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The Relationships Between Career Interests and Personality Characteristics Among African American Women on Welfare

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THE RELATIONSHIPS BETWEEN CAREER INTERESTS AND PERSONALITY CHARACTERISTICS AMONG AFRICAN AMERICAN WOMEN ON WELFARE

By

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I would like to dedicate this dissertation to the memory of my grandmother Claudine E. Hale and to my grandfather Elden A. Hale, Sr. I could not have undertaken this endeavor without their devotion, love and support. I hope I have made you proud.
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ABSTRACT

Career theorists have assumed that career choice and personality are inexorably intertwined (Holland, 1985; Krumboltz, 1986; Roe, 1957; Super, 1969), and have built a substantial body of research that directly investigates the relationships among career interests and personality characteristics. Historically, most researchers investigating career development focused on white male populations. It is only in the last twenty years that questions regarding ethnicity and gender differences and their relevance to career development have been addressed. To date, there have been no studies that have addressed the relationship between career interests and personality characteristics in African American women. Although some studies have examined the impact of socioeconomic status (SES) on career development (Clark, 1986; McLaughlin, 1976; Poole, Langan-Fox & Omodei, 1990; Ryan, Tracey & Rounds, 1996; Slaney & Brown, 1983), there are no studies that have investigated the career development of women on welfare.

Temporary Assistance to Needy Families, the latest edition of the traditional welfare system, has increased recipient work requirements, capped lifetime benefits and increased state accountability. Many of these recipients are African American women who, although forced to move off the welfare rolls, have entered the workforce through low paid, unskilled jobs.

John Holland’s theory (1966, 1973, 1985, 1997), that career choice is a function of personality, has been one of the most widely researched theories in the history of career psychology. It has also generated the most research on African Americans with regard to career issues. Research of Holland’s theory (1985) on populations of African American women in particular, has been more extensive than any other career theory (Brown, in Brown & Brooks, 1990).

This paper is a review of the various theories of Career Development with an emphasis on Holland’s (1985) RIASEC theory. The author will review its strengths and weaknesses when applied to women, minorities, and finally the specific population of unemployed African American females on welfare. It will then review the literature on assessed occupational interests,
personality factors and assessment instruments as well as discuss their possible mutual relevance to the chosen population.

This archival study was designed to explore the relationships between assessed occupational interests and personality factors for African American women who receive Welfare benefits. The specific objective of this study is to obtain an understanding of these relationships with this previously overlooked population.

This study utilized pre-existing data from The Florida State University’s Career Quest Project. Career Quest, a career development and life skills training workshop using a cognitive behavioral paradigm for welfare recipients, was funded by the State of Florida Department of Labor. The objectives of Career Quest were to aid and encourage participants to develop short and long term career goals and to recognize their abilities to change their current economic status. Participants were referred to the workshop by the local state welfare office and attended a three-week program that consisted of sixty hours of psychological assessment, psychoeducational groups and individual counseling. Workshop content included career and self-exploration, career development, job seeking skills, communication skills, and assertiveness training. In addition, participants conducted independent research that pertained to increasing knowledge about vocational interests, opportunities, and self-efficacy.

All Career Quest participants completed self-report and objective measures during the course of the workshop. The SDS (Holland, 1990) was given to participants on the first day of the workshop, and given instructions to take the assessment home to be completed. The 16PF (Cattell et al., 1970) was administered during workshop hours on the fifth day of the workshop. Staff members explained the purpose and directions for each measure and were available to answer questions that arose.

This archival study utilized data from 185 participant records collected during the Career Quest project from 1992-1996. In order to assess the relationship between career interests and personality factors, the following variables were examined. The independent variables of career interests to be used in this study were the scales from the Self Directed Search (SDS): Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The dependent variables that were
used in this study are personality factors from the Sixteen Personality Factor (16PF): Warmth, Intelligence, Emotional Stability, Dominance, Impulsivity, Group Conformity, Social Boldness, Tender-mindedness, Suspiciousness, Imagination, Shrewdness, Guilt proneness, Experimentiveness, Self-sufficiency, Compulsivity, and Tension.

A multiple analysis of variance (MANOVA) was used to examine the differences in personality characteristics based on the career interest types using the primary Holland code. The dependent variables were analyzed using their derived ten scores in accordance with the stipulations of the 16PF test authors. Follow-up analyses of variance were used to discover which of the dependent variables were significant. Alpha was set at .05.

In this study, 170 of the 185 women (91.9%) scored Social as one of their three summary codes. The Social type was either the high-point code or secondary code for 153 women (82.7%). Ninety-eight women (52.9%) had Social as their high-point code. These results are consistent with the literature in that African Americans have a higher frequency of social codes than Caucasian groups. In review of the other career types in the three point summary code, the Conventional code appeared in 130 women (70.3%), Enterprising appeared in 119 women (64.3%), Artistic appeared in 64 women (34.6%), Investigative appeared in 46 women (24.9%), and Realistic appeared in 35 women (18.9%).

Because the frequencies of the high point codes for the Realistic, Investigative, Artistic, and Enterprising types were too small to analyze statistically, only data from women who scored a high-point code on the Social and Conventional groups could be used to investigate the differences in personality characteristics based on career interests. The Social group scored significantly higher on Warmth (A) and Social Boldness (H) than the Conventional group. The Conventional group scored significantly higher on Insecurity (O), Self-Sufficiency (Q2), and Tension (Q4) than the Social group. This finding supported the applicability of Holland’s theory with African American women on welfare.

