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A COMPARISON OF CAREER MATURITY AND PERSONALITY
PREFERENCES BETWEEN MEXICAN-AMERICAN
AND ANGLO-AMERICAN ADOLESCENTS

by

David John Lundberg

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
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Approved by



Dissertation Advisor

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LUNDBERG, DAVID JOHN, Ph.D. A Comparison of Career Maturity and Personality Preferences Between Mexican-American and Anglo-American Adolescents. (1995)

Directed by Dr. W. Larry Osborne. 125 pp.

The purpose of this research was to investigate the relationship between cognitive aspects of career maturity and personality preferences with two distinct cultural groups, Mexican-American and Anglo-American adolescents. The career maturity variables were the Decision Making and World of Work Information scales of the Career Development Inventory (CDI), and the personality preference variables were the four subscales of the Myers-Briggs Type Indicator (MBTI). The sample consisted of 289 ninth grade students, 167 Anglo-Americans and 122 Mexican-Americans, from a large high school in Austin, Texas.

Multivariate and univariate *t*-tests were conducted comparing the two groups on both the CDI scales and the MBTI subscales. The two groups were significantly different on the two CDI scales and on three of the four MBTI subscales. Multiple regression analyses were conducted, with the MBTI scales as predictor variables and the CDI scales as dependent variables. Personality preference significantly predicted the career maturity variable in each case. In every regression, the strongest predictor was the Sensing-Intuition scale.

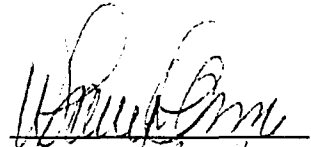
The main conclusions of the study are that significant cultural differences exist between Anglo-American and Mexican-American

adolescents in the areas of career maturity and personality preference, and that Intuition is a strong and consistent predictor of career maturity in both of these adolescent groups.

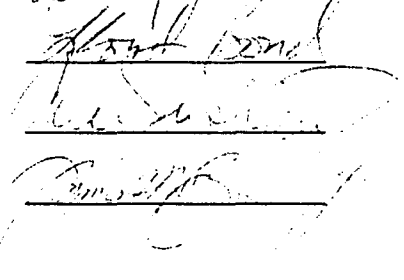
APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of the Graduate School at the University of North Carolina at Greensboro.

Dissertation Advisor



Committee Members



September 22, 1995

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CHAPTER I

INTRODUCTION

Background and Need for the Study

As the career guidance movement evolved and gained momentum in the early twentieth century, it drew upon centuries of Western thought about vocational choice in terms of identifying a "good fit" or a "wise choice" for an individual's occupation. Parsons (1909) identified three main factors in wise vocational choice: a clear understanding of the self, a knowledge of different areas of work, and good reasoning on the relationships between the two. There was clearly more emphasis on the content and outcome of a decision than on the process by which the decision is made.

However, developmental conceptualizations of career behavior soon began to emerge. These new thoughts were based upon a variety of ideas which suggested that individuals change over time and that self-determination and participation in determining one's future were realistic and perhaps typical. The first formal model of career development was presented by Ginzberg, Ginsburg, Axelrad, and Herma (1951), and it identified three stages: the fantasy stage where career choice is accomplished without rational consideration; the tentative stage

encompassing growing self-knowledge, time perspective, and reality orientation; and the realistic stage where choice is determined by awareness of reality and subjective inputs.

Soon thereafter, Super (1953) outlined a continuous process of career development characterized by a progression through stages during the lifespan. His five stages of growth, exploration, establishment, maintenance, and decline each encompassed particular tasks and problems in career development. Other theorists outlined the life or career process as both developmental and characterized by stages and tasks (Erikson, 1950; Havighurst, 1953; Levinson, Darrow, Klein, Levinson & McKee, 1978; Schein, 1978).

Super (1980) expanded his stage theory into a "life-span, life-space" model of career development emphasizing the interplay among roles played by an individual in different areas of life. These roles included both occupational and nonoccupational positions (child, student, leisurite, citizen, worker, spouse, homemaker, parent, and pensioner). He theorized that these roles vary in involvement and importance in different life stages, and he argued that decision points and role shifts should be addressed in a rational manner.

As these developmental sequences were formulated, it was theorized that particular stages included tasks which must be accomplished to successfully proceed to the next stage. An index was needed to evaluate

this development. It was argued that the extent to which an individual has progressed through the developmental sequence may be considered the extent to which the individual has matured (Phillips & Paziienza, 1988). Super (1957) postulated that vocational maturity represented "the place reached on the continuum of vocational development from exploration to decline." In other words, the degree of career maturity could be envisioned as the level or place to which a person has progressed on the career development path.

Various definitions for this concept of vocational or career maturity were considered. Factors such as normality of behavior, chronological age in comparison to life stage, and appropriate developmental tasks in given life stages were discussed. Super et al. (1957) proposed five dimensions of maturity associated with the developmental tasks of the exploratory stage: orientation to vocational choice, information and planning about preferred occupations, consistency of vocational preferences, crystallization of traits, and wisdom of vocational preferences. These presumptive dimensions of career maturity were tested in the Career Pattern Study conducted by Super and his colleagues beginning in 1951.

Based on a factorial analysis of data from the Career Pattern Study for ninth-grade boys, Super and Overstreet (1960) further delineated a concept of career maturity. Based upon their work and further refinements by Forrest (1971), Super and Forrest (1972), and Forrest and

Thompson (1974), the Career Development Inventory (CDI; Super, Thompson, Lindeman, Jordaan, & Myers, 1979) evolved as a concise instrument measuring four components of career maturity: planning, exploration, information, and decision-making.

Other career theorists advocated slightly different concepts of career maturity. Crites (1961) evaluated career maturity based upon the degree and rate of career development. He designed the Career Maturity Inventory (CMI) (Crites, 1978) which measured career attitudes of decisiveness, involvement, independence, orientation, and compromise, in addition to career skills of self-appraisal, occupational information, goal selection, planning, and problem solving.

Using semistructured interviews, Gribbons and Lohnes (1968, 1982) evaluated an individual's readiness for career planning based upon the logic and consistency of his or her use of self-knowledge regarding interests, abilities, and values. Westbrook (1970) and his colleagues have emphasized the area of cognitive competency in career maturity. Specifically, the Cognitive Vocational Maturity Test (Westbrook, 1970) was designed to measure the acquisition and use of occupational knowledge.

It is clear that career maturity and, in particular, career decision-making as envisioned by Super, assume a very individualistic perspective (Fouad & Arbona, 1994). It is also clear that Super's concept of career decision-making is considered a cognitive rather than an affective process,

and is thought to be a rational and logical process (Thompson & Lindeman, 1981).

The other major theorists bring very similar perspectives to the concept of career maturity. The Career Maturity Inventory (Crites, 1978) specifically measured career attitudes and skills of independence, self-appraisal, and logical problem solving. Westbrook (1970) emphasizes individual cognitive competency. Gribbons and Lohnes (1968, 1982) have emphasized the individual's logic and consistency in the use of self-knowledge.

Literally, volumes of research have been compiled and many articles and portions of books have been devoted to career maturity as envisioned by these theorists. Continually and consistently, career maturity and decision-making are described as individualistic, cognitive, rational, and logical. In addition, the vast majority of research has been conducted with Caucasians. The picture is clearly one of a group of Caucasian theorists describing career maturity and decision-making in similar terms and conducting research with other Caucasians. It is a seemingly classic case of an ethnocentric view of career maturity and decision-making.

Career development theory in regards to racial and ethnic minorities has been consistently and uniformly decried as inadequate (Arbona, 1990; Fouad, 1993; Luzzo, 1992). The major theories of career development are based on small samples of White, middle-class males (Herr & Cramer,

1990). Brown, Brooks, and associates (1990) noted that, although there have been numerous criticisms in this regard, no effort to develop new theory or adapt old theory could be located in their review of the literature. They also noted that a model to specifically explain and predict the career development of racial and ethnic minorities has not been developed.

The fastest growing minority group in the United States is Hispanics (Arbona, 1990). In 1980 Hispanics represented 6.4% of the population of the U.S., numbering 14.6 million (U.S. Bureau of the Census, 1984a). By the year 2000, this number was expected to increase to between 8.6% and 9.9% (Orum, 1986). However, recent Bureau of the Census statistics citing Hispanics as comprising approximately 8% of the population (1989) may indicate that the Hispanic population is growing at an even faster rate. In addition, Hispanics were once labeled the least acculturated ethnic group in U.S. society, because they are more likely to pass down traditional values to their children (Zunker, 1990). The literature related to the career behavior of Hispanics is fragmentary and lacks a theoretical foundation, and there is a great need for research in the area of career counseling and career development for Hispanics (Arbona, 1990). Perhaps no other minority group is as poorly represented in the literature in relationship to its size.

Of the small amount of research which has been done concerning the career development of Hispanics, most of it has centered on occupational aspirations and interest measurement (Arbona, 1990). In fact, Arbona's extensive review of the literature regarding career counseling research and Hispanics did not cite a single article or piece of research devoted to their career decision-making process. Almost nothing is known in this regard.

Perhaps not surprisingly, the few comparisons of Hispanics in relation to elements of career maturity which have been conducted have presented a mixed and generally inconclusive picture of determinants and factors related to any differences in maturity. Dillard and Perrin's (1980) research suggested that the contribution of socioeconomic status (SES) to career maturity, career aspirations, and career expectations among Black, Hispanic (Puerto Rican), and White adolescents was positive but relatively small. Rodriguez and Blocher (1988) found that career interventions could raise Puerto Rican women's career maturity scores on the CDI, but that the interventions had little or no effect on the women's decision-making skills. There are repeated, constant calls in the literature for more studies in the area of career maturity and decision-making among ethnic groups in general, and among Hispanics in particular.

Studies of determinants and factors related to career maturity and decision-making in other (non-Hispanic) minority groups generally present the same inconclusive or contradictory picture as the research on Hispanics.

This literature will be reviewed in Chapter 2. There are three obvious possible reasons for this confusion and lack of progress.

First, the lack of career development theory for ethnic groups in general, and Hispanics in particular, is a glaring deficiency. Without appropriate foundational theory, little progress will be made. Second, the strong possibility exists that the existing constructs of some career maturity variables may be inappropriate for certain ethnic groups (and perhaps this is one factor limiting theory building). These variables may simply not be valid for some cultural groups. Appropriate theory cannot evolve until valid constructs are developed. Third, most of the small amount of research conducted with cultural groups has actually been focused on rather heterogeneous groups. Individuals of widely disparate cultures have been mixed together for research purposes on the basis of sometimes superficial and stereotypical criteria.

A classic example of this arbitrary mixing is grouping together individuals under the title "Hispanic." Hispanics are comprised of widely varying groups of distinct ethnic and cultural backgrounds. In the U.S., Hispanic may mean alternatively Mexican-American, Cuban-American, Puerto-Rican, Spanish-European, or various Latin Americans. These disparate groups of people may or may not have much in common culturally.

For at least these three reasons, this portion of career counseling and development theory is obviously at a standstill. Because of this, at the very least, a significant portion of the U.S. population (Hispanics) is not properly served in the area of career counseling and development. Even more broadly and importantly, the crucial need exists to develop a framework to approach non-Caucasian groups in the career counseling process. A different, effective, fresh approach could do much to aid members of distinct ethnic groups in both counseling and education.

It has already been noted that very little is known regarding the career decision-making process of Hispanics; the career counseling research related to Hispanics is very limited and, for the most part, lacks a theoretical base (Arbona, 1990). However, cognitive information processing seems to be one promising way for career counselors and program planners to improve their understanding of cultural differences in career development (Jepsen, 1992). It is an obvious next area to research for an understanding of ethnic differences. This study will explore the career maturity constructs of decision-making and awareness of occupational information, as measured by Super's CDI, from the standpoint of how Hispanic individuals cognitively process information.

Purpose of the Study

In its most recent version, Super's Career Development Inventory (CDI) consists of eight scales. Five scales assess specific dimensions of

career development; two scales measure composite group factors (either conative or cognitive); one scale combines the two composite group factors and provides a total score.

The five discrete scales are Career Planning (CP), Career Exploration (CE), Decision-Making (DM), World of Work Information (WW), and Knowledge of Preferred Occupational Group (PO). CP and CE are conative or attitudinal scales; they have very low correlations with cognitive measures, such as tests of scholastic aptitude or achievement. DM and WW are cognitive scales; they correlate with aptitude and achievement tests. PO is a more advanced scale and is most appropriate for mature students choosing curricula, major fields, or jobs. Because of the occupational terms, mature concepts, and occupational information involved, this scale is recommended for grades 11 and 12 (Thompson & Lindeman, 1981).

A recent assessment project involving ninth graders in an urban Texas high school (Usher et al., 1994) consisted of administering a battery of eight career-related instruments. In an unpublished presentation, Usher (1994) compared 184 of the Caucasian participants to 143 of the Hispanics (Mexican-American) on the various CDI scales. A series of t-tests revealed no significant differences between the mean score of the two groups on the CP and CE scales. This finding is in harmony with a recent study by Bullington and Arbona (1991) which suggested that Mexican-American

high school students were immersed in career planning, career exploration, and realism, activities expected of those in their age group. However, in Usher's study, significant differences were found on the mean scores of the DM, WW, and PO scales ($\alpha = .05$). On these three scales, the Mexican-American scores were significantly lower than the Caucasian scores. This study will focus on the DM and WW scales because they are cognitive scales and because significant differences have been shown. If these Mexican-American students, for whatever reason, do not use career decision-making processes which are strongly cognitive at this age level, then perhaps these scales are inappropriate for them. The PO scale, as mentioned above, is a more advanced scale and has questionable utility for this age group (ninth-grade students).

One indicator of how individuals and groups process information is the Myers-Briggs Type Indicator (MBTI). The MBTI is one of the oldest, best known, and most widely used measures of personality. Its purpose is to make the theory of psychological types described by C. G. Jung (1921/1971) understandable and useful. Its four bipolar scales measure different constructs. The Extraversion/Introversion scale measures an attitude orientation toward life. Extraverts concern themselves mainly with the external world. Introverts are concerned primarily with the inner world of concepts and ideas. The Sensing/Intuition scale reflects a person's preference between two opposite ways of perceiving information. Sensors

rely mainly on observable facts or happenings. Intuitives rely more on meanings, relationships and possibilities. The Thinking/Feeling scale reflects a person's preference for judgment. Thinkers tend to decide impersonally on the basis of logical consequences. Feelers make decisions based primarily on personal or social values. The Judgment/Perception scale describes the process by which a person deals with the outer world. Judgers tend to use either thinking or feeling for dealing with the world around them. Perceivers prefer to use either sensing or intuition for doing so (Myers & McCaulley, 1985).

In the 1980s, the education community discovered the value of the MBTI in understanding individual differences in learning styles, aptitude, achievement, and motivation (Lawrence, 1982, 1984). As indicated above, Jung's theory of psychological types, upon which the MBTI is based, is concerned with the conscious use of the functions of perception and decision-making and the areas of life in which these functions are used (McCaulley, 1990). In a related manner, the DM scale of the CDI seeks to measure an individual's knowledge of career decision-making skills. As outlined by Thompson and Lindeman, what the DM scale of the CDI actually measures is a person's awareness and ability to use a particular decision-making style, one that is individualistic, rational, logical, and cognitive. So while the MBTI differentiates preferences for various decision-making styles, the DM scale of the CDI measures a person's

awareness and ability with a particular career decision-making style, one which may be chiefly appropriate for the majority culture. It is important to discover if the decision-making style actually used by Caucasians (as measured by the MBTI) is related to the decision-making style measured by Super's CDI. It is absolutely crucial from the standpoint of minority group career maturity to understand if the decision-making style of Mexican-Americans is unrelated or negatively correlated with the decision-making style measured by Super's CDI. Understanding of different decision-making processes is fundamental to understanding and helping minority clients, and to eventual proper theory building.

