accidental by-product of sextyping. In a sense, girls' aspirations start out "too high," and boys' aspirations "too low." High social class and high ability boys begin to recognize that they are expected or are able to pursue higher-level jobs. Lower social class and lower ability girls realize that there are lower-level jobs than nurse or teacher that are acceptable for them. This is consistent with the findings that both the average level of aspirations as well as the social class and ability differences in preferences are similar for both sexes in adolescence (Haller, Otto, Meier, & Ohlendorf, 1974).

Differences in preferences by social class and ability level. Pronounced differences by social class and ability level in educational and occupational aspirations are found among high school students, especially among boys (e.g., Sewell & Shah, 1968). More able students aspire to higher-level jobs, and within all ability groups the higher social class youngsters have the higher aspirations. This is true whether long-term or short-term goals are considered or whether tolerable, expected, or most preferred occupations are involved (e.g., Della Fave, 1974; Haller et al., 1974). These group differences not only seem to be stable during high school and after men enter the labor force, but they also tend to mirror the levels of work that men obtain by their late twenties (Gottfredson, 1980a; Gottfredson & Becker, 1981). More able high school and college students may raise their aspirations and less able students lower them (e.g., Holden, 1961; Astin, 1968; Astin & Myint, 1971), but these shifts are typically within a very narrow range of jobs.

When do these differences develop? Having found that an adult-like awareness of social class and occupational prestige differences and an understanding of the link between education, social class, and work develops most strongly around grades 6 to 8, we would expect the observed social class and ability differences to crystallize in those grades as well. Stendler's (1949) study of

social class awareness does seem to find a parallel between the emergence of awareness of class symbols and the emergence of class differences in aspirations. Even the more qualitative studies of vocational development make it clear that these differences exist by late elementary school. Ginzberg et al. (1951), for example, found that all of their high ability 11-year-old boys took it for granted that they were going to college. In contrast, none of their disadvantaged boys did, either saying they were not sure or were definitely not going.

Origin of social class and ability differences in preferences. Because youngsters can readily distinguish between idealistic and realistic aspirations and still differ by social class and ability level in both, it appears that these differences do indeed reflect differences in preferences. Why should children want different job levels, especially when we have seen that there is a consensus on how jobs are ranked in society? The answer lies largely in the observation that social groups differ in where along the same prestige continuum they begin to identify jobs as unacceptable. As noted before, lower-class individuals are more positive about lower-level jobs than are higher-class individuals. In most cases youngsters will take the group of which they are a member as their reference group: A lower-class child is most likely to orient to the lower class and adopt its standards for success, and a middle-class child will orient to the middle class with its more demanding standards.

Parents' aspirations for their children show these differences in what is considered acceptable or tolerable. All mothers would be happy to have their sons obtain high-level jobs, but they differ considerably in what they would consider to be failure. The lower the social class of the mother, the lower the level of the jobs that would be acceptable to her (Rosen, 1959). Parents and other important adults also seem to set different standards for children of different ability levels. Sewell and Shah (1968) found that youngsters' reports of parental encouragement to attend college increased by both social class and ability level of the youngsters. Youngsters at higher intelligence and social class levels were more likely to actually plan to go to college whether encouraged or

not (though much more likely if encouraged). More qualitative studies also suggest that parents have, and youngsters adopt, different views about what is an acceptable job level for people like them (e.g., Ginzberg et al., 1951; Kahl, 1953).

Other types of evidence also suggest that youngsters orient to social class reference groups when perceiving the occupational world and when evaluating their occupational futures. For example, youngsters (and adults) tend to rate themselves and their parents as more moderate in social class than they are (e.g., Himmelweit et al., 1952; Stendler, 1949), and children also tend to see a larger proportion of people in jobs closest to their own status background (Weinstein, 1958). Himmelweit et al. (1952) concluded that occupational aspirations and a sense of social mobility depend on the social class to which one orients.

Adjustment to reality does take place with respect to job level, then, but it appears to occur largely as a natural process of learning what is typical and acceptable within one's surroundings long before youngsters enter the job market. The naturalness of this process enhances the acceptability of social class and ability differences among the adults who end up in lower-level jobs. These differences in prestige level are also made more acceptable by what appears to be a gender accentuation phenomenon. This is especially the case for males because they tend to hold the lowest level jobs. Many of the low-level jobs involve great physical effort or even danger (e.g., construction workers, miners). Men earn respect for demonstrating strength and bravery, and such occupational groups seem to accentuate the masculinity of their job skills. They may even consider men who do more mental and less active work to be effeminate and as not really "doing anything." At least this is the view expressed by many lower-class boys planning to enter low-level work (e.g., Kahl, 1953). It is not surprising, therefore, to find "macho" ideology and behavior among many working class men who resist women entering their world and destroying the illusion that only men are capable of the work. This is consistent with the fact that lower-level jobs are more sextyped than are higher-level ones (see Figures 2 and 3), that there may be a greater resistance to having women enter

manual work than high-level male jobs (Hesselbart, 1977), that programs to increase the number of women in managerial jobs are more successful than those for blue collar jobs (U.S. Department of Labor, 1978), and that interests are less differentiated by sex in high-level jobs (Diamond, 1971).

Circumscription of Range of Preferences

Beginning in Stage 3, youngsters can readily distinguish among, and list, aspirations that they consider tolerable, aspirations that they consider realistic (e.g., expectations), and aspirations that they consider idealistic (e.g., fantasy or idealistic preferences). This suggests that they have a range of more to less highly valued preferences. The research even suggests that the size of this range is much the same for different social classes, and the ranges simply span different levels (Della Fave, 1974). This is in contrast to young children, who do not seem to have either a ceiling or floor on their preferences.