In order to develop effective counseling interventions, the author offered the use of other theory, such as the Social Cognitive theories, that offer an explanation for the contextual moderator variables such as race, gender and sociopolitical influences.
The researcher concluded that further investigation of the relationship of career interests and personality characteristics of this population is warranted.
CHAPTER I

INTRODUCTION

Career theorists have assumed that career choice and personality are inexorably intertwined (Holland, 1985; Krumboltz, 1986; Roe, 1957; Super, 1969), and have built a substantial body of research that directly investigates the relationships among career interests and personality characteristics. Historically, most researchers investigating career development focused on white male populations. It is only in the last twenty years that questions regarding ethnicity and gender differences and their relevance to career development have been addressed. To date, there have been no studies that have addressed the relationship between career interests and personality characteristics in African American women. Although some studies have examined the impact of socioeconomic status (SES) on career development (Clark, 1986; McLaughlin, 1976; Poole, Langan-Fox & Omodei, 1990; Ryan, Tracey & Rounds, 1996; Slaney & Brown, 1983), there are no studies that have investigated the career development of women on welfare. This archival study was designed to explore the relationship between career interests and personality characteristics in African American women on welfare. The remainder of the chapter is a discussion of the theoretical framework, significance of the study, statement of the problem, purpose of the study and the research question, definitions and the limitations of the study.

Theoretical Framework

The study of career choice was literally drafted into the ranks of psychology with the advent of WW I. However, as with most psychological theories, these beginnings were based on research that utilized almost exclusively white, male populations. As time and the civil rights movement progressed, these original populations were no longer representative of the workforce. Some theories could not adapt and fell into disuse. Other theorists asserted that while ethnicity
and gender were important, they did not affect the theory’s applicability to diverse populations (Holland, 1985; Super, 1990). Many researchers investigated the applicability of career theories to female and/or minority populations with varying success.

John Holland’s theory (1966, 1973, 1985, 1997), that career choice is a function of personality, has been one of the most widely researched theories in the history of career psychology. It has also generated the most research on African Americans with regard to career issues. Research of Holland’s theory (1985) on populations of African American women in particular, has been more extensive than any other career theory (Brown, in Brown & Brooks, 1990).

Holland’s organizes personality and work environments into six different typologies: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Research has supported the existence of these types in population samples of African American women (Hansen, 1992; Holland, Fritzshe & Powell, 1994; Kimball, Seldacek & Brooks, 1972; Miller, Springer & Wells, 1988; Swanson, 1992; Walsh, Bingham & Sheffey, 1986). Realistic personality types prefer working with their hands, tools, or machines. Investigative personality types enjoy working with numbers or manipulating data. Artistic personality types prefer to be unrestrained and creative. Social personality types enjoy working with people. Enterprising types enjoy working for personal, status and monetary gain. Conventional types prefer to engage in business or clerical work. The RIASEC theory postulates that the greater the similarity between the individual and the work environment type, the higher the job satisfaction. This satisfaction is a result of the individual expressing his personality through his work. Holland (1973) has always believed that personality and vocational choices are related:

If vocational interests are construed as an expression of personality, then they represent the expression of personality in work, school subjects, hobbies, recreational activities, and preferences. In short, we have called ‘vocational interests’ are simply another aspect of personality... If vocational interests are an expression of personality, then it follows that interest inventories are personality inventories. (p. 7)
This relationship between personality characteristics and career interests has been supported in the literature (Costa, Fozard, & McCrae, 1977; Costa, McCrae & Holland, 1984; Gottfredson, Jones, & Holland, 1993; Peraino & Willerman, 1983; Tokar & Swanson, 1995, Tokar, Vaux, & Swanson, 1995, Turner & Horn, 1975; Wakefield & Cunningham, 1975; Ward, Cunningham & Wakefield, 1976). A review of the literature revealed no studies that utilized Holland’s theory to address this relationship exclusively for African Americans. Holland’s theory was used as the theoretical basis for this study.

Significance of the Study

Welfare programs have existed since 1935 with one of the original goals being that the parent remain in the home. As the political and social climate changed, there was a dramatic shift in its ideology. In 1996, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) mandated that welfare benefits be terminated after 5 years and stipulated a requirement that recipients engage in a job search. This change brought a proliferation of welfare to work programs designed to assist individuals, using a work first philosophy. Typical programs provided brief job readiness training, job search assistance, and job placement services. With the advent of change to our welfare system it behooves us to know more about the career and personality dynamics of African American women to gain insight into how change can be accomplished while still meeting the needs of those who rely upon it.

From its inception, the welfare rolls increased along with the amount of money needed to maintain it. In 1994, the government spent over $22 billion on cash and non-cash welfare benefits (U.S. Department of Health & Human Services, 1998b). Over $968.5 million was spent on benefits in Florida alone (U.S. Department of Health & Human Services, 1998b) with African Americans constituting 47.5% of the state caseload (Dept. of Health & Human Services, 1998a). While these costs seem staggering, the greatest cost may be the decrease in goods and services that occurs as a result of unemployment.