Although much work has been done with the MBTI, studies on Myers-Briggs profiles for Hispanics are as woefully lacking as Hispanic studies in the area of career maturity and decision-making (Kaufman, Kaufman, & McLean, 1993). This study was the only published article found in a search of the literature. Two dissertations (Arriaga, 1992; Casey, 1986) used MBTI data on Hispanics, but in both cases, the data and information were unusable for the purposes of this study. The study by Kaufman et al. compared 65 Hispanics, 142 blacks, and 1155 Whites. The subjects ranged in age from 14 to 94 years and were gathered from throughout the United States. Therefore, each of the three groups studied was heterogeneous. In each group, there was great variety in age, geographic location and many other variables that go together to define a

particular culture or ethnic group.

It is important to take into account the heterogeneity among Hispanics in studying the vocational behavior of this population (Arbona, 1990).

Arbona further noted that some of the best studies have taken this approach. Hispanics can and probably should be subgrouped into different ethnic entities in America (Mexican-Americans, Puerto Rican-Americans, Cuban-Americans, other Latin Americans, etc.). Consideration should also be given to other variables in ethnic composition, particularly geographical location. This study provides the opportunity to view a distinct Hispanic subgroup (i.e., Mexican-American adolescents from one particular geographic area). This gives the opportunity to study career maturity from a more ethnic or cultural viewpoint, rather than a racial viewpoint (i.e., studying Mexican-American adolescents of a particular age from an urban Texas environment, rather than a mixed group of Hispanics of all ages from across the United States).

Nevertheless, in the study by Kaufman et al., the Hispanics tended to be more Extraverted, Sensing, Feeling, and Perceiving than the Whites. The differences were not significant by themselves, but the Hispanics, as well as the Whites, were a fairly heterogeneous group (not ethnically distinct, but rather racially distinct). By comparing more homogeneous groups, it may be possible to distinguish differences that disappear in more heterogeneous groups. Indeed, in Usher's (1994) preliminary study, she

has identified significant differences in DM and WW between the Mexican-American group and the Caucasian group.

The purpose of this study is to take another step in understanding the cognitive information processing involved in career decision-making. In particular, it serves to further delineate ethnic differences in this process. The hope is to move toward a better understanding of career maturity, a clearer picture of ethnic career decision-making, and to understand possible biases in current methods of measuring career maturity and career decision-making.

Super's theory assumes implementation of a self that is separate from others. This concept is in harmony with a decision-making process which is individualistic. Conversely, a related area of investigation is relational identity, or self in relation to others as opposed to the separate and objective self (Forrest & Mikolaitis, 1986).

Forrest and Mikolaitis hypothesized that men's and women's career development may differ because women are more likely to define themselves in relation to others, and men are more likely to define self as separate from others. Thus, vocational choice as an implementation of the self-concept may have very different implications for men and women, with men choosing occupations and careers independent of others, or careers that define themselves as separate from others.

Vocational choice based on self in relation to others may also be true for various racial and ethnic minority groups. The cultural group most likely to value individual achievement is White, whereas most other cultural groups place a high cultural value on collective goals, and self in relation to others (Fouad, in press). This has implications for vocational choice (Fouad & Arbona, 1994).

More fundamentally, these cultural or ethnic differences may have implications in the area of differences in decision-making styles. Certain ethnic groups and certain individuals within an ethnic group may have decision-making styles which are more influenced by collectivism, group goals, or social concerns. These less individualistic styles should be identified and considered when working with particular ethnic groups and individuals.

One of the least understood and most crucial aspects of the MBTI is the interrelationship and interplay of the various scales. In the theory of Myers and McCaulley, the first and most crucial scale is the JP scale. This scale indicates the primary process which individuals use in the extraverted world. Those who tend to be Perceivers would primarily use their perceiving or information-gathering process in the extraverted world. Therefore, their primary tendency would be to spend more time gathering information, rather than in making decisions. Those who were Sensing would primarily gather information based on observable facts and realities.

Those who were Intuitives would primarily gather information based upon meanings, relationships and possibilities. In the study by Kaufman et al., the Hispanics tended to be more Perceiving and Sensing than the Caucasians. Therefore, as a group, they would spend more time gathering information than in making decisions. Their intake of information tends to be more Sensing, rather than Intuitive. Intuitive information gathering is a more involved cognitive process than Sensing. Intuitives typically develop characteristics that are imaginative, theoretical, abstract, future-oriented or creative, and intuition permits perception beyond what is visible to the senses, including possible future events (Myers & McCaulley, 1985). Sensors, on the other hand, often develop characteristics of realism, acute powers of observation, memory for details, and practicality.

Those who tend to be Judgers are inclined to first use the TF process for decision-making in the extraverted world. Those who are primarily Thinkers employ a decision-making process which is cognitive, logical and individualistic. Those who are Feelers primarily employ a decision-making process which was more concerned with social and group values, certainly less individualistic. In the study by Kaufman et al., the Hispanics tended to be less Judging and Thinking than the Caucasians. Therefore, they would be inclined to spend less time in their decision-making process and, when they did, their tendency as a group would be to use the Feeling process, which is less individualistic and less cognitive.

Finally, the EI function identifies what are known as dominant and auxiliary processes. The dominant function for Perceiving Extraverts, the one which would tend to be used first in the extraverted world of decision-making, would be a Perceiving or information-gathering function of either Sensing or Intuition. Their Judging or decision-making function would tend to be used secondarily in the introverted world. In the study by Kaufman et al., Hispanics were more Perceiving and Extraverted than Caucasians, therefore they would more readily use their information-gathering process in the extraverted world of decision-making, rather than their Judging or decision-making process.

What emerges theoretically is the picture of an ethnic group that is less inclined than the majority group to use cognitive, individualistic, rational, and logical processes, precisely the types of processes which Super and the other major career theorists assumed to be important for career development as career theory evolved. Hispanics are a group that seems to have a greater tendency than Caucasians to gather information than engage in individual decision-making.

Research Questions

The current study was conducted to address research questions related to the career maturity of Hispanics. Specifically, the identified differences in Super's CDI scales of Decision-Making and World of Work Information in Usher's preliminary study of Caucasians and Mexican-Americans were

analyzed. These differences were compared and contrasted with personality preferences of Caucasians and Mexican-Americans on the MBTI. The intent is to provide foundational research to aid in developing career counseling theory for minority groups, starting with Mexican-Americans. The following research questions were posed:

1. The first basic question is, "Are there significant differences in career maturity variables between these two distinct ethnic groups?" This question has already been answered by Usher's (1994) unpublished preliminary study (these results will be reexamined).

2. The second basic question is, "Are there significant differences in the personality preferences of these two ethnic groups?" Virtually no conclusive results have been obtained in previous research. There is some indication that Hispanics may be slightly more Extraverted, Sensing, Feeling, and Perceiving than Caucasians. However, the basic question remains, "Are there any significant differences?"

3. The third and final question is, "Are there relationships between career maturity as measured by either the DM or WW scales of the CDI, and the various scales of the MBTI for adolescents of these two distinct cultural groups, and do these relationships vary between the groups?"

Organization of the Study

This study is divided into five chapters. Chapter 1 provides an overview and brief description of the logic behind the study. Chapter 2

provides a review of the literature regarding career maturity, career decision-making, ethnic career decision-making, and ethnic personality preferences. Chapter 3 describes the methodology used in the study. Chapter 4 contains the results of the study. Chapter 5 provides conclusions based upon the research results.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

As Super began to develop his work in the 1940s and 1950s, he drew upon the work of various theorists, including Buehler (1933), who spurred him to think in terms of life stages. This concept of life stages, and particularly the developmental tasks which individuals accomplish within those stages, provided insights and a framework within which Super increasingly worked. Concurrently, Havighurst (1953) was developing the notion of developmental tasks in adolescence.

Super's early studies of work, occupations, and psychometrics (Super, 1939, 1940) as well as the influence of Buehler (1933) and Davidson and Anderson (1937) in the area of occupational mobility, stimulated an effort to synthesize what was known at the time about career development.

Career Pattern Study

With this background, in the 1950s Super launched the Career Pattern Study, a longitudinal study of career development with 9th grade males in Middletown, New York (Super et al., 1957). This study was exploratory and focused on the question of what one would expect to be the most important variables related to vocational development from adolescence to

adulthood, in addition to socioeconomic status and intelligence. The Career Pattern Study Seminar constructed an *a priori* model that drew on developmental theory as formulated by many writers and summarized in four principles (Thompson & Lindeman, 1984):

1. Development proceeds from random, undifferentiated activity to goal-directed, specific activity.
2. Development is in the direction of increasing awareness and orientation to reality.
3. Development is from dependence to increasing independence.
4. Mature individuals select and pursue goals.

Twenty possible measures of career maturity were identified and refined. Further work and refinement was done by Super and Overstreet (1960) resulting in a list or model of six measures. Using that Career Pattern Study-derived model, Crites (1978) developed his Career Maturity Inventory (CMI), the first such measure published for general use.

Recognizing that measures which lacked validity in the 9th grade might be valid in the 12th grade because of the development taking place during the high school years, Jordaan and Heyde (1979) factor analyzed the measures, examining students' similarities and differences in the 9th and 12th grades, considering which measures showed increases as the boys progressed through high school, and ascertaining their correlates.

The model published by Super (1974) which best summarizes the conclusions reached about the nature of career maturity drawn from the Career Pattern Study, lists five career maturity factors. The principal dimensions or factors identified are:

1. Planfulness or time perspective, awareness of life stages and tasks (Attitude)
2. Exploration (Attitude)
3. Information, educational and occupational (Cognitive)
4. Decision making (Cognitive)
5. Reality orientation (Late-maturing)

These dimensions or factors later formed the basis for the development of Super's Career Development Inventory (CDI) (Thompson & Lindeman, 1981).

Super's Stages Model of Career Development

Fundamental to and coincident with the Career Pattern Study was Super's theorizing in regard to major life stages. Influenced by the work of Buehler (1933), Davidson and Anderson (1937), and Miller and Form (1951), Super worked with the concept of life stages. Basic to career development theory for Super were the constructs of growth in childhood, exploration in adolescence, establishment in young adulthood, maintenance in maturity, and decline in old age.

Super outlined a set of propositions (Super, 1953) which were updated and refined over the years (Super & Bachrach, 1957; Super & Overstreet, 1960). Included within the propositions was the idea that vocational preferences and competencies, the situations in which people live and work, and, hence, their self-concepts, change with time and experience. This process of change could be summed up in a series of life stages characterized as a sequence of growth, exploration, establishment, maintenance, and decline. Within each of these stages was a series of developmental tasks which must be accomplished to successfully move through the stage (See Figure 1, p. 25).

Within the context of a stage based view of career development and while working with the Career Pattern Study, the concept of career maturity evolved as a basis for describing and assessing the stage of career development reached by students of differing ages and grades, the types of career development tasks they were confronting and how they confronted them, and their readiness for career decisions. This concept was closely tied not to biological development but rather to developmental tasks, as used by Buehler (1933) and as conceived by Havighurst (1953). Developmental tasks are those with which society confronts individuals when they reach certain levels of biological, educational, and vocational attainment (Super, 1990).

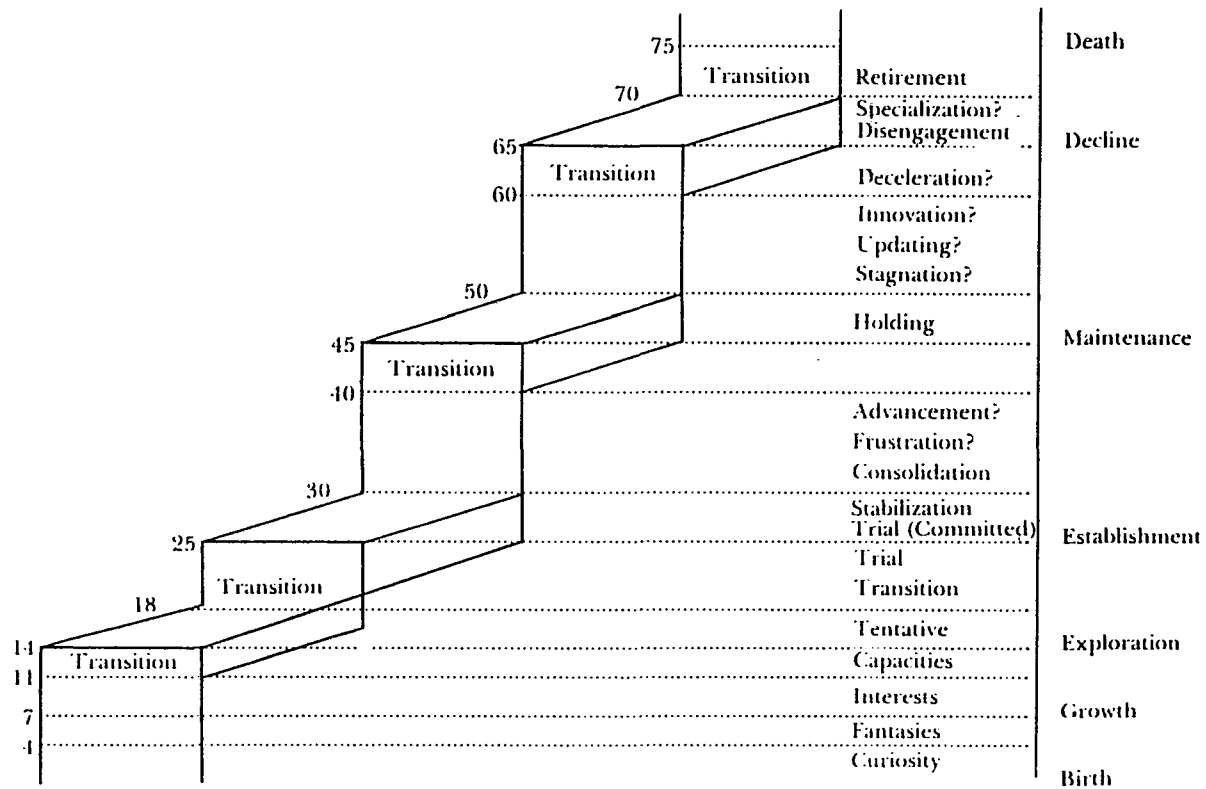


Figure 1. Life Stages and Substages Based on the Typical Development Tasks

The Determinants Model

While working upon a foundation of life career stages made up of developmental tasks, and at the same time working through the evolving Career Pattern Study, Super always took the broad view that career development was a complex, multi-faceted study. Crites (1969), Super (1969), and Borow (1982) have pointed out that Super's contribution is not an integrated, comprehensive, and testable theory, but rather a "segmental theory," a loosely unified set of theories held together by self-concept and learning theory. As such, Super gave attention to the biological, psychological, and socioeconomic determinants of career development.

In Super's view, personality is a primary determinant of career development. Personality is considered to be a global construct used to include all of the qualities that constitute a person (Super, 1990). These components include personal needs, intelligence, values, interests, and aptitudes (See Figure 2, p. 27).

Another primary determinant of career development is social policy. Its components include the influence of the community, school, family, peer groups, the economy, society, and the labor market upon the individual. At the same time, individuals influence social policy through these same components by their interaction with society.