The development of the lower boundary of this range, the tolerable-level boundary, has already been discussed. Apparently the floor of preferences moves up with age for all groups of children, but it rises higher for higher social class students (and perhaps higher ability ones) because they are harsher judges of occupations. Boys' preferences typically filter up and girls' typically filter down from their earliest choices in response to their changing assessments of jobs and self.

Differences in youngsters' preference ceilings is a less expected phenomenon, particularly because parents' aspirations for their children do not show a clear upper boundary (Rodman & Voydanoff, 1978). When Slocum and Bowles (1968) asked high school students to say whether or not they would like each of 61 occupations, the most prestigious jobs were not necessarily the most preferred. As many boys thought they would like to be truck drivers (31%) or police officers (33%) as thought they would like to be physicians (31%), and those three choices were less popular than auto mechanic (44%) and electrician (40%) but more popular than the relatively high-level jobs of dentist (27%) and accountant (25%).

The ceiling phenomenon among young-

sters may be explained by a principle of reasonable effort for reasonable rewards. Higher prestige occupations are related both in fact and popular perception to intelligence and educational levels. Many youngsters, particularly the less bright ones, may realize that the highest level jobs would require more effort than they are willing or able to exert to obtain them. Ginzberg et al.'s (1951) low income group of boys showed this clearly. Repeatedly they said that they were not "smart enough" to go to college or that it "might be difficult" or "too much work" to do so and they evaluated high school curricula as "easy" or "hard" (e.g., see pages 138–143). Such difficult pursuits probably also pose a higher threat of failure. External obstacles (e.g., finances) may make high-level choices beyond reach, but "tolerable-effort ceilings" seem to exist before such considerations. Thus, as youngsters become more aware of their capacities, they begin to rule out some of the high-level jobs.

As noted before, the magnitude or strength of the preferences for various occupations within these boundaries differs. The magnitude of preferences for prestige level would be a product of how desirable the job is (which increases with prestige level) and the ease of obtaining it (which decreases with prestige level). Because lower-level jobs are more acceptable to lower-class youngsters, their most preferred job would be lower in level than that of a higher social class child of the same ability. By the same token, a brighter child will have higher-level preferences because the difficulty of obtaining them is less than that experienced by a lower ability child of the same social class.

The foregoing suggests that ranges of prestige preference will differ within the same social class according to ability levels. After all, realistic and idealistic goals (which might be considered measures of the lower and upper boundaries) are far from perfectly correlated (e.g., Haller et al., 1974; Campbell & Parsons, 1972). Two phenomena with counseling implications follow from these differences: *foreshortened horizons* and the *effort–acceptability squeeze*.

Social class and intelligence level are correlated and to some extent they act on children in a consistent manner. But there is still much variation by ability at all social class levels. The most striking cases of in-

consistency would be the high-ability lower-class child and the low-ability higher-class child. The former child has more options than he or she is likely to realize or pursue. There are many ways for these children to be successful within their reference group because their tolerable-level boundaries are apt to be low, but relative to their social class peers, their tolerable-effort boundaries are high. These youngsters are likely to be satisfied with a lower level of achievement than youngsters from more demanding environments, and in fact Ginzberg et al. (1951, p. 154) referred to the limiting nature of the modest expectations among their low income respondents. Such youngsters could be characterized as having foreshortened horizons. On the other hand, the tolerable-level boundary is quite high for many middle- and upper-class children, but the less intelligent among them may find their tolerable-effort ceilings quite near their lower tolerance boundaries. This leaves them little space within which to achieve success in the eyes of their reference group. Status anxiety may be extreme among youth experiencing this effort–acceptability squeeze, with higher rates of alienation or deviant or self-destructive behavior a likely possibility.

The result of the circumscription process by the end of Stage 3 is that youngsters have identified a general level as well as sextype of work they would prefer. Much vocational development remains, and youngsters have yet to forge their personal identities, but they have already established social identities that they now largely take for granted. It is without much difficulty that they begin to implement this identity early in high school by choosing one curriculum track over another—a commitment with implications for the prestige level they will be able to pursue later.

Theorists have often concluded that childhood aspirations cannot be taken seriously because of their fanciful and unstable nature. The youngest children's preferences are indeed very childish, but they are already sextyped. Older children's preferences may be unstable as far as particular occupational titles are concerned, but they reflect preferences for level of work. Children may be far from crystallizing specific choices, but the society of their elders is already reflected and

being recreated in their general preferences.

Stage 4: Orientation to the Internal, Unique Self

By adolescence most youngsters take their broad social identity for granted. They have also found sets of adult social roles that they, their parents, and their friends deem acceptable. In terms of Figure 4, a zone of acceptable occupational alternatives has been established. The next stage of development is to carve out a personal identity and to arrive at more specific occupational choices. This section will describe several aspects of that process: (a) the recognition of more internally based and abstract concepts of self (e.g., of personality) and the drive for internal direction and coherence, (b) the evolution of preferences in relation to the newly developing concepts of self, and (c) the synthesis or integration of preferences according to a life plan.

Perception of Self and Others

Van den Daele (1968) concluded that in the fourth stage of development youngsters shift from accommodating directly to external socially defined goals to pursuing seemingly self-defined goals. The self may be seen either as an agent fulfilling social responsibilities that the person has internalized or as an agent fulfilling one's unique values, beliefs, and preferences. A concern with external similarities of self with others has been replaced by a concern with one's unique capabilities. In this stage youngsters have also begun to develop more complex and integrated views of themselves and reality.

Van den Daele found that less than a quarter of students in Grades 10 or 12 had reached this stage of development. This implies that we should expect considerable variation in the ability of high school students to cope with many of the developmental tasks they face in high school and in their early careers. A larger proportion of college students would be expected to be in Stage 4 because they are both older and more intelligent on the average than high school students.