Outcome studies have shown that the welfare to work programs have met with limited success. If recipients are to make their way out of poverty before exhausting their lifetime limit
to cash assistance, they must develop better employment histories, as well as increase the quality of their jobs through higher wages, better benefits and greater job security (Population Reference Bureau, 1997). In order to meet the needs of African American women trying to move off of welfare, it has become imperative to gain a better understanding of their career development processes in order to provide a basis for the development of career intervention strategies that meet this population’s needs.

The results of this study may be useful in developing career theory specific to low socioeconomic status minority women. Only with a foundation of a sound career development theory that addresses the unique dynamics of this population can we develop effective career counseling interventions. With appropriate career counseling interventions, it may be possible to improve the outcomes of the transition from welfare to work.

Statement of the Problem

In the white male dominated world of work, women are often underpaid, African Americans are unwelcome, and the poor are forgotten. It is difficult for the population of African American women on welfare to enter and gain recognition in that world. Unfortunately, the same exclusionary practices have been echoed in the world of academia and the social sciences. Personality characteristics and career interests have been among the more highly theorized topics in psychology, yet there has been no body of research that is crucial to establishing a basis of understanding regarding the dynamics of African American female personality and career development.

It is only within the past twenty years that questions regarding ethnicity and gender differences and their relevance to career theory specifically have been addressed. With the exception of Hackett & Betz (1981), who addressed women’s career issues, theories of career development originated from studies of white males. Although many theorists later studied populations more representative of the population as a whole and modified or extended their theory to include diverse populations, few theorists considered these populations at the outset.
There are no theories solely devoted to explaining minority career development. If we hope to assist this growing population, development of career theory for minorities is mandatory. Effective interventions are based on a theoretical foundation; and without theory specific to minority populations, interventions will continue to fall short of individual and societal expectations. In order to begin the process of theory building, exploratory research is a necessary first step. This study, with its focus on the relationships between personality and career interests, is designed to begin the exploration of minority career development. We can no longer afford to assume that the results related to personality and career interests in white men, the group on which current career theories are based, can generalize to other populations.

The same may be said of the lower socioeconomic population. Career theory to date has been based on the implicit assumption that individuals have the opportunity to choose the occupation they will pursue. Theorists have ignored the potential effects of poverty and unequal access to education and the full spectrum of careers available to the middle and upper classes. No theory to date has addressed these variables related to socioeconomic status in a way that translates into effective interventions.

There is a dearth of research in the area of African American women on welfare and whether they exhibit the same correlations between personality factors and career interests as other populations. A great deal of the existing, limited literature that focuses on the correlation between personality factors and career choice with minority and specifically African American populations is deficient. Much of it is dated, contains small samples, or samples unrepresentative of this population (Swanson, 1992).

In addition, there is no research on the usefulness of the SDS with unemployed adult female populations. If we hope to assist this growing population, it seems essential that we develop a greater understanding of their vocational patterns and how they impact career choice development.

Black women who are poor have often found their only resort is to seek public assistance. Now, this last resort has come under review and been drastically diminished. Long-term welfare users often lack the education, skills, or work experience to obtain stable employment that pays enough to sustain their families. These users constitute the greatest policy challenge, and are the focus of most current efforts to get people off welfare and into jobs. However, moving people
from welfare to work is not easy. Welfare programs have met with limited success, and success was often determined by the strength of the local economy (Population Reference Bureau, 1997). It is past time to research the personality and career interest dynamics of this population in order to gain insight into how to help this population make a successful transition into the world of work.

**Purpose of the Study & Research Question**

This archival study was designed to explore the relationships between assessed occupational interests and personality factors for African American women who receive Welfare benefits. The specific objective of this study was to obtain an understanding of these relationships with this previously overlooked population.

The following question was proposed for investigation in this study: What are the differences in personality characteristics based on career interests in African American women on welfare?

**Definitions of Terms**

In order to ensure a common understanding for the purpose of this study, the following terms were defined as follows:

- **African Americans, People of African Descent, and Blacks** are interchangeable terms.
- **Welfare Recipients, Persons Assisted by Welfare Aid, AFDC Recipients, and Persons Receiving Public Assistance** are interchangeable terms.
- The **Florida State University Career Quest project** was a grant funded three week job workshop that provided career and skills assessment, and career and individual counseling.
- The **Self-Directed Search-Revised (SDS-R; Holland, 1985)** is a paper and pencil career interest inventory. It is a self-administered, self-scored, and self-interpret/able career counseling tool. Its goal is to give the client insight into her or his career type by determining a three point code. This three-point code is comprised of the three highest of Holland’s six career interest types.
Career interests will be defined according to Holland’s (1985) six career types. For the purpose of this study these six types will be operationally defined by the raw scores achieved on the SDS-R for each of the following career interest type.

**Realistic**: mechanical inclinations, reserved, low insight, stubborn; prefers activities involving systematic manipulation if machinery or tools, i.e. truck driver, carpenter, machine operator

**Investigative**: analytical, intellectual, inquisitive, precise, thorough, scholarly, scientific, studious; prefers systematic observation and manipulation of physical, biological and cultural phenomena, i.e. biologist, chemist, mathematician, physicist

**Artistic**: creative, idealistic, dreamy, imaginative, rebellious, sensitive, non-conforming; prefers ambiguous, unsystematized activities, i.e. artist, musician, writer

**Social**: friendly, understanding, trusting, social, warm, helpful; prefers to inform, train, develop, cure, or enlighten others, i.e. teacher, therapist

**Enterprising**: Ambitious, aggressive, shrewd, sociable, confident, dominant, persuasive; prefers to attain self-interest goals, i.e. salesperson, politician, business executive

**Conventional**: practical, conforming, methodical, meticulous, unimaginative; prefers to order or manipulate data, i.e. secretary, bank teller, clerk, accountant

**Personality characteristics** are enduring traits and produce tendencies to behave in a predictable manner given prescribed circumstances.