Super's belief was that individuals develop their concept of themselves and their roles in life as a result of these determinants. In other words, the

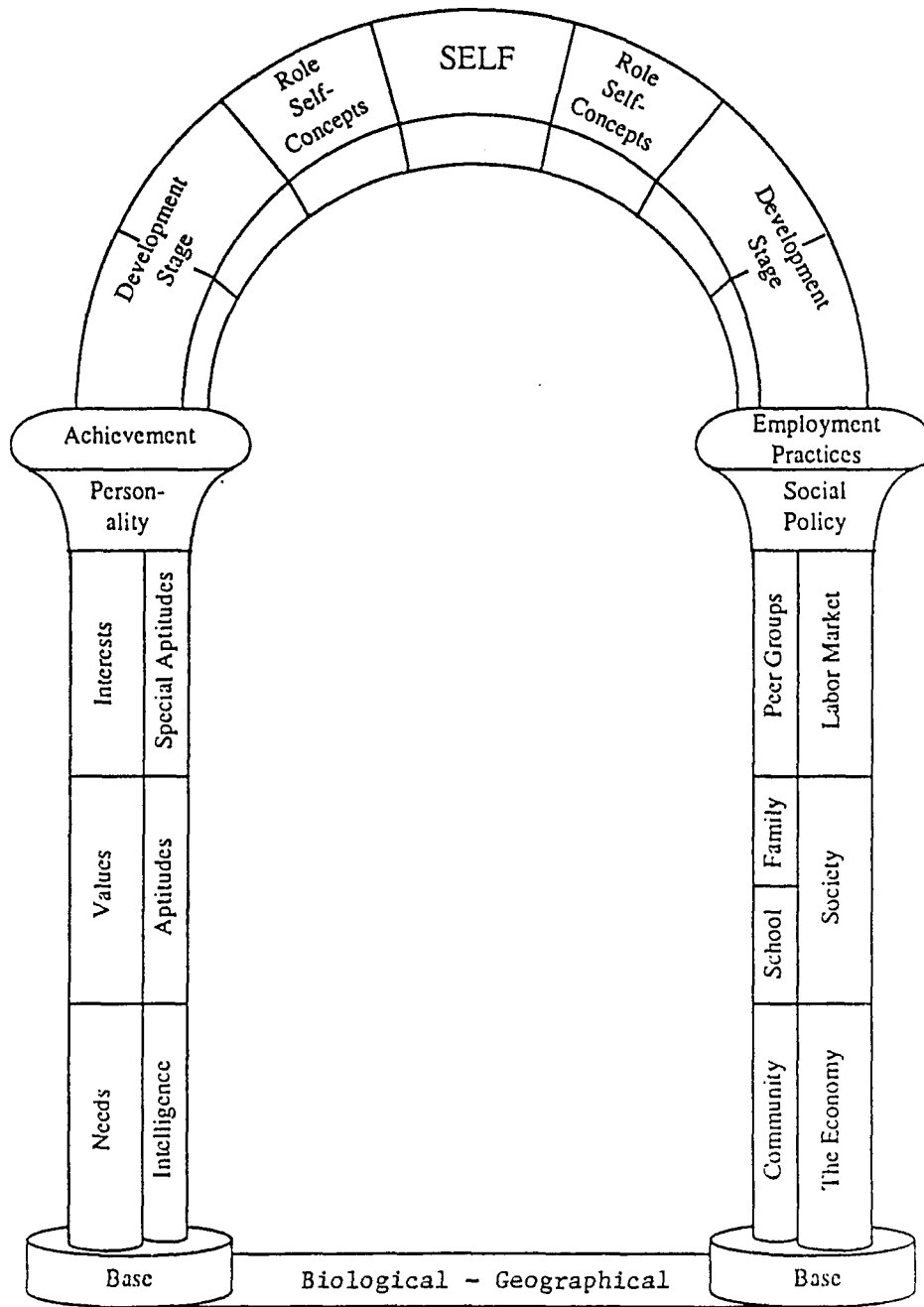


Figure 2. A Segmental Model of Career Development

various components of personality and social policy interact with each individual to result in a particular self-concept. This self-concept is developed through these determinants with the influence of learning theory. Learning theory represented the "cement" or "glue" which holds these determinants together. Super's view, drawing upon the work of theorists such as Strong (1943) and further delineated by Bandura (1977), was that many of the personality determinants of self-concept are learned. Interactive learning, social learning, and experiential learning are all parallel terms which point to the fact that each individual is acquiring or "learning" self-concept through the developmental process (Super, 1990).

Super brought together his stages model of career development and his role theory (founded on the determinants model) in his "Life-Span, Life-Space Approach to Career Development," which was first written in 1974 (Super, 1980). It sought to bring life-stage and role theory together to convey a comprehensive picture of multiple-role careers, together with their determinants and interactions. It is graphically demonstrated by the Life-Career Rainbow (See Figure 3, p. 29).

The first dimension of the Rainbow is the life span. It is longitudinal and it represents the life course with the major life stages, their normal but not invariable sequence, and their approximate ages: Growth, or childhood; Exploration, or adolescence; Establishment, or young adulthood; Maintenance, or middle adulthood; and Decline or Disengagement, old age

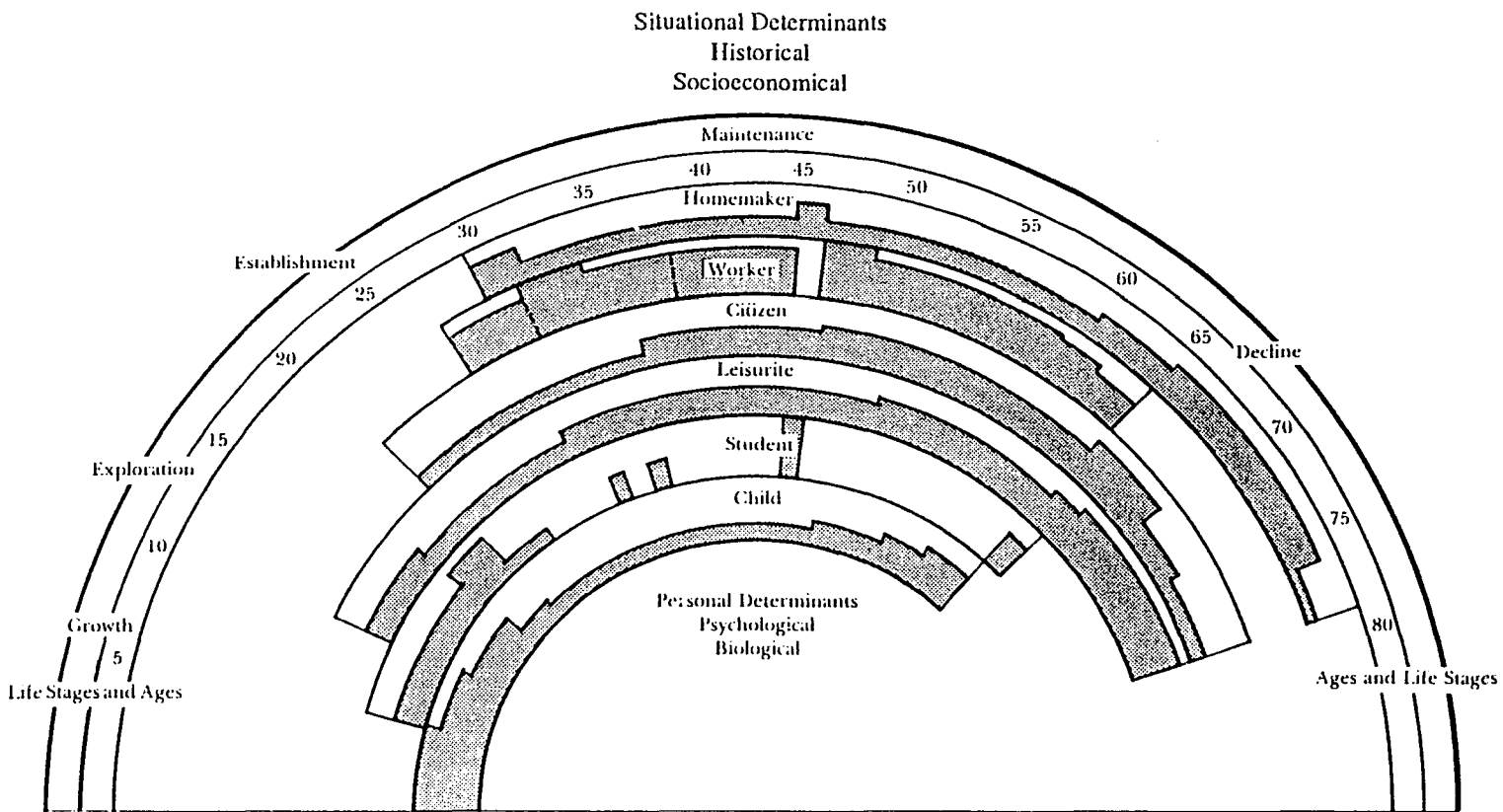


Figure 3. The Life-Career Rainbow: Six Life Roles in Schematic Life Space

(Super, 1990). Career maturity is measured along this continuum of life stages.

Role salience is the second dimension depicted by the Rainbow. It is latitudinal. It is the life space, the constellation of positions occupied and roles played by a person (Super, 1990). The Rainbow aids in focusing on the concept and measurement of role salience (Nevill & Super, 1986, 1988; Super & Nevill, 1984). Some of the potential uses of the Rainbow and the Life-Span, Life-Space approach to career development are to get a clearer picture of the meanings of work, homemaking, leisure, study, and community service for one's life; a better understanding of the affect that a change in occupation has on self-actualization; and an understanding of the degree to which, when work is not rewarding or is not available, other roles replace it as outlets for abilities, interests, and values.

Decision-Making as Related to Career Development and Determinants

In Super's Determinants Model, the various determinants of personality and social policy combine to influence the person, the decision-maker, to work out his or her role self-concepts through the developmental stages. These determinants are weighed and used by the individual in the making of career decisions.

As a developmental theorist, Super placed the individual at the center or peak of the determinants process. Decision-making is one of the prime

functions of an individual in the career development process. Super underlined this importance in writing about the differences between the developmental approach and other career approaches such as choice, matching and selection theories.

Developmental theories, while not rejecting the matching approaches, treat them as an insufficient basis for career guidance. This is because studies of the life span and life space have made it clear that occupational choice or assignment is not something that happens once in a lifetime, on leaving school or university. These theories hold that people and situations develop, and that a career decision tends to be a series of mini-decisions of varying degrees of importance. They hold that these mini-decisions add up to a series of occupational choices, each of which only seems to be one maxi-decision. Theorists and practitioners alike have now come to see that decision-making is also central to career development (Super, 1980). Construed at first as a theory of determinants and then as a theory of stages at which the determinants must be considered, career decision-making theory has, as it became explicit, broadened to include decision processes, both descriptive and prescriptive (Jepsen & Dilley, 1974). Types of decisions have now been identified (Jepsen, 1974), and this has now led to a focus on decision-making styles (Harren, 1979a). Styles are viewed as traits which manifest themselves in varying combinations

and degrees in varying situations (Arroba, 1977). Here lies a new research frontier (Super, 1981).

The self, the individual, is central in Super's synthesis of career theories. Decision-making is one of the prime functions which occurs as a result of the interaction of career determinants in a person's life. Research in decision making is a logical next step in further delineating the career development process.

Career Maturity

The construct of career maturity is of great importance in Super's Life-Span, Life-Space Approach to Career Development. It is the first dimension depicted by the Life-Career Rainbow, which is a graphic representation of this life stage, life role integration (Super, 1990). Career maturity is longitudinal and is measured across the life span and through the various life stages an individual traverses.

Career maturity is defined as the individual's readiness to cope with the developmental tasks with which he or she is confronted. The various career theorists, such as Super (1955) and Crites (1965), postulated that career maturity is multidimensional. In his 1955 article, Super outlined five dimensions of career maturity: (1) Orientation to vocational choice; (2) Information and planning about preferred occupation; (3) Consistency of vocational preferences; (4) Crystallization of traits; and (5) Wisdom of vocational preferences. In 1965, Crites's Model of Vocational Maturity

appeared, organizing career maturity into two major factors, career-choice content (defined by the dimensions of consistency of vocational choice and realism of choice) and career-choice process (defined by both cognitive factors and attitudinal factors). Also inherent in the work of these theorists is the idea of developmental tasks being accomplished in a series of stages. Betz (1988) noted that career maturity generally can be defined as the extent to which the individual has mastered the vocational development tasks, including both knowledge and attitudinal components, appropriate to his or her stage of career development. Maturity is assumed to be an underlying psychological construct reflecting this developmental level.

Super and Kidd (1979) theorized that career maturity is a multidimensional trait. The Career Development Inventory (CDI), as developed by Super and his associates (Thompson & Lindeman, 1981) as a result of the Career Pattern Study, was intended to be a multidimensional measure of career maturity. The CDI, like Crites's CMI, is organized into a cognitive or knowledge component and an attitudes component (Crites, 1978). The CDI's five individual scales include Career Planning (CP), Career Exploration (CE), Decision Making (DM), World of Work Information (WW), and Knowledge of Preferred Occupational Group (PO). All of the individual scales are theorized to measure career maturity in some degree, and Thompson and Lindeman (1984) concluded that the CDI scales measure relatively discrete affective and cognitive variables

resembling those measured in other career development instruments, such as the CMI, examined by Jepsen and Prediger (1981).

This finding is very much in harmony with the similar language used in descriptions of career maturity and decision making by the various career theorists, such as Super. These processes are described as individualistic, cognitive, rational, and logical. It is interesting to note, in the light of Usher's unpublished presentation (1994), that the attitudinal scales of the CDI (CP and CE) are far less individualistic in the wording of their respective questions than the cognitive DM scale. In fact, the attitudinal scales give as much weight to group centered activities such as using friends or acquaintances as sources of information as they do to individualistic activities, such as personally searching for information. The DM scale focuses on individual decision making. Usher's data indicated no significant differences between the Mexican-American and Anglo-American group in CE or CP scores (those considered attitudinal and more group oriented). Mexican-American scores on the DM and WW scales (those considered cognitive and more individualistic) were significantly lower than Anglo-American scores.

Betz (1988), in her assessment of career development and maturity, notes several current issues regarding career maturity in general. Among them is the lack of agreement concerning the criteria of career maturity, and the lack of agreement about the nature of the construct of career

maturity and the relationship of career maturity to intellectual measures. So, while the major theorists have described career maturity in very similar terms, and although the underlying variables have shown similarity (as Jepsen and Prediger's work indicates), there has not been a general consensus upon what exactly comprises career maturity, and questions have also been raised concerning the nature of the construct and its relationship to intellectual factors. It is hoped that this study, while looking specifically at career decision making and world of work information as measured by the CDI, will add information for some much needed consensus as to what exactly comprises career maturity.

Career Decision Making

Tiedeman and O'Hara (1963) described the decision making process in a comprehensive and logical manner. Their theory of the process involves an elaborate series of stages and substages used in reaching or modifying a career decision. More recently, Harran (1979) provided a similar logical and sequential model of decision making. In both cases, career decision making is envisioned in a very logical and sequential manner.

Phillips and Paziienza (1988) noted that prescriptive models of career decision making (models which ask the question, "How are decisions *best* made?") consistently value rationality. They stated that theorists such as Gelatt (1962), Katz (1963), and Kaldor and Zytowski (1969) tend to

portray the ideal decision maker as a scientist who seeks out information and uses it to make a choice maximizing the chance for success. Krumboltz and Hamel (1977), Janis and Mann (1977), and D'Zurilla and Goldfried (1971) have all outlined descriptive career decision making models (models that attempt to simply *describe* the decision making process) which are rational and cognitive. Although these models are said to be descriptive, they definitely favor this rational and cognitive approach.