Between childhood and adolescence there is a shift from viewing oneself primarily according to external characteristics toward viewing oneself primarily according to personal traits. When Rosenberg (1979) asked children "what does the person who knows you best know about you that other people do not," he found a steady increase in psychological attributes (thoughts and feelings, interpersonal attitudes, hopes, etc.) from Grades 3 to 12 and a steady decrease in characteristics of the social exterior (behaviors, activities, abilities, physical characteristics, etc.) The psychological interior is mentioned by more than half the youngsters beginning with ages 14–15 years. The same pattern of interiority appears slightly later for the youngsters' self-reported chief points of pride and shame and their views of what makes them distinctive from other people. When asked what they have in common with other people, all youngsters tend to mention activities and abilities. Thus a sense of uniqueness appears to arise from one's personality traits.

This shift toward a more unique and internally based definition of self is accompanied by a shift toward inner direction and internal sources of self-knowledge. Adolescents are still dependent on adults for knowledge and direction, but they are beginning to seek independence. Beginning in early adolescence most youngsters will no longer say that their parents know them better than they themselves do, nor that parents and teachers are always right and should always be obeyed. Simultaneously, with this greater awareness of self and possible self-direction, unreflective self-acceptance seems to disappear. Beginning around ages 12–14, there is an increase in the number of children with high self-consciousness, unstable self-concepts, low self-esteem, depression, and low expected evaluations by adults and peers. Rosenberg shows that to some extent the increase in negative feelings is associated with going from elementary to junior high where the child is exposed to new expectations and social comparisons. His results suggest that the self-concept is unsettled during junior high school and perhaps stabilized to some extent during high school.

The shift from an external to a more in-

ternally based definition of self requires a greater ability to deal with abstract concepts. Personality traits are not readily observable; they are concepts that are used to summarize and make sense out of consistencies in behavior. Livesley and Bromley (1973) provide evidence that shows more clearly the relation between person- (and self-) perception and cognitive development. They asked youngsters from age 7 to 15 to describe themselves and other people with whom they were familiar. Perhaps because Livesley and Bromley asked youngsters specifically not to describe the physical appearance of these people, they did not find the increased use of personal traits after age 8 that Rosenberg did. But they did find that with age, youngsters used fewer global traits (e.g., nice, good) and more specific traits (e.g., considerate, helpful), indicating finer discrimination among types of behavior. Youngsters also became more selective in their descriptions; they selected the more salient and interesting aspects of the persons described, they were less likely to mention irrelevant details, and they drew distinctions between the more and less important attributes. Qualifying terms were joined to trait names to make finer distinctions among people to whom the same general trait might apply, and there was greater effort to justify and explain one's descriptions. The adolescents' descriptions were organized and coherent, unlike the unconnected strings of sometimes irrelevant characteristics recited by younger children. This complexity, subtlety, integration, and organization was strongly associated with intelligence and it increased considerably in early adolescence.

Changing social demands and opportunities, puberty, and a growing awareness of new ways of defining oneself probably all contribute to the sense of confusion and lack of coherence that beset the early adolescent. Forging a personal identity is accomplished partly by recognizing and exercising one's particular interests, competencies, and values—what is uniquely oneself. The ability to describe one's abilities and interests increases in the adolescent years. O'Hara (1966) showed that self-ratings of abilities and interests became more predictive of course grades in related areas between Grades 9 and 12. In addition, by Grade 12 self-ratings were more highly correlated with grades in 2 of 3 related courses (science and math but not English) than were tested abilities and interests. Self-ratings of several abilities also were correlated more highly with the tests themselves among older boys (O'Hara & Tiedeman, 1959).

Abilities and interests themselves are becoming more differentiated. For example, whereas schools generally assess young children according to a single dimension of academic ability, adolescents are more often assessed according to a variety of somewhat independent intellectual capabilities, such as mathematical, mechanical, and verbal skills and abstract reasoning.

Specification of Vocational Aspirations

The concerns and developmental changes revealed by the studies of self-concept and person perception are reflected in vocational aspirations during this stage. First, the uncertainty about one's personal identity is mirrored in the adolescent population by its uncertainty and instability about what particular jobs are most preferred. For example, Ginzberg et al.'s (1951) interviews revealed clearly that youngsters try to identify jobs they would be interested in and be good at, but they have considerable difficulty doing so. The youngsters seemed to grasp at any concrete clues to what their choices should be: some course grades being slightly better than others, comments by teachers and parents, particular experiences, and occasionally aptitude and interest test results. Most of the college-bound boys in the study said they hoped that college would reveal their interests and abilities to them; the non-college bound generally hoped that work experience would accomplish the same thing. The exceptions to this pattern of uncertainty and deferred specification of particular choices were the few boys who had outstanding talents and interests in a vocationally relevant area (e.g., auto mechanics), which they and others recognized at an early age. The more abstract personal traits of relevance in Stage 4 are less readily observable to outsiders as well and hence less likely to be pointed out by them to the child—a very different situation than that for sex,

social class, and general intelligence. Moreover, as long as a youngster explores within a previously defined social space, parents may be relatively unconcerned about specific vocational choices and so provide little guidance to the child even if they are able to do so.

As suggested earlier, vocational aspirations may even be used to help create a sense of identity. As Galinsky and Fast (1966) suggest, however, the reliance on occupational identity for creating or changing a personal identity may not always be particularly healthy: "Many people consciously or unconsciously think of choosing a particular occupation in the hope of assuming characteristics that seem to inhere in members of that occupation. . . . It is as if they could then put on a magic cloak and become all that they never were" (p. 91). Like the young child knowing who he or she is according to external appearances and behavior, they may attempt to make "outer moorings . . . substitute for inner cohesion" (p. 92). Not having a firm grasp on their capacities and personal traits, youngsters with very weak identities might not recognize inappropriate vocational aspirations.