The Sixteen Personality Factor Questionnaire (16PF; Cattell, Eber, & Tatsuoka, 1970) is an inventory that measures characteristics of the normal personality domain. It contains sixteen bipolar factors in which both ends of the continuum hold meaning. For the purpose of this study all of the following sixteen factors will be operationally defined by their determined sten score of the 16PF.

**Factor A (Warmth)**: A high score indicates a tendency to be involved with people while a low score indicates less social involvement.

**Factor B (Intelligence)**: A high score indicates higher reasoning ability while a low score indicates a lower reasoning ability.

**Factor C (Emotional Stability)**: A high score indicates the ability to manage events and emotions in an adaptive manner while a low score indicates a lack of control over life and a tendency to react to external events rather than make proactive choices.
Factor E (Dominance): A high score indicates a tendency to be vocal in expressing opinions while a low score indicates a tendency to avoid conflict by acquiescing to other’s wishes and opinions.

Factor G (Conformity): A high score indicates a tendency to strictly follow rules while a low score indicates an eschewal of rules and regulations.

Factor H (Social Boldness): A high score indicates little fear of social interactions while a low score indicates social timidity or shyness.

Factor I (Sensitivity): A high score indicates a tendency to base judgments on personal tastes and a reliance on empathy while a low score indicates an objective focus without taking others into account.

Factor J (Suspiciousness): A high score indicates an expectation to be mistrustful of other’s motives while a low score indicates an expectation to be treated with loyalty and fairness.

Factor N (Shrewdness): A high score indicates a personal guardedness while a low score indicates genuineness and willingness to self-disclose.

Factor O (Insecurity): A high score indicates a tendency to worry and be insecure while a low score indicates self-assurance.

Factor Q1 (Radicalism): A high score indicates a tendency for exploration while a low score indicates a comfort with the status quo.

Factor Q2 (Self-sufficiency): A high score indicates a tendency to maintain contact with others while a low score indicates enjoyment of time alone.

Factor Q3 (Self-discipline): A high score indicates a preference for organization while a low score indicates a tendency to leave events to chance.

Factor Q4 (Tension): A high score indicates restless energy and impatience while a low score indicates a tendency to be relaxed and less driven.

Limitations

1. The participants of this study were not randomly selected but rather consisted of female participants in the three week Career Quest program at The Florida State University, who had completed both assessment instruments used in this study, and who identified themselves as women. Therefore, results may not be generalizable to men.
2. The participants of this study were women who identified themselves as African American. Therefore, results may not be generalizable to racial, ethnic, and cultural groups.

3. The participants of this study depended on welfare aid. Therefore, results may not be generalizable to African American women who are not dependant on welfare aid.

4. The sample population for this study consisted of residents of north Florida. Therefore, the results may not be generalizable to other similar populations in other regions of the United States.

5. The instruments utilized to obtain and analyze the data are a self-report format. Therefore, they may be susceptible to social desirability, attributional errors or falsification of data because it is seen as an invasion of privacy.

6. The purpose of correlations studies is to understand patterns of relationships among variables. A multiple analysis of variance was used in this study to look at the relationship between career interests and personality factors. Therefore, the study will be limited in the extent to which causal inferences can be drawn regarding the variables of interests (Smith & Glass, 1987).

Summary

This paper is a review of the various theories of Career Development with an emphasis on Holland's (1985) RIASEC theory. The author will review its strengths and weaknesses when applied to women, minorities, and finally the specific population of unemployed African American females on welfare. It will then review the literature on assessed occupational interests, personality factors and assessment instruments as well as discuss their possible mutual relevance to the chosen population. Practical implications for theory development, career counseling, policy and welfare reform, and future research will be discussed.
CHAPTER II

LITERATURE REVIEW

This study was designed to investigate the relationship between career interests and personality characteristics in African American women on welfare. This chapter is a review of the existing theory and research relevant to the study that includes the welfare population, career theories with special attention to Holland's RIASEC theory that will be used for the purpose of this study, socioeconomic and race variables, and personality factor theories. A description and brief history of welfare is provided to serve as a knowledge base.

Aid to Families with Dependent Children (AFDC)

Aid to Dependent Children (ADC) was established in 1935 during the Depression as a matching grant program to enable states to care for needy children in their own homes (1935), to strengthen family life (1956), and to promote family self-support (1956). In 1962, the name was changed to Aid to Families with Dependent Children (AFDC).

In 1968 work requirements were instilled in an effort to halt the rise in the welfare population. This work requirement, called Work Incentive (WIN), set up work or training programs for recipients. The Family Support Act of 1988 replaced WIN with Jobs Opportunities and Basic Training (JOBS) and required states to engage most mothers with no child below the age of three in education, work, or training. After the establishment of JOBS there was a sharp increase in the percentage of mothers at school or training. It rose from 2% in 1988 to 14% in 1995 (Census Bureau, 1997).