It is important to note that the decision making scales of both the CDI and the CMI reflect the influence of the prescriptive models (Phillips & Paziienza, 1988). They are basically multiple-choice format tests that assess the decision maker's ability to process information and choose an alternative that is objectively correct. In doing so, these scales assume a correct or best way of making career decisions.

Another way in which theorists have viewed a correct or best method of making career decisions has become evident in the way they have speculated about decision making styles. Johnson (1978) outlined four styles of decision making that represented the ways that individuals gather and process information. He theorized that people gather information either systematically or spontaneously. Systematic gatherers are methodical and deliberate in their information search. In terms of processing the information once it is collected, internal processors think about alternatives and reach a decision without discussion with others.

External processors discuss alternatives with others before deciding. Four decision making styles result from combining these two dimensions; internal-systematic, internal-spontaneous, external-systematic, and external-spontaneous.

Harren (1979b) outlined three decision making styles. The rational style includes awareness of the effect of previous actions in a way that the decision maker accepts responsibility for his or her choice and is active, deliberate, and logical. The intuitive decision maker also accepts responsibility for his or her actions, but with little thought for the future, little information seeking, and without logical consideration of alternatives. This intuitive decision making is considered more of an emotional choice. The dependent style is where choice is based on the opinions or advice of others. Personal responsibility is abdicated.

Arroba (1977) outlined six decision making strategies; logical, hesitant, no-thought, intuitive, emotional, and compliant. He contended that individuals use a variety of strategies depending on the situation.

In a similar manner, Krumboltz and others (1979) theorized about five decision making strategies, suggesting that strategy is influenced by the type of decision making situation. Their strategies include rational, impulsive, intuitive, dependent, and fatalistic.

Importantly, Phillips and Paziienza (1988), in summarizing these decision making frameworks, noted that they are quite similar. They stated

that, although the classifications are primarily descriptive, it is clear that some styles are thought to result in higher quality decisions.

...the systematic style of Johnson, the logical strategy of Arroba, and the rational approach detailed by Harren and Krumboltz et al. would be expected to result in "better" decisions...(Phillips & Paziienza, 1988).

There has been some dissent in the face of the majority of writers who advocate rational and logical decision making. In 1989, Gelatt refuted his earlier position regarding decision making. He stated that his earlier (1962) totally rational approach to decision making is now insufficient, and he outlined a broader approach.

The old decision theory and counseling approach taught you to decide the rational way. It was not logical to use any process that was not logical. Although counselors knew people did not always decide rationally, they thought it was the best way. After all, the science of the time was totally rational...Helping someone decide how to decide must move from promoting only rational, linear, systematic strategies to recommending, even teaching, intuitive, situational, and sometimes inconsistent methods for solving personal problems or making decisions (Gelatt, 1989).

Most of the literature continues to favor a rational approach. Kortas et al. (1992) studied the relationship between decision making styles and

vocational construct structure with community college students. They found that poorly developed vocational schema predispose individuals toward dependent and intuitive styles, and that highly integrated and differentiated systems support more rational decision making.

Most recently, in an attempt to apply decision theory to career counseling practice, Gati, Fassa, and Houminer (1995) advocated a nine-step sequential elimination approach to facilitate career decision making, which is quite rational and logical in its sequence. One of the listed advantages of this process is its compatibility with search procedures often found in computer-assisted career guidance systems.

In summary, what is evident is a group of career theorists who are aware of various ways of making decisions, but who have a definite preference for a particular style, one that tends to be very individualistic, cognitive, rational, and logical. The adoption of a rational decision making style is associated with more methodical information gathering, better integration of information, greater competence in decision making, and therefore with greater vocational maturity (Super, 1990). This rational decision making style may be an ethnocentric view of career decision making and, therefore, career maturity. It may not be the optimum style for every person or ethnic group to develop or learn. In addition, perhaps it is time to make commonly practiced, nonsequential, nonsystematic, nonscientific decision making a legitimate part of a counselor's repertoire

(Gelatt, 1989).

Components of Decision Making (CDI)

Throughout Super's work it is very evident that decision making and readiness to make decisions are extremely important. At the apex of Super's Determinants Model is the self, characterized primarily as a decision maker (Super, 1990)(See Figure 2). Through the years of the unfolding Career Pattern Study and the development of the CDI, decision making was crucial and inherent in the multidimensional construct known as career maturity. Part of affective career maturity is the process of engagement, both affective and behavioral, in exploration, *decision making*, planning, and the implementation of plans (Thompson & Lindeman, 1984). Part of cognitive career maturity is learning the principles, processes, and content of career decision making (Thompson & Lindeman, 1984). Increases or decreases in career maturity are said to be dependent upon confrontation with the need to make career decisions or facilitation of coping with career decisions (Thompson & Lindeman, 1984).

In the end, however, what the CDI assesses, in its decision making (DM) scale, is readiness to make career decisions. It presents 20 brief sketches of people making career decisions. This scale measures the ability to apply knowledge and insight to career planning and decision making. The rationale is that students who can solve the career problems outlined in

the DM questionnaire are more capable of making wise decisions about their own careers. It assesses the ability to apply principles of career decision making (Thompson & Lindeman, 1981). However, it assumes a particular decision making style, and it seems to value students who are "autonomous, rational, self-esteeming, and future-oriented" (Thompson & Lindeman, 1984).

Ethnic Career Decision Making

Literature regarding ethnic career decision making over the past ten years lacks an underlying theoretical model, but certain themes and trends are evident. Hesser (1984) noted that decision making and world or work information variables (CDI) for adolescents were significantly associated with both family adaptability and cohesion. The importance of family in the Mexican-American culture, and Usher's (1994) finding that CDI decision making and world of work variables were significantly lower for Mexican-American adolescents, raises the question of the interaction of family influence on the decision making process in that culture.

In a similar vein, Sue and Sue (1990) stressed that Hispanic families tend to be patriarchal, and loyalty and respect for the family are very important. The extended family is a treasured resource, and is looked to for advice prior to any major decision making.

Arbona (1990) noted that very little is known regarding the career decision making process of Hispanics, or the difficulties they face. She

went on to state that career counseling research related to Hispanics is very limited and, for the most part, lacks a theoretical base. This research has not yet addressed the application of career development theories to Hispanics.

Leong (1991) found that Asian Americans had greater preferences for dependent decision making styles and a lower level of career maturity when compared to Caucasian Americans. He used the CMI to look at college students, and interpreted the results as representing cultural *differences* rather than cultural deficits.

Fouad (1993) underlined the importance of counselors having a general understanding of the cultural values of their clients. She noted the importance of knowing how these values affect decision making, but added that little is known empirically about the effect of culture on vocational choice. However, since many ethnic groups view career decision making as a process that involves more than the individual, including family considerations for the process seems essential.

Luzzo (1993) found career decision making skills on the CDI significantly related to academic success, as has been consistently cited in the career development literature (Healy & Mourton, 1987; Healy et al., 1984). This raises the question of whether alternative decision making styles and processes, which are not so cognitive or academically correlated, may be used by individuals or ethnic groups in a manner which may be

different but still effective.

Fouad and Arbona (1994) outlined several inconsistencies in the area of ethnic career decision making. They noted that Rodriquez and Blocher (1988) found that career interventions could raise Puerto Rican women's career maturity scores on the CDI, but that interventions had little or no affect on the women's decision making skills. Previous research by Westbrook and his colleagues (Westbrook & Sanford, 1991) found a lack of relationship between cognitive measures of career maturity and appropriateness of choice and accuracy of self-appraisal for Black students. Fouad and Arbona stated that more research is needed to elucidate the specific aspects of ethnicity that have an affect on the career development process.

Several themes and trends appear evident. Career decision making by ethnic or minority groups has generally been viewed as less effective than decision making by the majority group. There has been some consideration given to the fact that certain minority groups may have a different, more dependent or family-oriented style of decision making (Fouad, 1993; Leong, 1991; Sue & Sue, 1990). There has been some inconclusive research done in regard to ethnic career decision making (Rodriquez & Blocher, 1988; Westbrook & Sanford, 1991), and there are repeated calls for more work in the area of the relationship between decision making and ethnic career maturity (Arbona, 1990; Fouad &

Arbona, 1994). Cognitive information processing is mentioned as a possibly promising way for career counselors and program planners to improve their understanding of cultural differences in career development (Jepsen, 1992).

A thorough discussion of cognitive information processing, and its relationship to career maturity and decision making, is not within the scope of this study. However, many of the precepts underlying the cognitive information processing approach and many of the ideas emanating from this area of study serve to further describe this cognitive, rational, and logical approach to career decision making.

The Task Force on Work (1973) reviewed the literature on "work" from ancient Greece through contemporary cultures and reported that people have worked for a wide variety of reasons across the ages: To sustain life, to maintain contact with reality, to produce essential goods and services, to structure time, to fulfill themselves, to attain status, and to improve society, as well as to incur the divine blessing or curse of prevailing deities. These alternative constructions highlight *cultural*, temporal, and personal variations in vocational meanings, and much of the work in information processing seeks to better understand the processes undergirding these variations. (Neimeyer, 1989)

However, theorists who approach career decision making from an information processing viewpoint generally fall into a similar pattern as other career theorists in describing decision making. They tend to value approaches which are generally described as highly cognitive, individualistic, rational or logical. Neimeyer (1989) noted that more highly differentiated individuals are understood as more "cognitively complex" insofar as they bring to bear a greater number of alternative perceptions in processing vocational information. Bodden (1970) argued that because they can discriminate *more effectively* among available career alternatives, more differentiated individuals should be better able to make *more appropriate* vocational decisions. In other words, cognitive complexity is viewed as an asset in decision making.

Wollett (1989) underlined the rational and logical aspects of career decision making, and why it is a natural avenue for information processing theory.

Cognitive psychology has provided an attractive vehicle for studying career development insofar as the characterization of career development as a *sequence* of decisions has been a dominant one in vocational psychology. And, of course, career decision-making has been viewed historically as an information-utilization process (Wollett, 1989).

In her discussion about reconciling sex differences in information processing and career outcomes, Wolleat (1989) went on to state that it is important that vocational frameworks of knowledge or construct systems be viewed in relation to gender construct systems. She stated that an important next step in vocational information processing research would seem to be the study of the interrelatedness of vocational constructs with gender constructs and other types of constructs, e.g. social class or race. In a similar manner, the current study looks at information processing between two distinct cultural groups, Hispanic and Anglo-Americans, from the standpoint of differences in information processing as indicated by the Myers-Briggs Type Inventory (MBTI).

Hispanic Personality Preferences

Although the MBTI has been widely and extensively used in the academic community, it is surprising how little has been done with Hispanics. Studies on MBTI profiles for Hispanic individuals are definitely lacking (Kaufman et al., 1993). In fact, the study by Kaufman et al. is actually a follow-on to a previous comparative study between Caucasian and African-Americans, which excluded the 65 Hispanic-American subjects because some cells would have had too few cases for their multivariate analysis. In addition, Kaufman et al. drew on subjects nationwide ranging in age from 14 to 94 years. It is a weak study from the standpoint of ethnicity or cultural background, because it does not take into account the

heterogeneity among Hispanics as recommended by Arbona (1990). Arbona, in her extensive review of career counseling research related to Hispanics, stated that the best research being done takes into account the various separate ethnic subgroups (Mexican-American, Cuban, Puerto Rican, various Central and South American groups, etc.) which are combined under the term "Hispanic." Nevertheless, the Hispanics in the study by Kaufman et al. displayed nonsignificant tendencies of being more Extraverted, Sensing, Feeling, and Perceiving on the MBTI scales, in comparison to the Caucasians.

One of the most crucial aspects of the MBTI is the interrelationship and interplay of the various scales. The primary scale for understanding this interrelationship is the Judging-Perceiving scale. This scale indicates the primary process which individuals use in the extraverted world. Those who tend to be Perceivers would primarily use their perceiving or information-gathering process in the extraverted world. Therefore, their primary tendency would be to spend more time gathering information rather than in making decisions. Those who were Sensing would primarily gather information based on observable facts and realities, rather than gathering information based upon meanings, relationships and possibilities. Sensors often develop characteristics of realism, acute powers of observation, memory for details, and practicality. Intuitives typically develop characteristics that are imaginative, theoretical, abstract, future-

oriented, or creative, and intuition permits perception beyond what is visible to the senses, including possible future events (Myers & McCaulley, 1985). Theoretically, a Sensing Perceiver would be inclined to gather information in a less cognitive manner than an Intuitive Perceiver. Conversely, an Intuitive Judger would be inclined to make decisions in a more cognitive manner than a Sensing Judger. In the study by Kaufman et al., the Hispanics tended to be Sensing Perceivers, less cognitive and spending less time in decision making.

Those who tend to be Judgers, are inclined to first use the Thinking-Feeling process for decision-making in the extraverted world. Those who are primarily Thinkers employ a decision-making process which is cognitive, logical and individualistic. Those who are Feelers primarily employ a decision-making process which is more concerned with social and group values, certainly less individualistic. In the study by Kaufman et al., the Hispanics tended to be less Judging and Thinking than the Caucasians. Therefore, they would be inclined to spend less time in their decision-making process and, when they did, their tendency as a group would be to use the Feeling process, which is less individualistic and less cognitive.

Finally, the Extraverted-Introverted function identifies what are known as dominant and auxiliary processes. The dominant function for Perceiving Extraverts, the one which would tend to be used first in the world of decision-making, would be a Perceiving or information-gathering

function of either Sensing or Intuition. Their Judging or decision-making function would be used secondarily in the introverted world. In the study by Kaufman et al., Hispanics tended to be more Perceiving and Extraverted than Caucasians; therefore they would more readily use their information-gathering process in the world of decision-making, rather than their Judging or decision-making process.

What emerges theoretically is the picture of an ethnic group that tends to be less inclined than the majority group to use cognitive, individualistic, rational, and logical processes, precisely the types of processes which Super and the other major career theorists assumed to be important for career development (Thompson & Lindeman, 1981). It is a group that seems to have a greater tendency to gather information than engage in individual decision-making, a tendency to gather information in a less cognitive manner, a tendency to process that information in a less individualistic manner, and a tendency to primarily gather information about career decisions, rather than come to a decision. This is the sequential profile of an ESFP, an Extraverted, Sensing, Feeling, Perceiver. Hispanics have been shown to have this tendency in the Kaufman et al. study.

A literature search at the Center for Applications of Psychological Type in Gainesville, Florida revealed two dissertations concerned with the MBTI and Hispanics. Casey (1986) investigated personality characteristics associated with academic achievement of Hispanic high school students in

California using several instruments, including the MBTI, the California Psychological Inventory (CPI), and Raven's Standard Progressive Matrices (SPM). These Hispanics were predominately Mexican-Americans.

Although the dissertation does not tabulate MBTI data in a manner that is directly usable for the purposes of this study, several findings are interesting and pertinent.

In reviewing the literature of the 1970s, Casey found that Anglos emphasized competition and individual achievement, while Hispanics placed value upon cooperation and achievement for the family or group (Ramirez, Taylor, & Peterson, 1971). Witkin (1967) concluded that Mexican children were more likely than Anglos to use a field-dependent cognitive style; that is, they were more likely to rely on cues from others in organizing thoughts and perceptions. Holtzman and Diaz-Guerrero (1975) found that Anglos tend to be more differentiated in cognitive structure than Mexicans and that Mexicans tend to be more family-centered, while Anglos are more individual-centered. The picture is one of an ethnic group that is less individualistic and cognitive than the majority group.

The only other dissertation found involving Hispanics and MBTI preferences is one studying the mestizo identity of inter-city Hispanics in Washington, D.C. in relationship to being both Hispanic and Catholic (Arriaga, 1992). The findings are not directly relevant to this study.