The vocational uncertainty and confusion of adolescents is restricted in scope, however. Even an undecided person is likely to show strong likes and dislikes when asked about occupational options varying widely in sextype and prestige. A male is not likely to be confused or uncertain about wanting a masculine job, nor a middle-class child about wanting a middle-class job. The uncertainty concerns which field of work, and what specific job within that field, they should pursue. Thus specific choices may be very unstable during adolescence, but general preferences (i.e., one's zone of acceptable alternatives) will be much more stable.

The second parallel of vocational with personal development is that development concerns the type of person one would like to be; that is, one's personality type. It is at this point that fields of work take on special meaning. As research on occupational images has shown, people who enter different fields of work are seen as different kinds of persons who lead different kinds of lives. Many of the salient differences are the more

abstract and personal traits of those job incumbents—such as wise, deep, self-sufficient, rational, cautious, calm, optimistic, sensitive (Westbrook & Molla, 1976; O'Dowd & Beardslee, Note 1)—that the youngsters in Stage 4 are now apt to appreciate. That there actually are personality differences on the average among people working in or aspiring to different occupations is well established (e.g., Holland, 1976).

The personal identities conferred by jobs and allowed expression in them thus are likely to become criteria by which to further distinguish among one's acceptable alternatives. Choices that seem most compatible with the kind of personality one wants to project and develop are valued more highly than those affording less opportunity to do so. These valuations may shift frequently as people struggle to decide what sort of people they are and want to be, and sometimes small shifts in preferences may tip the scales in favor of different specific choices. The pattern of changes in youngsters' aspirations suggests that they are recognizing, or being forced by their educational experiences to recognize, the interests and competencies required for pursuing different fields of work. For example, 9th graders aspiring to different fields of work already differ on the average in their interests and competencies, but differences between groups are even larger among older youngsters. Thus, youngsters aspiring to the same fields of work form increasingly homogeneous groups with age (e.g., Astin, 1968; Cooley & Lohnes, Note 2).

The third parallel of vocational with personal development is that development reflects greater complexity and integration. Both Rosenberg and Rosenberg (in press) and Ginzberg et al. (1951) found that with increasing age youngsters are more likely to mention a life plan or overarching theme than a particular occupation when asked who they would like to be in adulthood. The outstanding result (of the otherwise inconsistent and weak results) from studies of occupational values and stages of vocational development is that vocational reasoning and the bases of decision making become more complex in adolescence, with values figuring more strongly as a basis of choice

(e.g., Kelso, 1977; Jepsen, 1975). Values themselves are higher orders of abstraction, guides for integrating diverse and sometimes conflicting goals and for creating a coherent life plan (cf., Ginzberg et al., 1951). This greater sophistication in vocational reasoning probably also leads researchers to take aspirations in this stage more seriously than aspirations in earlier stages.

Those assessment devices of the trait-and-factor tradition that show counselees how the different personality types and job types are systematically related (e.g., Holland's Self-Directed Search, 1979) would seem to help fill this need for organization and integration of occupational and self information. However, it is the developmental theories, particularly those concerned with vocational maturity, that explicitly focus on the task of integration (e.g., Super & Overstreet, 1960; Tiedeman & O'Hara, 1963). Theorists in this tradition have developed assessments of vocational maturity and sometimes advocate fostering its development among youngsters.

One overarching life theme, that of the "good provider" (Bernard, 1981), illustrates the task of integrating jobs into an overall life plan. For a man, being a good provider usually means being a good economic provider; for a woman, it usually means being a good homemaker. Men therefore typically seek "good jobs." Women are less often required to have a paying job to be a good provider and many jobs interfere with the role, so neither very high-level jobs (because of the investment required) nor very low-level jobs (because of their unattractiveness and low rewards) are likely to be pursued. Both boys and girls become increasingly concerned with marriage and family in high school, but this same high level of interest in family life is expressed through different occupational values, with the boys stressing money and prestige and the girls stressing working conditions and helping others (e.g., Gribbons & Lohnes, 1965). As has long been the case with black women, however, white women may become more committed to careers as more of them enter the labor force as major economic providers.

The task of integration is often a task of seeking a compromise among conflicting goals. The integration of family and work is one example of the compromises that people face in their careers. Others are discussed in the next section.

Compromise: The Perception of Job Accessibility and Priorities for Adjusting Aspirations

Previous sections have described the images people develop of occupations and of themselves and how they combine the two sets of images to determine their acceptable occupational alternatives. But the jobs people want may sometimes be very different from the jobs available to them. As the developmental theories usually point out, the end of high school is a time when the reality of the job market forces itself upon young people; for example, Ginzberg et al. (1951) see this as a period of transition into what they call the reality stage of development. Coping with reality often means making compromises, or changing one's goals to accommodate to uncontrollable circumstances. As Super (1953) has noted, "Surely this is the crux of the problem of occupational choice and adjustment: the nature of the compromise between self and reality, the degree to which and the conditions under which one yields to the other, and the way in which this compromise is effected" (p. 187).

This section discusses people's perceptions of their opportunities for fulfilling aspirations and how they make compromises. This section is mostly speculative because little research exists on these issues.

Perceptions of Job Accessibility and the Implementation of Aspirations

The literature has discussed many reality factors affecting vocational choice, ranging from employer discrimination to one's own life plan. Some of these factors have already been discussed in this article because they affect what people say they prefer or want to do. One's abilities, interests, and life plans do limit what one will be able to do, but these factors often seem to be self-imposed and to affect plans largely before youngsters encounter the job market. This section deals

with job accessibility factors that affect the implementation rather than the formulation or suitability of aspirations. A person might be quite suited to becoming a musician but abandon that aspiration if no jobs are available for musicians. On the other hand, the perception of opportunity will lead people to pursue jobs they might not otherwise have pursued. Jobs in teaching and the ministry have in the past been perceived by lower-class men as good avenues for social mobility because of the ready availability of training for those fairly secure and socially respected occupations (Ginzberg et al., 1951). The types of jobs available in the local geographic area will also be important in determining the types of work people seek.