The total number of families receiving benefits from AFDC in 1995 was 4,873,398. Of these families, 35.6% were labeled as White and 37.2% were labeled as Black. In the state of Florida, a total of 230,807 families received benefits with 33% White and 48.7% Black.
In 1995, 27% of the population lived in households in which a member received cash or non-cash aid. Cash welfare benefits were received by 27.2 million persons, or 10.3% of the population (Census Bureau, 1996). In 1996, the grant program called AFDC was repealed.

**Temporary Assistance to Needy Families (TANF)**

AFDC was replaced by a block grant to states for Temporary Assistance to Needy Families (TANF). TANF has enlarged state discretion in operating family welfare, and has ended entitlement of individuals to aid. Under TANF, states decide what categories of needy families to help. TANF is past due for reauthorization, with both the House and Senate bodies struggling to determine the future and form of assistance to needy families.

Recipients are required to work after 24 months in order to continue receiving aid. These work requirements, called the Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) have imposed several types of participation requirements on both individuals and states. States must outline how they will require a parent or caretaker receiving TANF to engage in work once they determine her to be job ready or she has received assistance for twenty-four months. It has forbidden the use of federal TANF funds to provide assistance to a family for more than sixty months in total and also has required that welfare recipients engage in “work” as defined by the state within twenty-four months. States must also meet rising standards for the proportion of TANF recipient work activities, which include; unsubsidized employment, subsidized private sector employment, subsidized public employment, work experience, on the job training, job search and job readiness assistance, community service, vocational educational training, job skills training, education related to employment, High School or GED completion, and the provision of child care services to an individual participating in a community service program.

PRWORA has encouraged states to move people into employment as rapidly as possible. This goal is a change in emphasis from the preexisting JOBS program, which encouraged education and training for recipients. It adopted a work first philosophy and people are encouraged to find jobs immediately. The program only provides brief job readiness training
programs, job search assistance, and job placement services to welfare recipients. Opportunities to receive education and training are limited. This change is unfortunate as research has found that formal education is translated into job skills and is an important component of occupational level and status (Goodwin, 1983). An individual’s lack of education was found to limit her earning potential and employability. Single mothers receiving welfare aid who had earned a high school diploma were 75% more likely to exit welfare as compared to mothers who did not complete high school (Harris, 1991). Welfare-to-work program outcome studies show that while there has been a dramatic decrease in the number of recipients, most welfare leavers have obtained low-wage jobs that do little to improve their long-term career outcomes (Fremstad, 2004).

Welfare Population

Historically, in 1960 1.7% of the total population received benefits. That number rose steadily until the late 1970s. In the 1980s numbers dropped slightly and remained fairly constant between 4.9–4.4%. In the 1990s it again began to rise and peaked in 1995 at 5.2%. It has since declined dramatically to 1.7% in 2002 (Population Resource Center, 2003) (the lowest in over 40 years) due largely to Welfare Reform in 1996.

Despite civil rights laws and affirmative action, the poor are more likely to be a racial or ethnic minority or live in a female headed family. In 2002, 39% of all AFDC recipients were Black, and of all Black women, 24.9% were below poverty level (Population Resource Center, 2003). Single parent families have fewer breadwinners than married couples and are headed mostly by women. Women earn less than men, on average, in part because of differences in average educational levels and years of work experience, but also because of traditional gender bias in salary levels. Of all Black female heads of households with no spouse present, 35.2% were below the poverty level (Current Population Survey, U.S. Census Bureau, 2002).

Finally, single mothers with dependent children have, on average, lower levels of education attainment than married mothers, which further hinders employment opportunities (Population Reference Bureau, 1997). Educational attainment has been shown to be one of the most powerful personal characteristics that protect people from poverty (Harris, 1991). Single
mothers with little education find it difficult to find a job that pays enough to cover child care. Declines in the wages within the low-skill job sector, and increased size of population groups that run a high risk of being poor, such as female headed families and racial minorities, are cause for concern (Population Reference Bureau, 1997).

Long term welfare users often lack the education, skills, or work experience to obtain stable employment that pays enough to sustain their families. These users constitute the greatest policy challenge, and are the focus of most current efforts to move people from welfare into the work force. However, this task is not easy. Even the most successful welfare programs have met with limited success, and success was often determined by the strength of the local economy. The statistics point out that this is a population in need. If we are to assist in helping Black women on welfare with career counseling, psychological support, and career building skills, then we must understand the dynamics of their career development.

Career Theories

Holland’s (1985) RIASEC theory as well as other current career development theories is reviewed with special regard to their relevance to female racial and ethnic minorities. A review of the extant literature regarding findings regarding their career interest structure are also provided.

Psychoanalytic Theory

Roe (1957) approached career development from a psychoanalytic perspective. She proposed that occupational choice is a function of personality characteristics. Occupation, more than any other single situation, is potentially capable of satisfying needs, values personality style, and even psychopathology. She believed that in the United States, social and economic status depends almost exclusively on occupation. Roe’s theory is deterministic in nature and has five components which determine occupational choice:

1. Genetics places limitations on potential development and abilities.
2. Environmental experiences such as family and SES modify inherited traits.
3. Early childhood experiences interact with genetic predispositions.
4. The general style in which needs are met affect inclinations to move towards persons or not towards persons.

5. An individual's need intensity determines the degree of motivation.

Roe divided occupations into seven classifications. She later admitted the theory's classification system was only applicable to women with a full-time career and did not address minority issues (Roe, 1990).