In summary, the literature addressing the MBTI in relation to Hispanics, in general, is very scanty. Literature focusing upon Mexican-Americans and the MBTI is almost nonexistent. Literature addressing career development theory for Hispanics is basically also nonexistent. The need for foundational study in career development to address the needs of the fastest growing minority group in the United States is paramount. This study represented a first step to specifically outline valid constructs in the area of career decision making and career maturity for Mexican-Americans. It was hoped that this type of foundational study with Mexican-Americans would also eventually benefit career development theory for individuals and ethnic groups in general.

CHAPTER III

METHODOLOGY

The hypotheses for this study are stated in the direction of finding relationships between cognitive measures of career maturity as measured by the Career Development Inventory (CDI) and the individual scales of the Myers-Briggs Type Inventory (MBTI) for Mexican-Americans and Anglo-Americans. These relationships are hypothesized as a result of: (1) preliminary empirical results showing significant differences in cognitive measures of career maturity between the two distinct cultural groups; (2) some historical and cultural arguments in the literature that support differences in decision making styles and processes with Hispanics and other cultural groups compared to the majority culture; and (3) marked similarity in the development and description of career decision making processes by the major career theorists who are generally Caucasian and who generally have conducted research with Caucasians.

It is a fundamental position of this study that more significant differences in both cognitive measures of career maturity and in MBTI preferences between various ethnic and cultural groups have not become evident for several reasons. Multicultural studies have been hampered by grouping otherwise heterogeneous groups together on criteria other than

cultural ones (Arbona, 1990). The most common grouping has been in terms of race. Certainly race is often one determinant of culture. However, race is not a uniform determinant, and thinking primarily of culture in terms of race may lead to stereotyping. Perhaps a desire for generalizability has also encouraged this process of grouping by race. In addition, individuals of wide variety in age have been grouped together or research has been conducted on college students (Kaufman et al., 1993). As individuals of different cultural backgrounds age or self-select into various social groups (e.g., college), acculturation occurs. The adaptation which occurs as a result of this acculturation lessens tendencies toward significant differences between races or other large collective groups.

Research Hypotheses

1. Mexican-American adolescents will show a significant difference on the Decision Making (DM) and World of Work Information (WW) scales of the CDI in comparison to Anglo-American adolescents.
- 2a. Mexican-American adolescents will show a significant difference on the MBTI Extraverted-Introverted scale in comparison to Anglo-American adolescents.
- 2b. Mexican-American adolescents will show a significant difference on the MBTI Sensing-Intuitive scale in comparison to Anglo-American adolescents.

2c. Mexican-American adolescents will show a significant difference on the MBTI Thinking-Feeling scale in comparison to Anglo-American adolescents.

2d. Mexican-American adolescents will show a significant difference on the MBTI Judging-Perceiving scale in comparison to Anglo-American adolescents.

3. The four MBTI personality scales in combination will be significantly predictive of both the Decision Making (DM) and World of Work Information (WW) scales for Mexican-American and Anglo-American adolescents. No variance by ethnicity is expected. In other words, although there are significant differences between the groups on the dependent variables (DM and WW), and although significant differences between the two groups are expected on the independent variables (EI, SN, TF, and JP), the independent variables are expected to vary in a similar manner in each group when predicting career maturity. The implication is that personality predicts career maturity in a similar manner regardless of culture. However, personality preferences are expected to vary significantly between the two cultures.

Socioeconomic Status and Gender

The original subjects of the Career Pattern Study (CPS), a classic study of factors which influence career development, were ninth grade males, the same age group as the current study. Later empirical results of

the CPS (Super & Overstreet, 1960) indicated slight correlations between parental occupational level and the various indices of career maturity. When the CPS subjects reached the twelfth grade, parental occupational level and career maturity were again compared (Jordan & Heyde, 1979). Slightly higher correlations were found, particularly in the area of occupational information, but the correlations were not significant.

Gibbons and Lohnes (1979) found nonsignificant correlations between socioeconomic status (SES) and career maturity with eighth and tenth grade students. Research during the development of the Career Maturity Inventory (CMI) (Crites, 1978), which included inner-city blacks in Flint, Michigan, showed no significant social class or ethnic differences in career maturity. Ansell (1970) looked at data from grades eight through twelve and found some differences in career maturity in grades ten through twelve, but not in grades eight and nine.

More recent studies (Nevill & Super, 1988; Super & Nevill, 1984) have assessed career maturity in high school sophomores, high school juniors, and university students. The relationships between SES and career maturity in these studies were again found to be nonsignificant.

In a somewhat similar manner, differences in career maturity by gender have not tended to be significant. Crites (1978) found slight differences on career maturity variables by gender with his CMI. Research conducted with the CDI also found small sex differences (Super,

Thompson, Lindeman, Jordaan & Myers, 1981). These slight differences tended to show higher scores for females on the cognitive scales of career maturity.

In conclusion, there is no reason from the literature to believe that either SES or gender are significant predictive variables for the DM or WW scales of the CDI.

Population and Sample

The sample consisted of 289 ninth grade students attending Stephen F. Austin High School in Austin, Texas. The participants included 167 Caucasians and 122 Hispanics (almost entirely Mexican-American), a ratio of approximately 58% to 42%. The Anglo-American students were approximately 54% female, and the Mexican-American students were approximately 53% female. The average age was 14.6. A battery of eight career-related assessments was administered, including several instruments from Super's C-DAC battery (Super, Osborne, Walsh, Brown & Niles, 1992). The C-DAC battery consists of the Adult Career Concerns Inventory, the Career Development Inventory, The Values Scale, The Salience Inventory, and the Strong Interest Inventory. In addition, the Myers-Briggs Type Indicator and two other instruments were administered with supervision over a three day period in designated classrooms at the high school (Usher et al., 1994).

Each individual instrument was administered to each of the students simultaneously in their respective classrooms. Each classroom was supervised by a teacher and an administrator (either a paid graduate assistant or faculty member from a local university). A single chief test administrator (faculty member) provided live simultaneous video instruction on test procedures to each of the classrooms.

Each of the instruments was computer scored by Consulting Psychologists Press (CPP), and the data was consolidated by CPP and returned to the researchers by disk. In all, seven faculty members from Southwest Texas State University in San Marcos, Texas, and St. Mary's University in San Antonio, Texas, participated in the project.

Description of Instruments

The Career Development Inventory (CDI), School Form (Super et al., 1979) was developed for general use as an instrument for assessing career development and career maturity. It was designed for use in junior and senior high schools and consists of 120 items. There are eight scales in the inventory. Five scales assess specific dimensions of career development.

The Career Planning scale (CP) includes 20 items in which the student reports the career planning he or she has engaged in, and the degree of engagement. Although some items in the scale may appear cognitive, factor analyses of obtained data have verified that the scale actually assesses

attitudes and reported career planfulness.

The Career Exploration scale (CE) includes 20 items. Half the questions ask the student to rate relatives, friends, other adults, printed materials, and the media as sources of career information. The other 10 questions ask for ratings of the usefulness of the information received from each of those sources. Research has repeatedly shown that CE, like CP, is an attitudinal rather than a cognitive scale.

The Decision Making scale (DM) contains 20 brief sketches of people making career decisions. It measures the ability to apply knowledge and insight to career planning and decision making. The rationale behind the scale is that students who can solve the career problems in these sketches are more capable of making wise decisions about their own careers. DM is a cognitive scale.

The World of Work Information scale (WW) is made up of 20 questions, half of which assess knowledge of the career development tasks in the Exploratory and early Establishment stages of Super's stages model (Super, 1990). The other 10 questions test knowledge of occupational structure, sample occupations, and techniques for getting and holding a job. WW tests the career awareness and occupational knowledge that contribute to successful career planning, and like DM, is a cognitive scale.

The Knowledge of Preferred Occupational Group scale (PO) is made up of 40 multiple-choice questions that pertain to all occupations, and

which are categorized into 20 groups. PO measures the results of the in-depth exploration that should precede a person's choice of training or occupation.

The last three scales of the CDI are composite ones. The Career Development - Attitudes scale (CDA) combines CP and CE, scales that are highly intercorrelated. The combination has increased reliability as a measure of attitude, but it is less specific because it combines planning and exploration.

The Career Development - Knowledge and Skills scale (CDK) combines DM and WW. CDK assesses knowledge of how to make career decisions and knowledge of the world of work, which are highly intercorrelated.

Finally, the Career Orientation Total scale (COT) combines CP, CE, DM, and WW. It is considered to approach a measure of career maturity, but contains only four of the five basic dimensions of Super's (1974) model of adolescent career maturity. It includes measures of career planfulness, exploration, information, and decision making, but not reality orientation. It is best viewed as a composite measure of four aspects of career maturity (Thompson & Lindeman, 1981).

The current study is concerned with two of the individual cognitive scales, DM and WW. These two scales have median scale reliabilities (Cronbach alpha coefficients) across high school grade levels which are

adequate in analysis of group differences from the standpoint of internal consistency (Thompson & Lindeman, 1981). The DM scale has a median reliability estimate of .67, and the WW scale has a median reliability estimate of .84.

An extensive validity study of the relationship of the CDI and other measures designed to assess aspects of career development was conducted by Jepsen and Prediger (1981). They used the CDI and the CMI along with other measures of traits and aptitudes, including decision-making style and certainty, as well as scholastic abilities. Nineteen scales were factor analyzed. These yielded four orthogonal factors: Cognitive Resources for Decision Making, Decision Making Style, Systematic Involvement in Decision Making, and Decision Making Stage. The cognitive DM and WW scales were found to load on the Cognitive Resources factor, as might be expected.

The cognitive, non-career development measures used in that study were the Quantitative and Reading Scales of the Iowa Tests of Educational Development (ITED). The DM scale correlated .40 with ITED ability scales, and the WW scale correlated .53 with the same scales. The conclusion by Thompson and Lindeman (1984) was that all the CDI scales do measure relatively discrete cognitive variables resembling those measured in other career development instruments and postulated, as Jepsen and Prediger note, by the model of career maturity developed in the

Career Pattern Study.

The Myers-Briggs Type Indicator (MBTI) is a self-administering questionnaire in forced-choice format. C. G. Jung created and tested the underlying model adapted for the MBTI in his clinical practice, then Isabel Myers developed the actual MBTI to test and use Jung's theory with nonclinical populations. The standard Form G has 126 questions, and it is used for sixth graders through adults. The questions are concerned with four bi-polar preferences; items force choices between two poles of each preference to determine the relative preference of one over another (McCaulley, 1990). The four preferences are Extraversion attitude or Introversion attitude (EI), Sensing perception or Intuitive perception (SN), Thinking judgment or Feeling judgment (TF), and Judgment or Perception (JP).

In the Extraverted attitude, persons seek engagement with the environment and give weight to events in the world around them. People in the Introverted attitude seek engagement with their inner world and give weight to concepts and ideas to understand events. When using Sensing perception, persons are interested in what is real, immediate, practical, and observable by the senses. People using Intuitive perception are interested in future possibilities, implicit meanings, and symbolic or theoretical patterns suggested by insight. While using Thinking judgment, persons rationally decide through a process of logical analysis of causes and effects.

People using Feeling judgment decide by weighing the relative importance or value of competing alternatives. When people have orientation toward the world using Judgment, they favor moving quickly toward decisions and enjoy organizing, planning, and structuring. People with a Perception orientation to the world tend to be curious and open to changes, preferring to keep options open in case something better turns up (McCaulley, 1990).

Scoring of the MBTI generates four basic scores. Items scored offer forced choices between the poles of the preference being addressed. All choices reflect the two poles of the same Jungian preference (e.g. E or I, S or N, T or F, J or P).

Preference scores are the basic scores for the MBTI. They consist of a letter to denote the direction of the preference, and a number to show the consistency of the preference. The formula for preference scores reflects the relative preference for one pole over the other. *Continuous* scores are a linear transformation of preference scores for convenience in statistical analyses. The convention is to set a midpoint at 100 and to add the numerical portion of the preference score if the preference is I, N, F, or P, or to subtract if the preference is E, S, T, or J (McCaulley, 1990). The results are four scores representing each bipolar scale with values ranging from 33 to 167. This study makes use of continuous scores.

Myers and McCaulley (1985) reported split-half reliabilities of continuous scores for a number of groups over a wide age range. Their

reliabilities are consistent with those of other personality instruments, many of which have longer scales than the MBTI. They also reported internal consistency reliabilities estimated by coefficient alpha. The coefficients were approximately the same as those computed with Pearson's *r*. Overall, reliabilities tend to be somewhat lower, but adequate, for younger respondents and those who may be considered under-achieving.

Myers and McCaulley (1985) also reviewed fourteen different samples of test-retest product-moment correlations for continuous scores on the MBTI with intervals ranging from one week to four years. Their conclusion was that, "...test-retest reliabilities of the MBTI show consistency over time. When subjects report a change in type, it is most likely to occur in only one preference, and in scales where the original preference was low."

Myers and McCaulley (1985) provided extensive evidence of construct validity for the various scales of the MBTI. They tabulated product-moment correlations of MBTI continuous scores for the various scales of 30 different personality, interest, and academic tests. Correlations for the eight poles of the MBTI (E, I, S, N, T, F, J, P) range from .40 to .77 for the various scales considered appropriate for each pole. There is abundant evidence for the validity of the various constructs (Myers & McCaulley, 1985, See pp. 177-206).

Pilot Study

A pilot study was conducted in March 1995 to confirm and validate the preliminary findings of significant differences between the Mexican-American and Anglo-American samples on both the DM and WW scales. An additional purpose was to investigate differences between the two groups on the four bipolar scales of the MBTI. In so doing, the pilot study addressed research hypotheses 1 through 2d.

Using the SAS statistical package for data analysis, two multivariate analyses were performed. First, a multivariate *t*-test (Hotelling's *t*) was computed to investigate differences between the two cultural groups on the DM and WW scales. The same statistic was also computed to examine group differences on the EI, SN, TF, and JP dimensions of the MBTI. The multivariate *t*-test was selected to control for redundancy due to intercorrelations of related subscales and to control the experiment-wise error rate.

The multivariate *t* for DM and WW was significant at $p = .0001$. Each of the follow-up univariate *t*-tests was significant at the same level as the Hotelling's *t* (see Table 1). The conclusion is that there are significant differences between the Anglo-Americans and the Mexican-Americans on both the DM and WW scales, with the Anglo-Americans scoring higher in each case.

Table 1

t-tests for Differences in Ethnic Groups on DM and WW

	N	Mean	Std. Dev.	<i>t</i>	<i>p</i>
<u>DM:</u>					
Anglos	167	102.658	17.127		
				6.194	.0001*
Mex-Am.	122	89.508	18.739		
<u>WW:</u>					
Anglos	167	104.077	16.768		
				7.581	.0001*
Mex-Am.	122	88.475	17.955		
* Significant at $\alpha = .01$ level					

For the four MBTI scales (EI, SN, TF, and JP), the Hotelling's *t* was significant ($p = .0001$). Three of the individual *t*-tests were also significant: SN ($p = .0001$), TF ($p = .0181$), and JP ($p = .0045$) (See Table 2).

The conclusions were, first of all, that there was no difference in preference between the Anglo-Americans and Mexican-Americans on the Extraverted-Introverted scale. Both groups favored the Extraverted end of the scale, the Anglo-Americans having a mean score of 92.041 and the Mexican-Americans having a mean score of 93.950.

Secondly, there was a strong and significant difference between the two groups on the Sensing-Intuition scale. The Anglo-Americans clearly favored the Intuition end of the scale with a mean score of 106.640, and the Mexican-Americans clearly favored the Sensing end of the scale with a mean score of 93.393.