It is widely assumed that people differ in their perceptions of opportunity and that these perceptions affect vocational behavior (e.g., Gottfredson & Becker, 1981). However, there is little research on this issue and none was located that is useful in the present context. Perceptions of opportunities and barriers to jobs and training (i.e., perceptions of job accessibility) would be expected to influence vocational aspirations through their impact on one's expectations for obtaining those jobs. People are likely to weight their preferences according to these perceptions in order not to waste time pursuing "poor bets." People will balance their preferences with their sense of what is possible.

People do not just possess information or images of job accessibility; they also generate and select this information when they try to implement vocational aspirations. This information may be generated by design or simply as a by-product of job search activities. It is important, then, to ask about people's strategies for gathering and using information. Three principles are proposed below about the types of information people attend to concerning job accessibility, when they gather this information, and the sources from which they obtain it. These hypotheses are all based on the assumption that gathering and keeping track of information is costly in time, effort, and perhaps money and that people balance the factors of cost and relevance when searching for information.

1. Attention focuses only on the occupations in one's social space

People will be concerned only about the accessibility of jobs that interest them, that is, those falling within their zone of acceptable alternatives (see Figure 4). People will not seek out, nor probably even attend to, information about jobs they consider unacceptable. Unless one exhausts all alternatives within one's social space, one will not explore opportunities elsewhere. For example, unemployed men will begin to examine jobs that were totally unacceptable to them previously only after they have failed to obtain more desirable ones (e.g., Lublin, 1980). This implies that receptivity to, and possession of, specific information about job and training opportunities and barriers will be correlated with preference levels for those jobs. Exceptions to this rule will be those jobs to which youngsters have been systematically exposed regardless of their interest, such as the jobs of family members.

2. Attention is confined largely to the implementation period

Information will be sought and retained primarily on a "need to know" basis, usually meaning at times when a decision is necessary. General impressions may be easily obtained about some of the more well known jobs, but specific information usually has to be sought out and it may prove outdated if obtained too long before the person is willing or able to act on it. Hence youngsters will look into college when they are ready to go to college, and they may have only a vague impression of the job prospects associated with the majors they pursue. Only when nearing college graduation are they likely to pay much attention to where and how to obtain a job in that field or a related one. This is consistent with studies showing that realism of vocational choice increases just before young people enter the job market even though school leavers may be lower in both vocational maturity and intelligence than those who are furthering their education (Kelso, 1975). Likewise, perceptions of accessibility are not likely to have much effect on aspirations until people attempt to implement those aspirations. The large shifts

in aspirations observed around the time of high school graduation and college entry (e.g., Gottfredson, 1980a; Cooley & Lohnes, Note 2) are consistent with this speculation.

3. Readily available sources of information will be surveyed first; more useful but more distant sources will perhaps never be consulted

Parents, friends, and colleagues will be questioned first. Sources of information not encountered in one's daily affairs and that require extra effort to survey—for example, library materials, counselors, unfamiliar employers—will be consulted only when supplementary information seems necessary. Becoming aware of and locating these sources may take considerable effort, which discourages their use. Thus people's information will be strongly influenced by their immediate social setting.

Priorities in Compromising Goals

As was the case with perceptions of job accessibility, the compromise process has received almost no research attention despite its acknowledged importance. Nevertheless, studies of aspirations provide a few clues about the priorities people use in making compromises. The following paragraphs discuss why people need to compromise their vocational aspirations and what decision rules they use in making those compromises.

The Need to Compromise

Any mismatch between the abilities and interests of a working population and the jobs available to it means that some people will not be able to work at the jobs they originally preferred and for which they may be suitable. For example, more people aspire to professional jobs than there are such jobs available, and studies that compare youngsters' aspirations with the distribution of jobs available in the labor market therefore often conclude that youngsters are unrealistic. However, studies that assess the suitability of youngsters for the jobs they prefer (e.g., in terms of abilities and interests) tend to show that youngsters are rea-

sonably realistic. One common pattern of compromise among men consistent with these results is the following. On the average, young men are reasonably realistic about the job level they want because by age 30 both lower and higher social classes tend to actually obtain the (different) job levels that they aspired to as adolescents (Gottfredson & Becker, 1981). But men tend to aspire to different fields of work out of proportion to their availability. Thus, during the late teens and early twenties young men tend to drop their aspirations for investigative work (e.g., science and medicine) and increase their aspirations for enterprising (e.g., managerial and sales) work, both fields providing substantial numbers of high-level jobs. Furthermore, both lower and higher social class men seem to be equally unrealistic about the fields of work they prefer as adolescents because both change their aspirations for field of work to about the same degree during their twenties as they adjust to the labor market, resulting in the same high degree of aspiration–job congruence for both (Gottfredson & Becker, 1981).

Figures 2 and 3 show the relations among job level, job sextype, and field of work and reveal another reason why people find it necessary to compromise their occupational goals: some combinations of job attributes do not exist or are very rare (see also Gottfredson, 1978). For example, most realistic work tends to be perceived as very masculine. It is not surprising, then, that most high ability women with realistic vocational interests on interest inventories say they are aspiring to investigative work—a related but less masculine field (Holland, 1962). Likewise, it is not surprising that high ability youngsters with assessed interests in the conventional or artistic fields prefer social and investigative work (Holland, 1962), because the latter two offer considerably more high-level jobs than the former two (Gottfredson, 1978). In short, people may not be able to find jobs that fulfill their goals for prestige, job sextype, and field of work at the same time.