Developmental Theory

Ginzberg (1952) believed that occupational choice is based on a series of decisions made over a ten year period. Career development follows an orderly and predictable pattern, and is marked by a progression through a series of life stages. The current vocational stage must be negotiated before the next one can be addressed. The three stages are fantasy, tentative, and realistic. The fantasy stage is negotiated through play and constrains aspirations to the father's occupation and parental suggestion. The tentative stage incorporates the child's interests and values with little attention to abilities or other realistic limitations (Trice et al., 1995). The realistic stage is marked by focusing on a choice, making a commitment, and implementing the chosen career. This occupational choice pattern is an irreversible process that involves a compromise of job availability, abilities, interests, and values.

Super (1969), the leading developmental career theorist, purported that occupational choice is a continuous process and involves the development of self-concept and its implementation in the world of work. He believed that individuals have multi-potentiality, or the ability to be successful in multiple occupations. Super accordingly categorized occupations according to interests, abilities, and skills.

There are five stages through which an individual proceeds. The growth stage marks the beginning of the development of self-concept. During the exploration stage an individual tries out his self-concept in both work and non-work situations. In the establishment stage the individual gains position in the world of work. The maintenance stage is marked with a developmental dilemma of whether to help others in the field or strive to remain competitive. The stage of decline is the process in which the individual moves towards non-work activities to fulfill his self-concept. Super's Lifespan/Lifespace Model proposed that an individual plays a variety of roles throughout life that wax and wane as he moves forward.
Super based his model upon studies predominantly composed of white males (Hunt, 1967; Maier & Herman, 1974; Super, 1951; Super, 1953; Super, 1954; Super & Overstreet, 1960). Super did not directly incorporate sex and race into his model he recognized that these and other demographic factors affected self-concept (Super, 1990) His postulation that career choice is an implementation of that self-concept implies a link between career interests and personality factors.

Social Learning Theories

Krumboltz's (1981) Social Learning Theory is based on Bandura's (1977) theory of Social Cognitive theory and applies directly to the career decision making process. Krumboltz attempts to address both internal and external factors and how they influence occupational choice and behaviors. Interactions between factors such as inherited qualities and attributes such as race, sex, and handicaps; environmental conditions and events beyond an individual's control such as natural disasters, and political, social, and economic climates; learning experiences and; task approach skills produce three outcomes. These are new task approach skills, self-observation generalizations and actions that are relevant to the career decision process. While race and gender are addressed as inherited qualities, Krumboltz does not address how these characteristics may influence career choice or personality development.

Gottfredson (1981) postulates that the main role of childhood in the career decision process is to eliminate occupations on the age specific themes of size and power, sex roles, and social valuation. Rather than experiencing increased opportunities for career exploration, as children gain a better understanding of themselves and the work society, they restrict their occupational choices.

She proposes this process develops in four stages. In the orientation to size and power, three to five year olds recognize size and power differences between themselves and adults, and that adults have occupational roles. In the orientation to sex roles, six to eight year olds learn to categorize occupations by sex appropriateness and discard those that are not acceptable for their sex. During the orientation to social valuation, children ages nine to twelve become cognizant that social class and intelligence level produce distinctions between themselves and others. Occupations are then accepted or discarded on the basis of the child's perception of his ability. Occupations with unacceptable prestige levels are also discarded at this time. Once an adolescent
gains an orientation to internal, unique self, she eliminates occupations incompatible with interests, abilities, and values (Trice et al., 1995).

Gottfredson felt adolescents use three criteria to organize their career knowledge: perceived sex type, perceived prestige level, and willingness to exert the effort perceived necessary. In other words, young women may rule out career options that are not compatible with her emerging gender identity. In this process she may sacrifice talents in order to remain consistent with her self-concept (Trice et al., 1995).

While Gottfredson (1981) addresses variables such as social class, intelligence, and sex, she asserts that race can be subsumed in the model. She bases this assertion on research concluding that the same general pattern of development and differentiation are found in blacks and whites. She feels that many racial differences are based on research that failed to control for differences in social class and intelligence.

Betz and Hackett (1981), like Krumboltz (1981), also use Bandura's (1977) model of Social Cognitive theory. They not only apply it to the realm of career but take it a step further. They suggest there are self-efficacy and socialization-based differences between females and males that contribute to female underrepresentation in male dominated occupations (Mathieu, Sowa, & Niles, 1993). This differential sex-role socialization prevents women from gaining equal access to information from which self-efficacy expectations are acquired. Therefore women acquire lower and weaker career related efficacy expectations. Their range of options and utilization of abilities are thus restricted (Brooks, 1990) because beliefs of self-efficacy strongly influence whether a behavior will be initiated, the amount of effort expended on the behavior, and the duration the behavior will be maintained in the face of obstacles.

Hackett and Betz (1981) emphasize Bandura's (1977) concept of outcome expectations in career choice and assert that outcome expectations can have an independent influence on whether a given behavior will or will not be performed. For example, a women may believe she has the abilities required to be promoted to a CEO, but does not believe she would be given the promotion if she applied, as the company would rather promote a man.

Hackett & Byars (1997) later discuss the application of the Social Cognitive Theory to the career development of African American women. They feel that Black women may carry a “double jeopardy” because of racism and sexism they have experienced, which differentiates
them from Black men and White women (Beale, 1970). Their history of slavery in the United States also serves to differentiate them from other racial and ethnic minority women (Cheatham, 1990).