Third, there was a significant difference in the scores of the Anglo-Americans and the Mexican-Americans on the Thinking-Feeling scale. As a group, the Mexican-Americans favored the Thinking end of the scale with a mean score of 95.983, and the Anglo-Americans slightly favored the Feeling end of the scale with a mean score of 101.802.

Finally, there was a significant difference between the Anglo-Americans and the Mexican-Americans on the Judging-Perceiving scale. The Mexican-Americans strongly favored the Perceiving end of the scale with a mean score of 111.426, and the Anglo-Americans even more strongly favored the Perceiving end of the scale with a mean score of 119.538 (See Table 2).

Table 2

t-tests for Differences in Ethnic Groups on the Four Subscales of the MBTI

	N	Mean	Std. Dev.	<i>t</i>	<i>p</i>
<u>EI:</u>					
Anglos	167	92.041	25.054		
				-.6815	.4961
Mex-Am.	122	93.950	21.230		
<u>SN:</u>					
Anglos	167	106.640	24.830		
				4.8604	.0001*
Mex-Am.	122	93.393	19.908		
<u>TF:</u>					
Anglos	167	101.802	22.009		
				2.3766	.0181**
Mex-Am.	122	95.983	18.379		
<u>JP:</u>					
Anglos	167	119.538	25.548		
				2.8621	.0045*
Mex-Am.	122	111.426	21.164		
* Significant at $\alpha = .01$ level ** Significant at $\alpha = .05$ level					

This pilot study confirmed the significant differences in the DM and WW scales between these Anglo- and Mexican-Americans. In addition, it indicated significant differences between these two groups on the SN, TF,

and JP scales. It therefore suggests the opportunity to investigate the relationship of personality preference differences to matters traditionally associated with career maturity.

Data Analysis

Multiple regression analyses were conducted to address research hypothesis 3. DM and WW scores were addressed separately as dependent variables. The independent variables in each case were the EI, SN, TF, and JP scores for the 289 students. Separate regressions were then conducted for the two ethnic groups (Mexican-American and Anglo-American).

The pilot study addressed the question of whether there are significant differences between these two groups in personality preferences. The main study addressed the separate questions of whether scores on the DM and WW scales are predicted by the four personality preferences, and whether these predictors are similar in the two cultures.

Limitations of the Study

The generalizability of the findings may be limited in some ways by the distinctiveness of the two cultural groups. This distinctiveness is an inherent and intentional part of the study. As previously noted, multicultural research (particularly with Hispanics) is generally improved when the distinctiveness of subgroups is recognized (Arbona, 1990). Therefore, extending the findings of this study to other groups of Hispanics may not be appropriate.

In addition, generalizability may also be limited by the age of the subjects. The rapid changes and maturation of adolescence may make generalizations to Mexican-Americans and Anglo-Americans of other ages questionable.

Finally, the DM and WW scales have median scale reliabilities across high school grade levels of .67 and .84, respectively (Thompson & Lindeman, 1981). These values are satisfactory for analyzing group differences. In addition, the WW scale has adequate reliability for use in individual counseling. However, caution should be exercised in making judgments about individual students based on DM scores.

Conclusions

This study was designed to investigate cognitive measures of career maturity in two separate cultural groups in an effort to determine if ethnic background as evidenced primarily by personality preferences influences decision making ability and style. The results contribute much needed information to validate current measures of career maturity for separate ethnic groups, and provide fundamental research for multicultural career counseling and theory.

CHAPTER IV

RESULTS

This chapter outlines the results of the statistical analyses of this study. The results are presented sequentially as they relate to the research questions and hypotheses.

Research Question #1

The first research question asked if there were significant differences in career maturity variables between the two distinct ethnic groups. Usher's (1994) unpublished study had indicated significant differences between Mexican-American and Anglo-American adolescents on the Decision Making (DM) and World of Work Information (WW) scales of the Career Development Inventory (CDI).

Research hypothesis 1 stated that there were significant differences between Mexican-Americans and Anglo-Americans on the DM and WW scores. Usher's (1994) results were confirmed with univariate *t*-tests. An additional multivariate *t*-test (Hotelling's *t*) was computed to control for redundancy due to intercorrelations of related subscales and to control the experiment-wise error rate. The multivariate *t* and each of the univariate *t*-tests were significant at $p = .0001$. The conclusion is that there are significant differences between Anglo-American and Mexican-American

adolescents on both the DM and WW scales, with the Anglo-Americans scoring higher in each case. See Table 3.

Table 3

t-tests for Differences in Ethnic Groups on DM and WW

	N	Mean	Std. Dev.	<i>t</i>	<i>p</i>
<u>DM:</u>					
Anglos	167	102.658	17.127		
				6.194	.0001*
Mex-Am.	122	89.508	18.739		
<u>WW:</u>					
Anglos	167	104.077	16.768		
				7.581	.0001*
Mex-Am.	122	88.475	17.955		
* Significant at $\alpha = .01$ level					

Research Question #2

The second research question asked if there were significant differences in personality preferences between the two groups. For the four MBTI scales (EI, SN, TF, and JP), the Hotelling's *t* was significant ($p = .0001$), controlling for the experiment-wise error rate and for redundancy due to intercorrelations of related subscales.

Research hypothesis 2a stated that Mexican-American and Anglo-American adolescents would be significantly different on the Myers-Briggs Type Indicator (MBTI) Extraverted-Introverted (EI) scale. The individual *t*-test on the EI scale was not significant ($p = .4961$). Hypothesis 2a, which predicted a difference between these two groups on the EI scale, is not supported by this analysis. There was no significant difference between the Anglo-Americans and the Mexican-Americans in Extraversion-Introversion. With both groups the tendency was toward the Extraverted end of the scale, and these individuals would be expected to display characteristics of being generally action-oriented, frank, communicative, and sociable. See Table 4.

Research hypothesis 2b stated that there would be a significant difference between Mexican-American and Anglo-American adolescents on the MBTI Sensing-Intuition (SN) scale. The individual *t*-test on the SN scale was significant ($p = .0001$). Hypothesis 2b, which predicted a difference between these two groups on the SN scale, is supported by this analysis. There is a distinct difference between the groups in Sensing-Intuition. The Mexican-Americans are clearly Sensors and would be expected as a group to have acute powers of observation, memory for details, and a realistic, practical attitude. The Anglo-Americans are definitely Intuitives, expected to be more imaginative, creative, and involved in investigating possibilities. See Table 4.

Research hypothesis 2c stated that Mexican-American and Anglo-American adolescents would be significantly different on the MBTI Thinking-Feeling (TF) scale. The individual *t*-test on the TF scale was significant ($p = .0181$). Hypothesis 2c, which predicted a difference between these two groups on the TF scale, is supported by this analysis. The Anglo-Americans favored the Feeling end of the scale, and the Mexican-Americans favored the Thinking end. The difference is clear and statistically significant. The Anglo-Americans are expected to come to decisions by weighing relative values in a subjective and socially oriented way. The Mexican-Americans would be inclined to make decisions in a more logical and impersonal manner. See Table 4.

Research hypothesis 2d stated that there would be a significant difference between Mexican-American and Anglo-American adolescents on the MBTI Judging-Perceiving (JP) scale. The individual *t*-test on the JP scale was significant ($p = .0045$). Hypothesis 2d, which predicted a difference between these two groups on the JP scale, is supported by this analysis. Both the Mexican-Americans and the Anglo-Americans favored the Perceiving end of the scale. Both groups would be attuned to incoming information, and both tend to be option oriented. However, the Anglos were significantly more Perceiving than the Mexican-Americans. See Table 4.

Table 4

t-tests for Differences in Ethnic Groups on the Four Subscales of the MBTI

	N	Mean	Std. Dev.	<i>t</i>	<i>p</i>
<u>EI:</u>					
Anglos	167	92.041	25.054		
				-.6815	.4961
Mex-Am.	122	93.950	21.230		
<u>SN:</u>					
Anglos	167	106.640	24.830		
				4.8604	.0001*
Mex-Am.	122	93.393	19.908		
<u>TF:</u>					
Anglos	167	101.802	22.009		
				2.3766	.0181**
Mex-Am.	122	95.983	18.379		
<u>JP:</u>					
Anglos	167	119.538	25.548		
				2.8621	.0045*
Mex-Am.	122	111.426	21.164		
* Significant at $\alpha = .01$ level ** Significant at $\alpha = .05$ level					

Research Question #3

Research question 3 asked if there were relationships between career maturity as measured by either the DM or WW scales of the CDI, and the

various scales of the MBTI for adolescents of these two distinct cultural groups. The second part of this question asked if the relationships varied between the groups.

A correlation analysis of the DM and WW variables with the four subscale variables of the MBTI for the Anglo-American adolescents is shown in Table 5. A similar correlation analysis for the Mexican-American adolescents is shown in Table 6.

Table 5

Pearson correlation coefficients between CDI variables and MBTI subscales for Anglo-American adolescents (N=167)

	EI	SN	TF	JP
WW	-.1141	.1831	.1561	-.0310
DM	-.0559	.1996	.1706	.0276

Table 6

Pearson correlation coefficients between CDI variables and MBTI subscales for Mexican-American adolescents (N=122)

	EI	SN	TF	JP
WW	-.1048	.2970	.2660	.1735
DM	-.0592	.3346	.2507	.2084

The correlation analyses show a fairly consistent pattern within each group and in comparing the two groups. The correlations are fairly low with the SN variable showing the strongest relationship in each case. The correlations tend to be slightly stronger with the Mexican-American group. However, the correlations do not represent a complete picture, and multiple regressions would provide additional information about the relationships.

Research hypothesis 3 stated that the four MBTI personality scales in combination would be significantly predictive of both the WW and DM scales for the Anglo-American and Mexican-American adolescents. This hypothesis was tested with a series of four multiple regressions. The dependent variables were alternatively the WW and DM scores for the Anglo-American adolescents, then the WW and DM scores for the Mexican-American adolescents. In each case the independent variables were the EI, SN, TF, and JP scores for each respective group.

The results of the multiple regression for Anglo-American adolescents using WW as the dependent variable and the corresponding EI, SN, TF, and JP scores as independent or predictor variables are shown in Table 7.

Table 7

Multiple Regression Results Predicting WW from EI, SN, TF, and JP for Anglo-American Adolescents (N=167)

Predictor Variables	Beta	<i>t</i>	<i>p</i>	
EI	-.0958	-1.226	.2219	
SN	.2532	2.747	.0067*	
TF	.0890	1.086	.2791	
JP	-.1853	-2.078	.0393**	
Model:	Degrees of Freedom	F	<i>p</i>	R ²
	4	3.376	.0110**	.0769
* Significant at $\alpha = .01$ level		** Significant at $\alpha = .05$ level		

The overall R-squared value for this regression indicates that the four independent variables predict approximately 8% of the variance in the WW scores for Anglo-American adolescents. Hypothesis 3, which stated that the EI, SN, TF, and JP variables would significantly predict the WW score, is supported by this analysis ($p = .0110$), but the predictive value of the regression is small given the low R-squared value. In this case, personality preference is a statistically significant predictor of the WW score with SN ($p = .0067$) and JP ($p = .0393$) both being significant predictors. However, the low R-squared value suggests other significant predictors.

The results of the multiple regression for Anglo-American adolescents using DM as the dependent variable and the corresponding EI, SN, TF, and JP scores as independent or predictor variables are shown in Table 8.

Table 8

Multiple Regression Results Predicting DM from EI, SN, TF, and JP for Anglo-American Adolescents (N=167)

Predictor Variables	Beta	<i>t</i>	<i>p</i>	
EI	-.0283	-0.360	.7195	
SN	.2244	2.416	.0168**	
TF	.1161	1.407	.1613	
JP	-.1134	-1.263	.2085	
Model:	Degrees of Freedom	F	<i>p</i>	R ²
	4	2.726	.0312**	.0631

** Significant at $\alpha = .05$ level

The overall R-squared value for this regression indicates that the four independent variables account for approximately 6% of the variance in the WW scores for Anglo-American adolescents. Hypothesis 3, which stated that the EI, SN, TF, and JP variables would significantly predict the DM score, is supported by this analysis ($p = .0312$), but the predictive value of

the regression is low given the R-squared value. Personality preference is a statistically significant predictor of WW scores in this case, with SN being the only one of the four predictor variables which is individually significant. However, the low R-squared value indicates, once again, that there are other significant predictors which are unknown.

The results of the multiple regression for Mexican-American adolescents using WW as the dependent variable and the corresponding EI, SN, TF, and JP scores as independent or predictor variables are shown in Table 9.

Table 9

Multiple Regression Results Predicting WW from EI, SN, TF, and JP for Mexican-American Adolescents (N=122)

Predictor Variables	Beta	<i>t</i>	<i>p</i>	
EI	-.0503	-0.571	.5691	
SN	.2202	2.314	.0224**	
TF	.1787	1.915	.0579	
JP	.0383	0.405	.6862	
Model:	Degrees of Freedom	F	<i>p</i>	R ²
	4	4.173	.0034*	.1249
* Significant at $\alpha = .01$ level		** Significant at $\alpha = .05$ level		

The overall R-squared value for this regression indicates that the four independent variables account for approximately 12% of the variance in the WW scores for Mexican-American adolescents. Hypothesis 3, which stated that the EI, SN, TF, and JP variables would significantly predict the WW score, is supported by this analysis ($p = .0034$). Personality preference, in particular the SN variable, is significantly predictive of the WW score. However, there are other significant predictors indicated in addition to personality preference since the R-squared value is not large.

The results of the multiple regression for Mexican-American adolescents using DM as the dependent variable and the corresponding EI, SN, TF, and JP scores as independent or predictor variables are shown in Table 10.

Table 10

Multiple Regression Results Predicting DM from EI, SN, TF, and JP for Mexican-American Adolescents (N=122)

Predictor Variables	Beta	<i>t</i>	<i>p</i>	
EI	.0032	0.037	.9709	
SN	.2621	2.778	.0064*	
TF	.1449	1.566	.1201	
JP	.0773	0.825	.4112	
Model:	Degrees of Freedom	F	<i>p</i>	R ²
	4	4.760	.0014*	.1400

* Significant at $\alpha = .01$ level

The overall R-squared value for this regression indicates that the four independent variables account for approximately 14% of the variance in the DM scores for Mexican-American adolescents. Hypothesis 3, which stated that the EI, SN, TF, and JP variables significantly predict the DM score, is supported by this analysis ($p = .0014$). In a similar manner as the preceding regressions, personality preference, in particular the SN variable, is a significant predictor of DM scores. However, the R-squared value suggests that other significant predictors also are involved.

Summary

This study confirmed Usher's (1994) preliminary findings of significant differences between Mexican-American adolescents and Anglo-American adolescents on the decision making and world of work information scales of the CDI, with the Anglo-Americans scoring higher on both scales. In addition, this study has indicated significant differences in personality preferences between these two separate cultural groups. The Mexican-American adolescents were significantly more Sensing, Thinking, and Judging than the Anglo-Americans on the MBTI scales measuring these preferences.

All of the regressions predicting career maturity variable scores (DM and WW) from personality preferences, whether Mexican-American adolescents or Anglo-American adolescents, are statistically significant. All of these regressions account for a similar level of variability, from 6% to 14%. With all four regressions, Sensing-Intuition is a significant predictor. In three of the four regressions, it was the only significant predictor. This points to the Sensing-Intuition scale as an important, indeed the most important, personality preference predictor in this area of career maturity for these two groups.

Given the similarities of the regression models, the prediction of career maturity variables from personality preferences is fairly similar between the two cultural groups for the following reasons. R-squared

values of all the models are statistically significant, and those values are all relatively close. The standardized beta values for Sensing-Intuition are extremely close through all the regressions, ranging from .2202 to .2621. Sensing-Intuition is not only the major significant personality preference predictor of career maturity with these two groups, it is an extremely consistent predictor between these two cultures and between these two cognitive career maturity variables.