Principles of Compromise

Three principles governing the compromise process are proposed below.

1. Some aspects of self-concept are more central than others and will take priority when compromising occupational goals. One's occupation constitutes a very public and continuing presentation of self, and some people have priorities for what aspects of self they want to emphasize or present unambiguously. For example, some men might enjoy being nurses, but few enter the occupation for fear of giving people the wrong idea about their masculinity or embarrassing their families.

Gender self-concept will be the most strongly protected aspect of self, followed by the maintenance of one's social standing or worth, that is, one's social class and ability self-concepts. One's identity as portrayed through one's personality and specific interests and abilities on the job is the most flexible. These unique personal traits can be expressed in other ways, and misunderstandings about them produced by one's choice of job are less threatening. Thus people will tend to sacrifice interest in field of work to maintain sextype and prestige, and to some extent will sacrifice prestige level for sextype if that is also necessary.

Cooley and Lohnes (Note 2) present data that support the idea that interests are sacrificed more readily than concerns with prestige. They looked at shifts in boys' occupational aspirations between Grade 9, Grade 12, and 1 year and 5 years out of high school. When jobs are classified into four groups (by reanalyzing their Tables 4.7, 4.10, 4.11, and 4.12)—college-level science and technical, college-level social-cultural, non-college-level technical, and non-college-level social-cultural—the results show essentially the same pattern for each span of years. With a few exceptions at the high school level, youngsters more often shifted between fields at the same level rather than moving up or down within a field.

The predominant importance of sextype is suggested by Scott, Fenske, and Maxey's (1974) study of community college students. They found that 60% of men but only 21% of women who said they wanted realistic work maintained those aspirations over an 18-month period. The reverse pattern was found for aspirations for social jobs: 23% of men but 63% of women were stable in those aspirations. Harmon (1971) also showed

that typically feminine occupations were the most persistent preferences among the college women she studied, and Astin and Panos (1969) found that men tend to gravitate to more masculine jobs and women to more feminine jobs during college.

Holland (1962) compared the occupational aspirations of National Merit Finalists with their personality types as determined by the Vocational Preference Inventory (VPI). The data from that study (Tables 28 and 31 being reanalyzed to exclude unclassifiable aspirations) show how sextype, level, and availability of work may all influence the fields of work in which people will attempt to implement their vocational interests. If the youngsters were assessed as investigative personality types, both sexes tended to express investigative aspirations (56% of men and 47% of women). The same pattern of correspondence was found for social personalities (40% and 54%). This is consistent with Holland's theory. However, when assessed as realistic personality types, men most often preferred realistic occupations (52%) but women rarely (2%) expressed realistic aspirations. These realistic women behaved instead like women assessed as investigative personality types, and they aspired most often to the less masculine investigative field. For both investigative and realistic women the second most popular choice was the social field—the highest level "feminine" field. According to Holland's hexagonal model of similarity of the types, one would have expected the second choice of these women to be artistic or perhaps conventional. Men are less likely than women to express artistic or conventional aspirations if assessed as those personality types, although neither sex expressed much interest in such jobs (11% and 27% for artistic jobs and 3% and 12% for conventional jobs for men and women, respectively). Instead, these men most often expressed aspirations in the largest group of high-level "men's" work available (29% of artistic and 41% of conventional men aspired to investigative work) and women most often expressed interest in the highest-level "women's" work available (34% of artistic and 43% of conventional women aspired to social jobs). The aspirations for each of the personality types are more consistent with the hexagonal

model if one assumes that some of the fields are devalued and thus "skipped over" because of unavailability (artistic for men), low level (conventional for both sexes) or wrong sextype (realistic for women), and that some have added attractiveness because of their high level and consistent sextype (investigative for men and social for women).

These compromises seem to continue into adulthood. For example, Gottfredson (1977) found a large number of men shifting from realistic to enterprising work in middle age even though this would not be expected according to Holland's theory. This shift, however, probably reflects the pursuit of higher-level jobs—jobs that are more available in enterprising than realistic work for men without college degrees. In another large-scale study of patterns in occupational transfers, Gottfredson (in press) concluded that the first major dimension differentiating among mobility-based occupational categories is level and the second dimension is sexual composition of occupations.

Finally, more qualitative studies also illustrate some of the same compromises. For example, Ginzberg et al. (1951) state that

Although every individual is concerned with the choice of an occupation which will yield him a high level of satisfaction, the majority are primarily responsive to the impact of external conditions—including the income and prestige that attach to the work—while a minority seem to be propelled primarily by internal forces which must find expression (p. 117).

Ginzberg et al. also label some instances of conflict between these internal and external demands as pseudo-crystallization (pp. 109–110), pseudo-specification (p. 116), and delayed crystallization (p. 126)—terms that acknowledge the lack of total commitment that youngsters may have to their choices but that do not acknowledge the dilemmas they face.

These priorities for compromise have implications for efforts to change youngsters' vocational aspirations. For example, many people have been concerned with promoting nontraditional choices among women and part of their effort has been devoted to "balancing" tests (e.g., by changing the items or norming the tests) so that men and women receive more similar interest profiles on these inventories. Presumably this would help break women loose from stereotyped notions that encourage their pursuit of traditional jobs. But if interests really are subordinate to other concepts of self, such test reconstruction might do little more than shake counselees' faith in the tests themselves. As noted above, even women with nontraditional interest profiles on non-sex-normed inventories overwhelmingly prefer more feminine work. Furthermore, the most frequent type of male work, realistic work, is primarily low level, so it is not likely that women will be easily persuaded that they want to enter such male work in large numbers no matter what their interest profiles show. In fact, over one-quarter of women workers in 1970 were in realistic work (e.g., as machine operatives), a higher percentage than every other field except conventional (Gottfredson, 1978). Apparently more women already have realistic jobs than want them.