**Trait and Factor Theory**

Holland’s (1985) theory asserts that individuals want work environments that match their personality. In other words, job choice is a function of personality. His theory makes four assumptions:

1. Individuals differ in personality, abilities, and interests.
2. Different individuals are suited for different occupations.
3. Different occupations have people of different personalities.
4. People in similar occupations have similar interests and differ from people in other occupations.

Based on these assumptions, Holland’s theory has four tenets:

1. Individuals can be categorized into six personality types: realistic, investigative, artistic, social, enterprising, and conventional.
2. Work environments can be classified into the same six types by studying the people who work in them.
3. Individuals look for occupations that will allow them to express their personalities.
4. An individual’s behavior is determined by the interaction of personality type and the characteristics of the environment.

The characteristics of each type are as follows: The Realistic type has mechanical inclinations, reserved and stubborn, exhibits low insight, and prefers activities involving systematic manipulation if machinery or tools, such as a truck driver, carpenter, or machine operator might engage in. The Investigative type is analytical, intellectual, inquisitive, precise, thorough, scholarly, scientific, and studious. These individuals prefer systematic observation and manipulation of physical, biological and cultural phenomena. Examples of careers are that of a biologist, chemist, mathematician, or physicist. The Artistic type individual is creative, idealistic, dreamy, imaginative, rebellious, sensitive, non-conforming. She/he prefers ambiguous, unsystematized activities, such as those engaged in by an artist, musician, or writer.
Social individuals are friendly, understanding, trusting, social, warm, and helpful. They prefer to inform, train, develop, cure, or enlighten others. Examples of careers chosen by Social types might be a teacher or therapist. The Enterprising individual is ambitious, aggressive, shrewd, sociable, confident, dominant, and persuasive. They prefer to attain self-interest goals, characterized by such occupations as salespersons, politicians, and business executives.

Conventional individuals are practical, conforming, methodical, meticulous, and unimaginative. They prefer to order or manipulate data, and occupy careers such as secretary, bank teller, clerk, and accountant.

Holland (1985) identifies intelligence, sex, and social class as important influences on how stability and change occurs in career choices because they affect the development of an individual’s personality, or the type that one becomes. He views his theory in a hexagonal model, as seen below. Holland believes the mathematical relationships with regard to the six interest types in the hexagonal model are equidistant.

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      R       I
   C   A
     E S
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The degree of congruence, or agreement, between an individual’s personality type and an occupation (environment) can be estimated by this hexagonal model. The shorter the distance between the personality type and the occupation type, the higher the congruence.

The degree of consistency is also defined by the model. Adjacent types on the hexagon are most compatible. For example Realistic-Investigative rates high in consistency as they lie adjacent to each other in the hexagon model. Opposite types, such as Realistic-Social are the most inconsistent (incompatible) in interests, personality characteristics, or work environments. High consistency is also assumed to be conducive to vocational achievement and stability.

Differentiation is the extent to which an individual resembles a pure type. Some individuals may show resemblance to only one type or conversely, she may show resemblance to many of the six types. Highly differentiated people or work environments are most likely to exhibit the characteristics attributed to their type.
Holland (1985) has asserted that gender, racial, socioeconomic, regional and age differences in career interests are reflective of social reality and not an indicator of bias in his theory. Research seems to support his assertion.

Summary

Currently, there are no career theories that exclusively address career interest development in racial and ethnic minorities. Several of the theories discussed fail to address this issue while others addressed sex, race and SES as some of the many relevant factors in understanding career interests. A few of these theories have been modified or enlarged with varied success to incorporate these variables. As no comprehensive theory for the career development specifically for minorities has been developed, it comes as no surprise that even less attention has been given to the unique career issues of Black women.

Career theories are fairly consistent in their failure to directly address the manner in which gender, race and socioeconomic status could affect career development. To date only Hackett and Betz (1981) have theorized about unique career development patterns of African American women. However, Holland's theory does not discount that African American women may have different career development patterns. Holland recognizes that characteristics such as race, gender and socioeconomic status may influence personality variables and therefore ipso facto career interests.

Holland's Career Instruments

The Strong Vocational Interest Blanks is discussed because it is one of the first career assessment instruments and later utilized Holland's six interest types. The Vocational Preference Inventory (VPI; Holland, 1958) led to the definition of and refinement of the six types (Holland, 1959). He found that each type required compatible occupations (environments) that were defined by the VPI profiles (1966). In 1969 Holland discovered the hexagonal order of RIASEC and reorganized his theory accordingly. This reorganization is what made the Self-Directed Search (SDS; Holland, 1971) possible.
The Strong Interest Inventory (SII), called the Strong Vocational Interest Blanks (SVIB) for Men, was one of the first interest inventories constructed. It was developed in 1927 by E. K. Strong, Jr. who had formerly been a military psychologist. This tool was later modified into the Strong-Campbell Interest Inventory (SCII; Hansen & Campbell, 1985) that used Holland’s RIASEC typologies. Its most recent 1994 edition is named the Strong Interest Inventory (Harmon, Hansen, Borgen, & Hammer, 1994).

The SII makes two assumptions. First, that typical day-to-day activities of a specific occupation are reflected in the interests of people employed in them. Second, individuals who have a similar interest pattern to employees of a particular occupation will be satisfied in that occupation if they have the necessary knowledge and abilities.