It should also be noted that although the R-squared values for all the regressions (Anglo-American and Mexican-American) are relatively small, these values are larger with the Mexican-American group. Personality preference accounts for a somewhat larger amount of predictive value in this area of career maturity with the Mexican-American adolescents, as compared to the Anglo-American adolescents.

CHAPTER V

CONCLUSIONS

The purpose of this research was to explore the relationship between career maturity and personality preferences between two distinct ethnic groups, Mexican-American and Anglo-American adolescents. Clear differences in particular career maturity variables, specifically the Decision Making (DM) and World of Work Information (WW) scales of Super's Career Development Inventory (CDI), have recently been shown (Usher, 1994). These differences have been confirmed by the current study with the Anglo-American adolescents having significantly higher scores on both scales. Clear differences in personality preferences, as indicated by the Myers-Briggs Type Indicator (MBTI), have been shown by this current study. The Mexican-American adolescents were significantly more Sensing, Thinking, and Judging than their Anglo-American counterparts on the MBTI. Finally, personality preference (specifically, Intuition) has been indicated as a significant predictor of career maturity across the two adolescent cultures.

The sample consisted of 289 ninth grade students, categorized as Mexican-Americans and Anglo-Americans, from a high school in Austin, Texas. This sample has some important advantages. First, it represents

approximately the same age group as the original participants in Super's Career Pattern Study (CPS), from which the CDI was developed (Thompson & Lindeman, 1984). This presents continuity and consistency with the original research by sampling individuals of the same age. Second, it offers the opportunity to investigate relatively large samples from two distinct cultural groups. These samples are homogeneous, consisting of students from one large high school. Previous cross-cultural research has sometimes mixed individuals of varying ages and cultural backgrounds, often from throughout the United States. The students from the current sample are expected to be less acculturated than older individuals who may have encountered more diverse influences. In addition, this sample has the advantage of consisting of two distinct groups (Mexican-American and Anglo-American adolescents) from one location rather than Hispanics (Spanish speaking individuals of various ethnic backgrounds) and Caucasians from diverse locations. It was hoped that these relatively large, more homogeneous samples would result in a better representation of variables in the various analyses which were conducted. Previous research (Kaufman et al., 1993) indicated no significant differences between Caucasians and Hispanics in MBTI personality preferences. That particular study looked at Hispanics and Caucasians from across the United States over a wide age range. It was a very heterogeneous study, and therefore may not have been culturally sensitive.

Kaufman et al. also noted that MBTI studies on Hispanics are definitely lacking. Not only has this study added to the literature regarding Mexican-Americans and personality preferences, it provides significant new information regarding relationships between career maturity and personality preferences for both Mexican-American and Anglo-American adolescents.

Statement of Outcome of Data Analysis

It can be concluded from the analysis of data that these two distinct cultural groups have significant differences in certain career maturity variables and in certain personality preferences. In addition, multiple regressions were conducted using the MBTI scales as predictors of the career maturity variables. The personality preferences of the MBTI were statistically significant in predicting the career maturity variables, but accounted for a small portion of the variability, indicating that other important and significant predictors of career maturity exist.

The differences in the DM and WW scores between the two groups were significant. The Anglo-Americans displayed a much greater knowledge of career decision making skills, measured by the DM scale, than the Mexican-Americans. The Anglo-Americans also displayed much greater career awareness and occupational knowledge that contribute to successful career planning (WW), in comparison to the Mexican-Americans. The differences were strongly significant, with the individual

t-tests both significant at the $p = .0001$ level.

The differences in the MBTI Sensing-Intuition (SN), Thinking-Feeling (TF), and Judging-Perceiving (JP) scores were also significant. The Mexican-Americans were much more Sensing, more Thinking, and more Judging than the Anglo-American adolescents. The *t*-test results again were significant, ranging from $p = .0001$ to $.0181$.

This indicates that the Mexican-American adolescents, as more Sensing individuals, focus more on the present moment and the immediate experiences of life. Sensors are often more realistic, have more acute powers of observation, memory for details, and practicality. This is in contrast to the Anglo-American adolescents, who were more Intuitive. Individuals who are more Intuitive exercise perception beyond what is visible to the senses, including possible future events. Intuitives focus more on possibilities. They are often imaginative, theoretical, abstract, future oriented, and creative.

The Mexican-American adolescents were also more Thinking than the Anglo-Americans. Thinkers, in the MBTI sense, make judgments based more on logic than their Feeling counterparts who make judgments based on values. Thinkers develop characteristics associated more with analytical ability, objectivity, and concern with justice and fairness. Feelers make decisions based on what matters to others and how others are affected by decisions.

The Mexican-Americans were more Judging than the Anglo-American adolescents. Individuals characterized as Judgers are concerned with making decisions, seeking closure, planning operations, and organizing activities, as opposed to Perceivers, who are attuned to incoming information and often act in more spontaneous, curious, and adaptable ways.

The regressions using personality preferences to predict the career maturity variables were very consistent. For both the Mexican-Americans and the Anglo-Americans, the career Decision Making and Knowledge of the World of Work scales were predicted in a similar manner. The four personality preference predictors accounted for between 6% and 14% of the variance in the career maturity scores in the four regressions. The significance of personality preferences in predicting career maturity variables ranged from the $p = .0014$ to $p = .0312$ levels. The Sensing-Intuitive scale was a significant predictor in every regression, with p -values ranging from .0064 to .0224. As Intuition scores rose (the higher end of the Sensing-Intuitive scale), career maturity variables in both cultures also rose. Therefore, Intuition is an important influence upon career maturity.

Explanation of Results

These results indicate new and significant findings. First of all, significant differences exist in career maturity between the Mexican-American and the Anglo-American adolescents in career decision making

and world of work information. The Mexican-Americans were significantly less skilled in their ability to apply knowledge and insight to career planning and decision making. They also had significantly less knowledge of occupational structure, sample occupations, and techniques for getting and holding a job.

Second, the Mexican-Americans were more Sensing, Thinking, and Judging than the Anglo-American adolescents. However, when the regressions were conducted using the Sensing-Intuitive, Thinking-Feeling, and Judging-Perceiving scales as predictors of the career maturity variables, the Sensing-Intuitive scale emerged as the significant predictor of career decision making and world of work information. Intuition predicts ability in career decision making and knowledge of the world of work, and this is a very significant finding. Intuition is the key personality preference predictor of cognitive career maturity for these two groups. It predicts career decision making and knowledge of world of work information in both the Anglo-American and Mexican-American adolescent cultures. However, the Anglo-Americans, as a group, were more Intuitive and, as a group, they had higher career maturity scores.

Sensors focus on their immediate experience, and they focus on what exists. Intuitives theorize about what might be, and they focus on possibilities. Perhaps the use of Intuition causes a person to learn how to consider and weigh alternatives (part of decision making). It also may

encourage a person to acquire more information (investigating what are the possibilities). On the other end of the scale, perhaps Sensors do not consider alternatives because they are focusing on the matter at hand. Since Sensors focus on their immediate experience, perhaps evaluating future alternatives is unnatural to them. Dealing with alternatives is an important component of most career decision making strategies. Tiedeman and O'Hara (1963) spoke about the exploration step of the anticipation portion of career decision making. This phase involved viewing alternatives, and it is the preliminary step to implementing a choice. Krumboltz and Baker (1973) identified certain skills as important in career decision making. One of those skills was generating a wide variety of alternatives. This generating of alternatives is a learned skill that is strongly influenced by positive reinforcement (Mitchell & Krumboltz, 1990). More recently, and from a different perspective than traditional decision making strategies, Gelatt (1989) emphasized the importance of intuition and being comfortable with alternatives in the decision making process. Perhaps, quite simply, this dealing with alternatives is an essential part of decision making, no matter how it is theorized. This current study has identified Intuition, as defined by the MBTI, as an important factor in these cognitive aspects of career maturity, namely decision making and knowledge of the world of work. It is a factor that should be strongly considered in future research in the area of career maturity by including it

as a known predictive variable in the decision making process.

This study also indicates that, although the two adolescent groups are significantly different on the Thinking-Feeling and Judging-Perceiving scales of the MBTI, these differences are not a significant factor in the career maturity variables investigated. The TF and JP scores, in general, were not significant predictors of career maturity in either group (with the exception of Judging-Perceiving for the Anglo-Americans in relationship to the world of work variable). What is particularly striking about this finding is that it stands in stark contrast to the often theorized idea that individuals who are more Thinking and Judging should be more career mature (Freeman, 1994). The Mexican-American adolescents were significantly more Thinking than their Anglo-American counterparts. They were also significantly less career mature, and there was no relationship indicated between the two career maturity variables and this personality preference variable (Thinking-Feeling).

Feelers seek rational order according to harmony among subjective values, and those who use the Thinking process seek rational order and plan according to impersonal logic (Myers & McCaulley, 1985). Even though it is clear that Super's concept of career decision making is considered a logical process (Thompson & Lindeman, 1981), the current study indicates that the MBTI measurement of logical planning, the Thinking-Feeling scale, does not predict either ability in career decision

making or the other closely related cognitive measure of career maturity, knowledge of world of work information. Perhaps the fact that both Thinkers and Feelers seek rational order is more important than whether or not they use a more logical or a more subjective process to achieve that rational order. This finding is in agreement with Freeman's (1994) results, which indicated that both Thinkers and Feelers can be career mature.

In a similar manner, individuals who are Judgers are concerned with making decisions (Myers & McCaulley, 1985). Judgers are also occupied with seeking closure, planning operations, and organizing activities. It is natural and logical to assume that individuals who are concerned with making decisions, Judgers, would be more skilled at making decisions and would score higher on decision making measures such as the DM scale on the CDI.

The Mexican-American adolescents were significantly more Judging than the Anglo-Americans, they were less career mature, and there was no relationship indicated between the factors. There also was no relationship indicated between Judging and the decision making variable with the Anglo-American adolescents. Perhaps Judgers, who are concerned with making decisions, have no better knowledge of decision making skills than Perceivers. Although Perceivers are open and adaptable, perhaps they know just as much about making decisions. The Judging and Perceiving aspects of personality may have nothing to do with the ability to make

decisions at this age level. Certainly this study has indicated just that, whether the adolescents were Mexican-American or Anglo-American.

The results of the regressions which indicate significance in predicting career maturity variables with personality preference are tempered by the low variability. Nevertheless, these findings lend strong support to the theory that career maturity is multidimensional (Super & Kidd, 1979). The significance of the regressions in conjunction with the low variability indicates that other significant factors are involved. Career maturity has never been an easy construct to define, and the inference is that many factors combine in predicting career maturity. The current study indicates that personality preference is one significant factor in predicting career maturity in these adolescent groups. The regression results were very similar across the cultures. Personality preference predicts career maturity in a similar manner in both the Mexican-American and Anglo-American groups.

Freeman (1994) reported no significant relationships between career maturity variables and personality preferences with undergraduate college students in a Career and Life Planning course. She investigated MBTI personality types by comparing individuals coded as STJ (Sensing, Thinking, Judging) with those coded as NFP (Intuitive, Feeling, Perceiving). This was a categorical comparison rather than one based on strength of type, and it basically compared two out of a possible eight

MBTI groupings. Freeman postulated that strength of type development could possibly moderate the relationship between type and career maturity, but further research was needed.

The current study indicates that personality type is significant in the study of career maturity variables, but that other factors are also significant. This study extends Freeman's (1994) work by taking into account the strength of type preferences, rather than viewing types categorically. By analyzing based on type strength, rather than category, significance has been shown in predicting career maturity from personality preference.

Alternative explanations for the results of this study are possible. One issue concerns the validity of both the CDI and the MBTI for Mexican-Americans. Race, culture, and socioeconomic status are closely related in American society. Efforts to separate and examine these variables are always difficult. LoCascio (in Super, 1974) has pointed out that the limited occupational horizons of disadvantaged youth make it likely that they will make low scores on various career maturity measures. So far as is known, no one has yet attempted to develop an ethnic-oriented measure of career development to test LoCascio's hypothesis. Thompson and Lindeman (1984) have stated that it may be wise to recognize that the kind of career maturity measured by the CDI and other such inventories may make a generally mature disadvantaged youth appear immature.

Therefore, it may be reasonable to assume that these cognitive career maturity scales (DM and WW) lack validity for Mexican-American adolescents. If they do lack validity for this minority group, then the differences in cognitive career maturity which have been shown would not be meaningful.

As mentioned previously, MBTI studies with Hispanics are lacking (Kaufman et al., 1993). Therefore, it is at least reasonable to question the validity of the MBTI with this cultural group. However, Jungian theory has been successfully tested with African-Americans (Carlson & Levy, 1973), and Jung believed he was describing mental processes common to the entire human species (Myers & McCaulley, 1985). Until more studies are done with Mexican-Americans, validity may remain a question for the MBTI as well. If it were discovered that the MBTI was not valid with this cultural group, then the significant differences shown in personality preferences would be suspect.

Closely related to these issues is the question of whether Super's underlying constructs are applicable to Mexican-Americans. There have been several studies that have attempted to replicate the purposes and methods of the Career Pattern Study with inner city African-Americans (Vriend, 1968), Mexican-Americans (Wilstach, 1966), and Filipinos (Asis, 1971). Even without longitudinal data, they have generally been supportive and appear to contradict criticisms of cultural bias (Thompson

& Lindeman, 1984). An important finding was that in both Vriend's (1968) study and in the study by Asis (1971), Career Pattern Study derived measures showed considerable evidence of being psychologically and educationally meaningful. In other words, they exhibited good construct validity (Thompson & Lindeman, 1984). Although it is possible that Super's constructs might not be applicable to this cultural group, the evidence in the literature currently suggests that the constructs are valid across cultures.

Perhaps a stronger alternative explanation may come from the developmental nature of personality preferences. We know that as adolescents mature through the high school years, personality preferences undergo some change and fluctuation. An analysis of the extensive data bank provided by Myers and McCaulley (1985) indicates that male students become more Extraverted, Sensing, Thinking, and Perceiving as they go through high school. In a fairly similar manner, female students become more Extraverted, Sensing, Thinking, and Judging as they go through the high school years. These changes in preference have not been specifically investigated with Mexican-Americans. The changes in personality preference and their relationship to changes in career maturity would be a valuable longitudinal study with Mexican-Americans in comparison to the majority culture. If there are significant differences in the developmental path of Mexican-Americans as compared to the majority, a sample showing

differences in personality preference at any single point in time may be less meaningful. It could be that Mexican-Americans simply mature in a different way and exhibit different personality preferences at certain age levels, but this may have no bearing on their eventual career maturity. These differences may just demonstrate a different developmental process because of their culture.

Finally, since the DM and WW scales correlate with aptitude and achievement tests (Thompson & Lindeman, 1981), the relationship of cognitive level to formal operational thinking could indicate an alternative explanation. The question is whether the results hold for different cognitive levels. DM loads heavily on the cognitive factor and assesses the ability to apply principles of career decision making. WW is likewise a cognitive scale. Perhaps the prediction of cognitive career maturity from personality preference is simply a result of cognitive ability, and not personality. Inserting a factor which measured cognitive level or ability could indicate whether the differences in career maturity shown in this study are actually due to personality or due to varying cognitive levels. Looking at the effects with both Mexican-American and Anglo-American adolescents would provide an important extension to the findings of this study.