Turning for a moment to another concern of the counseling profession, a hierarchical model of self-concepts also sheds some light on the predictive validity of different vocational assessment devices. It has been well documented that expressed interests (i.e., just asking people what job they want) are at least as predictive of later jobs and aspirations as are their inventoried interests (e.g., Dolliver & Will, 1977). Expressed interests reflect people's priorities for prestige and sextype as well as field of work, whereas interest inventories are designed to tap primarily interests in fields of work. Because all three types of priorities are important, the measure that taps more of them should be more predictive. Because field of work is related to both sextype and prestige, interest inventories are more predictive than might otherwise be expected.

2. *Exploration of job options ends with the implementation of a satisfactory choice, not necessarily the optimal potential choice.* Some researchers have subscribed to chance, accident, or opportunity theories of vocational choice (e.g., see Osipow, 1973, for a discussion and Rothstein, 1980, for an example) because specific jobs obtained seem more a function of chance than design and because some youngsters seem to be quite passive in the pursuit of careers (e.g., Ginzberg et al., 1951). Local circumstances

are important, and they sway decisions in ways we might not expect, but the operation of fortuitous factors has been overstated and misunderstood to some extent. A person may enter one craft rather than another because an apprenticeship happened to be available in one and not the other when the person applied. However, an adolescent generally does not become a dentist or accountant instead of an electrician or vice versa by accident. Individuals have a range or set of occupations they find potentially acceptable, and they may be flexible in which particular choice they actually implement. Therefore, the availability of one job but not another at the moment may change one's tentative decision—as long as the job is judged satisfactory. People may realize that a different job might better meet their needs or interests, but they may be unwilling or unable to search out such a job or to wait for it to materialize. Lacking information about other possibilities, and being uncertain of what the future will bring, people will tend to opt for choices that are "good enough" rather than pursue the somewhat hypothetical better or more suitable job. When a better option appears on the horizon, however, they may take advantage of it, thus contributing to the impression that many drift between jobs. People are indeed opportunistic when seeking and accepting jobs, but this is a bounded and guided opportunism. Such decision making is often discussed as bounded rationality in other contexts (e.g., Simon, 1957).

3. *People accommodate psychologically to the compromises they make.* Men change their aspirations for field of work to match the jobs they hold more often than they change their jobs to match aspirations (Gottfredson & Becker, 1981). By their late twenties, for example, 84% of men say they are in the field of work they want even though many more of them aspired to investigative work when they were younger and many fewer to enterprising work (Gottfredson, 1980a). A surprisingly high percentage (one-third) of college samples have been found to be working in jobs that are "clean misses" according to predictions made on the basis of earlier vocational interest scores (e.g., Zytowski, 1974; Dolliver,

Irvin, & Bigley, 1972). Some of these studies (e.g., Worthington & Dolliver, 1977) have found job satisfaction slightly greater for people in jobs congruent with their earlier interests, but others have not (e.g., Zytowski, 1974). In general, research has failed to show the widely expected strong link between job satisfaction and the congruence of jobs with vocational interests or field of work (Gottfredson, Note 3). Given the fact that interests may not be the most critical aspects of self-concept, this failure is not surprising. By the late twenties, the accommodation of self to job and vice versa seems to have largely been settled for most of the working population. The result is a work force that seems relatively content with the mix of jobs available to it as judged both by the high levels of job–aspiration congruence and job satisfaction reported. This is not to say that everyone is happy or that people would not take better or more suitable jobs if they could (e.g., see Morse & Weiss, 1968), but attention to one's job or career will at this stage probably focus on advancement, pay, and working conditions available in the specific organization or occupation in which one works.

Research and Counseling Implications

Vocational Research and Theory

The theory presented here helps to explain some major findings and anomalies uncovered by vocational research; for example, why occupational aspirations seem more strongly related to one's sex, social class, and intelligence than to one's vocational interests and values or those of one's parents; why lower-class and lower-ability youngsters aspire to lower-level jobs than do other youngsters even though they share the same images about which jobs are most desirable; why expressed interests (i.e., just asking a person what job they would like) predicts later aspirations and employment at least as well as any vocational assessment device; why the degree of match between one's vocational interests and one's job does not predict job satisfaction well; and why the fields of work different personality types prefer and switch into over time systematically deviate from the hexagonal model of

similarity proposed by Holland. Several research topics and strategies suggested by the theory are discussed below.

Cognitive Maps of Occupations

This theory maintains that people tend to share the same cognitive map of occupations and that this map is organized according to the major dimensions of sextype, prestige, and field of work. This hypothesis could be tested, for example, by a multidimensional scaling of people's judgments of how similar or different jobs are, with jobs being sampled from all regions of the hypothetical map in Figures 2 and 3. People would be expected to differentiate more finely among occupations of most relevance to them and to collapse other parts of the general map, but aside from these localized distortions, the outline of the maps should be consistent across all adolescent and adult groups. As youngsters become capable of perceiving more subtle job characteristics they begin to recognize more jobs and to make more distinctions among them. Thus we would expect to find only a few general titles familiar to very young children, but more and increasingly specialized titles becoming known with age. Multidimensional scaling should also show that more dimensions appear with age when youngsters are asked which jobs are most similar. If these dimensions are important in the formation of preferences, the same dimensions should also be found in a multidimensional scaling of the youngsters' preferences (e.g., when asked to say which jobs on a list are preferred over others).