Implications for Career Development Theory

This study provides an important link between career maturity and personality preference, one which has not been strongly indicated before. In general, personality preference has been shown to be a significant predictor of both career decision making and world of work knowledge across these two cultures. Super (1990) graphically portrayed a segmental model of career development in his Archway Model (see Figure 4, p. 99). In that model, the capstone is the self, the decision maker. The various factors which influence the decision maker are represented as pieces of the arch. The left hand column includes personality, which is considered to be a global construct used to include all of the qualities that constitute a person (Super, 1990). Super theorized that personality was a very important component in the career development of that self, the decision maker. This study provides strong empirical evidence that, in fact, personality preference is a significant factor in predicting career decision making and knowledge of world of work information. It confirms the idea of personality being a significant aspect in Super's Archway Model of career development.

In viewing the Archway model, it is also interesting to note that the geographical right hand column includes the influence of society on the self. The external influences of culture would be represented in the right hand column with its components of society, family, peer groups, and

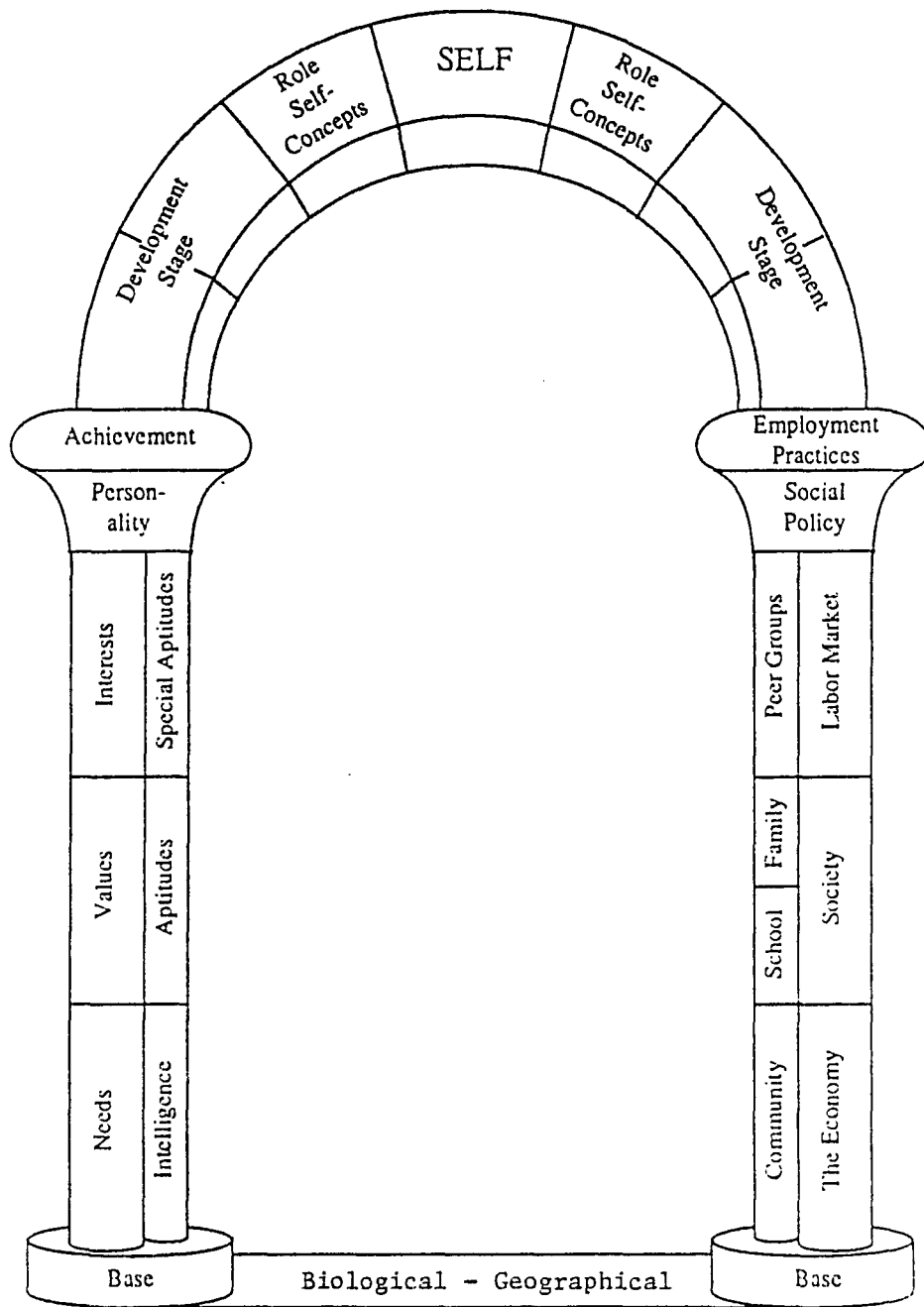


Figure 4. A Segmental Model of Career Development

community. This study has incorporated many of these biological and geographical factors in adding to the knowledge of cognitive career maturity. It has included effects of personality (the left hand column), culture (the right hand column), and it has placed special emphasis on geographical distribution of the sample (the foundation), with the premise that geography has special importance in the development of the decision maker. Geography is an important facet affecting culture. For example, the very different effects of urban or rural living result in great differences in a person's culture. The area of the country or the world in which a person lives greatly influences culture. People who appear very similar from outward appearance and background can be extremely different depending upon where they live. Super's Archway Model provides a graphic means of viewing these components which go together to influence the decision maker.

Implications for Multicultural Career Development Theory

The differences between these two adolescent groups in terms of cognitive career maturity and personality preferences are distinct and very significant. Arbona (1990) has noted that little is known about the career development of Hispanics. Even less is known specifically about career development of the Mexican-American subgroup. The finding of clear and very significant differences in career decision making skills and knowledge of world of work information marks a fundamental starting point for

multicultural career development theory for this minority by indicating two specific areas of career maturity upon which to focus.

The finding of significant personality preference differences between the Mexican-American adolescents and the Anglos also marks a fundamental point for multicultural counseling theory. This is an important finding which allows researchers and theorists to define culture in empirical terms. Rather than speaking in generalities about cultural differences, the empirical results shown on well developed personality scales, such as the MBTI, provide a definitive means of measuring cultural variance. Significant differences in Hispanic and Caucasian MBTI personality preferences have not previously been seen in the literature (Kaufman et al., 1993).

No difference was seen in the two cultural groups in terms of what predicts career maturity, and this is quite significant. The regressions for predicting decision making and world of work information scores by using personality preference were very similar in both cultures. This is a strong indication that personality preference may affect career maturity in a similar manner, regardless of culture. Although personality preferences may be significantly different between cultures, individuals with similar preferences would be expected to exhibit similar levels of career maturity, regardless of culture.

This is a means of reinforcing the idea of recognizing and appreciating the individual, while still retaining the knowledge gained by generalizing about a culture or group. It underscores the balance between generalizing and stereotyping. Generalizing about cultures can be a valuable tool in making sense and approaching individuals of a particular culture. A different approach to career development might be anticipated, based upon an individual's cultural background. However, flexibility must always be used when dealing with any particular individual. Being armed with the knowledge that individuals of one culture may have certain personality preferences can be a valuable tool. Rigidly approaching any particular individual with the idea that he or she has a certain personality based upon his or her culture is inflexible and possibly nonproductive. It is precisely at this point that generalizations may become stereotypes. Stereotypes may be defined as rigid beliefs that we hold about all people who belong to a particular group (Sue & Sue, 1990). The danger of stereotyping is that logic and experience are often ignored. Stereotypical beliefs are rigidly held. There is great variation within any culture, and this must always be borne in mind while generalizing. This finding of differences in personality preference between cultures as a whole, yet similar effects of individual personality preference regardless of culture, is an important concept. It encourages a person to make sense of cultural differences by generalizing, yet at the same time, retains the importance of

individual similarities, regardless of culture. Cultures are different, yet particular individuals from different cultures may be very much the same. An adolescent Mexican-American Intuitive may approach areas of life and career development in a similar manner as an Anglo-American Intuitive. At the same time, this study has shown the use of Intuition is far more common with the Anglo-American adolescents than with the Mexican-Americans.

Implications for Counseling

One implication for counseling is based upon the finding that adolescents of these different ethnic groups show different levels of career maturity. The significant differences between decision making and world of work knowledge in the two ethnic groups indicate variations in culture. The Anglo-American adolescents have a greater knowledge of decision making principles and a greater amount of information about the world of work at this particular time in their lives. Given these differences, consideration should be given to approaching adolescents of these two cultural groups from different perspectives. Providing more world of work information and providing additional training to Mexican-American adolescents in decision making should be considered to increase their effectiveness in these two areas of career maturity.

The second implication stems from the fact that adolescents of these different ethnic groups exhibit differences in personality preferences. The

differences between the ethnic groups on the SN, TF, and JP scales again indicate variation in culture. This is a distinct and concrete way to view and measure cultural differences. Our typical approaches to career counseling, which may involve talking about possibilities (Intuitive), being very sensitive to feelings and values (Feeling), and leaving options open (Perceiving), may not be as appropriate for Mexican-American adolescents. Indeed, such approaches may seem foreign, confusing or irrelevant to the Mexican-American group. Career counseling approaches based on giving information (Sensing), stressing personal logic (Thinking), and accepting decisions more conclusively (Judging) may be more appropriate for these Mexican-American adolescents.

Only the Sensing-Intuition scores were a consistent, significant factor in predicting these particular career maturity variables. Intuitives of both groups scored higher in decision making and world of work knowledge. However, the Mexican-American adolescents as a group were much less Intuitive than the Anglos. Consideration should be given to encouraging less Intuitive individuals to use their intuitive capabilities more often. Counselors could try to help students and clients think and explore options and possibilities, even if this is not their tendency. Individuals who quickly and rigidly decide on a course of action without much gathering of information or reviewing of alternatives can be encouraged to take more time in their decision making. Students can be prompted to think about and

list various options. They can also be informed of alternative sources of occupational information and urged to use those sources. This approach might give individuals familiarity with exploring alternatives. By encouraging a more Intuitive approach, perhaps these career maturity scores would rise and adolescents would be better equipped for decision making and acquire more complete sources of work information.

Suggestions for Further Research

Freeman's (1994) research drew the conclusion that an individual may be career mature by functioning within different personality preferences or types. The current study brings that conclusion somewhat into question. This research indicates that adolescents of either culture can be career mature, regardless of personality preferences on the Extraverted-Introverted, Thinking-Feeling, and Judging-Perceiving scales. However, significance is indicated in the relationship of career maturity to personality preference, specifically the relationship of Intuition to career maturity. Since the variability is generally low in the regressions, the current study suggests the possibility of future research to investigate just what other factors or variables may be related to these differences. Factors such as gender, socioeconomic status, academic achievement, and particularly, work salience (Super & Nevill, 1984) could be included as predictors. Some of these factors have been discounted in the literature as having significance in the area of career maturity, but not a great effect

(Super, 1990). This points again to the multidimensional character of career maturity. Since career maturity is a multidimensional trait, consideration should be given to including as many significant predictive variables as possible, rather than looking for one or two variables showing great influence. Since career maturity is such a complex construct, those elusive, extremely influential variables may very well not exist. In the end, we may have a considerable series of significant, predictive variables of career maturity. In the late 1980s, this is precisely what Super (1990) emphasized through his concept of segmental themes. Super's Archway Model (See Figure 4, p. 99) graphically consists of a series of stones in the form of an arch. These stones represent the segments of career development which influence the decision maker. The Archway Model indicates that a great multitude of factors are involved in career development. This study helped confirm that point.

Ethnicity itself, as a variable, could be included in career maturity studies. This is supported by the finding that personality preference predicts cognitive career maturity in a similar manner across the Mexican-American and Anglo-American adolescent groups. Therefore, it may be reasonable to simply include ethnicity as a separate variable in the future with studies of Mexican-American and Anglo-American adolescents, rather than perform separate analyses by cultural group.

Future research in this area of career maturity with these two cultural groups should focus on Sensing-Intuition as an important variable. First of all, the most significant difference between the two cultural groups in personality preference was Intuition. The Anglo-American adolescents were far more Intuitive than the Mexican-Americans (the *t*-test was significant at $p = .0001$). Second, Intuition was the key variable in every single regression predicting career maturity. In the areas of both career decision making and knowledge of the world of work, the Sensing-Intuitive scale significantly predicted these variables for both Mexican-American adolescents and Anglo-Americans ($p = .0064$ to $.0224$).

Further research using the MBTI in this area of career maturity should consider using techniques based upon type strength rather than categorical type. Using the continuous scores for the four MBTI scales resulted in clear, significant findings. Past studies using categorical types (e.g. STJ, NFP) have yielded less conclusive results in somewhat similar research (Freeman, 1994). Grouping together individuals based upon any single MBTI scale or combination of tendencies may dilute the clarity of the analysis. For example, on the Sensing-Intuitive scale, a person who is a weak Intuitive (score of 101) is very close in personality preference to someone classified as a weak Sensor (score of 99). That same Intuitive is quite different in personality preference from an individual classified as a strong Intuitive (score of 167). Grouping the weak and strong Intuitives

together lessens the precision of the analysis. An Intuitive with a score of 167 on the SN scale has a very different strength of personality preference than an Intuitive with a score of 101. Continuous scoring aids in eliminating that problem by providing a continuum based on strength of preference, rather than grouping together individuals with wide differences in preference scores simply because they happen to be classified together.

Analyzing from the standpoint of MBTI combinations is sometimes valuable and appropriate. However, it also may be less precise. Looking at samples based on combinations such as Intuitive-Feeling (NF), Intuitive-Feeling-Perceiving (NFP), or Introverted-Intuitive-Feeling-Perceiving (INFP) dilutes the influence of any one subscale. Investigating NFP individuals would lessen the observable effect of the N or Intuitive tendency by mixing its effect with the other aspects of personality preference, in this case the FP combination.

The key link made by this study in demonstrating the relationship of career maturity and personality preference should be investigated further. Future research could look at the effect of personality preference with other cultures. It would be valuable to know if Intuition is a consistent, significant predictor of the cognitive aspects of career maturity in other cultures. Certainly, this study has given strong indication of that possibility.

In addition, the non-cognitive or attitudinal aspects of career maturity should be investigated to determine if personality preference plays a part in predicting or influencing career attitudes. The Career Planning (CP) and Career Exploration (CE) scales of the CDI could be investigated to determine if personality preference predicts scores on those scales. Perhaps personality preference influences other aspects of career maturity in addition to the cognitive aspects identified in this study. That type of study could also be expanded cross-culturally to determine if any relationships discovered are universal across cultures.

One of the strong points of this study was the size and uniformity of the samples. Future research in this area or any other area of multicultural study should give strong consideration to using samples which are as large and homogeneous as possible. These samples should be drawn on ethnic or cultural lines rather than on racial characteristics, and consideration should be given to geographic distribution of the samples because of the influence of geography on culture. As Arbona (1990) has pointed out, some of the best work being done with career development studies of Hispanics takes into account the various distinct subgroups (Mexican-American, Puerto Rican-American, Cuban-American, etc.). This study served to underline that point.

This study contains new and important findings for both the career development and multicultural counseling fields. Clear and significant

differences have been shown in career maturity between these two different adolescent cultural groups. There are also significant differences in personality preferences between the two distinct cultural groups. Finally, personality preference has been shown to be a significant predictor of career maturity in both adolescent cultures. None of these findings have previously been indicated in the literature. The study of the diversity of individuals and groups is potentially profitable and empirically accessible. It is also useful for the development of counseling theory and for devising practical approaches to working with individuals of diverse backgrounds. Cultural differences have been indicated through an excellent sample and clear statistical analyses. This study meets a well articulated need for foundational work in career development theory for Hispanics in general (Arbona, 1990), and Mexican-Americans in particular.

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