Circumscription of Preferences

The theory proposes that as the person's cognitive map of occupations develops, new criteria (e.g., prestige) are used to eliminate more types of occupations as potential alternatives. With increasing age a youngster may even mention more titles as potential choices, but those choices will be more homogeneous than earlier ones (more homogeneous, though, only after controlling for the range of occupations with which the child is as yet familiar). For example, an individual's choices would be expected to become more homogeneous in prestige level by early adolescence. At the same time, however, people differing in social class and intelligence should on the average become increasingly different from one another in prestige level of aspirations. Preferences should not be obtained for such research from spontaneous responses of the subjects but subjects should be asked to respond to the same list of occupations, because people tend to ignore options they have already dismissed. The list should also systematically sample occupations of different sextypes, prestige levels, fields of work, and any other job dimensions of interest. Changes in the "zone of acceptable alternatives" might be charted for individual children over time as well as for groups of children. Summary measures of these changes could then be related to mental age and other background characteristics. Parents' preferences for their children as well as youngsters' beliefs about what their parents expect could also be obtained in the same manner.

Cognitive Development

The theory proposes that the course of development of both cognitive maps of occupations and of one's perceived social space is determined in large part by cognitive development. Thus, level of cognitive development should be included in both research areas just described.

Compromise

The theory proposes that when people have to compromise—as they often do—between sextype, prestige, and field of work, they will most readily sacrifice field of work. Taking a job of the clearly "wrong" sextype will be considered least often and found most threatening. To some extent, people will also sacrifice prestige level for sextype. Such compromises can be investigated by having respondents choose between pairs of occupational alternatives varying systematically according to prestige, sextype, and field. Because compromises are also frequently required for both men and women by their family and life plans, choices under various hypothetical conditions could also be explored.

Sampling People and Jobs

The theory proposed here suggests that research results should systematically differ according to the types of people or jobs sampled. For example, a greater variety of fields of work are available at the higher prestige levels, but they are less sextyped. Thus we might expect a sample of high ability (e.g., college or highly talented high school students) or high social class students to show a more even distribution of interests across fields of work and to be less sextyped in their preferences. Researchers tend to forget how homogeneous and high level their samples of people and jobs usually are according to Figures 2 and 3, which often leads them to misleading conclusions; for example, that level of work is not an important dimension of preferences when the sample is of highly talented students (all of whom probably aspire to and are able to get high-level jobs); and that youngsters are poorer judges of their own abilities than of their interests when respondents are students in a highly selective school (thus being more homogeneous in their abilities than their interests and producing smaller correlations with self-estimates for the former); and to generalizing to all jobs the dimensionality observed when studying a narrow range of male jobs. Researchers should also be sensitive to differences in cognitive development among the youngsters in their samples because the more heterogeneous the group in mental age, the less striking any developmental changes may seem. In heterogeneous groups it would be more informative to examine distributions of scores rather than just averages for the group. If a few children change a great deal and catch up with the others in development, this will show up as only a very small average difference for the entire group.

Counseling Practice

The developmental theory proposed here implies that some current assessment devices are more useful than others and it suggests specific populations that could be targeted for assistance.

1. Adolescents often have difficulty figuring out what they like and what they can do, which makes it difficult for some of them to decide which occupation to pursue (cf., Barrett & Tinsley, 1977). Interest inventories, ability tests, and other experiences that help youngsters discover and verify their interests, abilities, and personality traits are valuable for youngsters unsure of themselves.

2. Devices assessing vocational maturity rather than the content of vocational decision making seem less useful because they may largely measure level of cognitive development (Westbrook, Cutts, Madison, & Arcia, 1980). It may be fruitless to try to increase vocational maturity and it is probably not a good criterion for judging the effectiveness of vocational treatments. Taking into account the cognitive development level of youngsters, however, would be useful for determining which counseling procedures would be most comprehensible and most successful for different age and ability groups. Ability rather than vocational maturity assessments might be the better diagnostic tools for this purpose.

3. Many cases of indecision or inappropriate choices may be explained, and perhaps resolved, by exploring vocational priorities such as prestige level and sextype as well as vocational interest and aptitude profiles. Many clients who are undecided or dissatisfied with their choices may be having trouble finding alternatives that meet their goals for both field and level, but that are still within their reach. Some students, who may or may not be satisfied with their choices, have aspirations that are incompatible with their interests and abilities. Many of these cases may also reflect conflicting goals. Persons aspiring to lower-level jobs than they could pursue may be from social backgrounds with lower expectations or they may be women who have not questioned traditional ways of combining family and work. Persons aspiring to job levels probably unattainable given their abilities or other resources may be middle- or upper-class youngsters caught in the effort–acceptability squeeze discussed earlier, in which demands for performance may exceed one's ability to satisfy them. Priorities for a high-level job might also account for choices that are inconsistent with one's vocational interest profile. Any of the

foregoing cases might lead to choice anxiety and lack of emotional commitment to one's plans. All such cases might benefit from an exploration of the goals and standards these youngsters are trying to fulfill, some of which may always have been taken for granted and never questioned. Vocational card sorts that ask youngsters why they prefer or reject various choices might be useful in this context.

4. Vocational research has produced many counseling tools to help youngsters make vocational choices by providing them information about themselves. More assistance with implementation skills would be useful, particularly for youngsters with limited ability or resources. Such skills would include how and where to find information about training and education, how to locate job openings, how to interview for jobs, and how to behave on the job (cf. Wegmann, 1979).

5. The implications of the theory suggest that vocational counselors might want to rethink their role. Most youngsters circumscribe their aspirations according to sextype and prestige by age 13 (that is, before most of them ever see a counselor), and counselors often take this earlier development for granted. Does this mean that counselors are only tinkering with the final details of a larger social process that shapes people's aspirations to recreate the old social order? On the other hand, is it wise—or ethical—for counselors to reshape youngsters' aspirations and views of themselves? And if they choose to do so, is such reshaping even possible without massive intervention?

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