The recently updated 1994 edition by Harmon et al. (1994) is very similar to its predecessors. It is appropriate for high school, college, and adult populations. Its 317 items inquire about an individual’s interests with regard to occupation, hobbies, leisure activities, school subject, and types of people. Each item provides a choice of three responses that is marked on an answer sheet. The responses are computer analyzed to derive scores on interest scales. These results are printed out in a Profile that offers interpretations.

The SII compares an individual’s response patterns to people in different types of occupations. This comparison allows it to make assumptions about what occupations that individual might find satisfying.

The SII provides both male and female General Reference Samples (GRS) so results can be interpreted in reference to gender membership for 102 Occupational Scales (Harmon et al., 1994). It also includes samples of approximately 2400 racial and ethnic minority group members comprised of African-Americans, American Indians, Asians, and Latino/Hispanics.

Five types of information are provided in the profile. The first is scores on the six General Occupations Themes (GOT) that correspond to Holland’s RIASEC types. The second is scores on 25 Basic Interest Scales (BIS), which reflect consistency of interests as well as aversions. Third, it provides scores on 211 Occupational Scales that represent 109 different occupations and indicate the degree of similarity between the individual and men and women who work in those occupations. Fourth, scores on four Personal Style Scales which measure the
style in which the individual likes to learn, work, assume leadership and take risks. Finally, it offers scores on three types of Administrative Indexes that aid to identify invalid or unusual profiles.

**Validity and reliability.**

Test-retest reliability for the six General Occupations Themes (GOT) was found to be between .84 and .92 for employed adults with an interval of three to six months. College students with a one month retest interval ranged from .84 to .88 and .74 to .91 for a three month interval for the respective six scales. Authors report strong evidence of convergent validity with the Vocational Preference Inventory ranging from .72 to .79 for the RIASEC typologies (Harmon et al., 1994). Test-retest reliability for the Basic Interest Scales (BIS) was found to range from .82 to .94 in the sample of employed adults with a three to six month interval. College students with a one month interval ranged between .81 and .93 while those with a three month interval ranged from .70 to .91. Authors assert construct and concurrent validity is evidenced by the comparison of scores of people who are currently in different occupations. These scores tend to correspond highly with the scales relevant to their occupations while they show much variance from different occupations. Authors report that predictive validity is not as good as concurrent validity but assert that predictive validity increases with the consistency of the five types of scales in the profile (Harmon et al., 1994).

The Occupational scales showed that three to six month test-retest intervals for employed adults to ranged from .80 to .95; .70 to .93 for college students with a one month interval and .71 to .96 for college students with a three month interval. A follow-up study to Johnson & Johansson (1972) found that higher consistency found between the Occupational and the Basic Interest Scales increased the predictive validity of occupational outcomes. Internal consistencies of the Personal Style Scales were found to be .91, .86, .86, and .78. Test-retest reliability statistics were .85 to .92 for employed adults retested at a one month interval; college students with a one month interval were between .83 and .91; and college students at a one month interval was between .81 to .89 (Harmon et al., 1994).

The SII does have its limitations. The creators warn that the SII is purely an interest inventory and provides no data on abilities. It is also limited by the stability of the interests in the
population against which it is compared. Additionally, while the profile is largely self
explanatory, the use of a vocational counselor to aid in the interpretation process is suggested
(Harmon et al.).

**Vocational Preference Inventory (VPI)**

Holland has described the VPI as a personality inventory entirely composed of
occupational titles. It has undergone eight revisions to its current 1985 edition. He reports that
the last three revisions have seen few changes as it was difficult to improve the item pool. The
few item changes were done in order to bolster low response rates by females (Holland, 1985b).

The VPI has 160 items and contains eleven scales: the six RIASEC interest scales; a Self-
Control (SC) Scale; a Masculinity-Femininity (Mf) Scale; a Status (St) Scale; an Infrequency
(Inf) Scale; and an Acquiescence (Ac) Scale. As the six RIASEC interest types already have
been discussed in some detail, only the last five scales will be discussed.

High scores on the Sc scale indicate individuals who habitually inhibit impulses to act out
in behavior, thinking, or fantasy. They are constricted, passive, and responsible. Low scores
indicate impulsivity and a tendency to “act out”.

High scores on the Mf scale indicate the frequency choice of traditionally masculine
occupational roles, while low scores indicate a preference for traditionally female occupational
roles. This scale has been used to estimate how sex-typing has been incorporated into an
individual’s occupational thinking.

High scores on the St scale indicate a preference for vocations with high prestige.
Holland has reported that scores are positively correlated with an individual’s social origin and
self-esteem.

High scores on the Inf scale indicate a preference for unpopular, female-dominated, low
status occupations. Low scores indicate personal effectiveness.

High scores on the Ac scale indicate a well integrated individual with many interests.
Extremely high scores can indicate poor judgment and lack of personal integration. The primary
purpose of this scale is to detect extreme response biases that may need to be addressed with the
client.
Validity and reliability.

The VPI has successfully differentiated among several criterion groups such as normals, psychopaths, psychiatric patients, and TB patients (Holland, 1958) and psychotic and non-psychotic patients (Fairweather et al., 1960). The Social, Investigative, and Artistic scales have been significantly correlated with supervisory ratings of counselor effectiveness (Wiggins & Weslander, 1979). The VPI scales have been shown to correctly classify 42% in a sample of 400 men (Hughes, 1972). The VPI scales also predicted desired job over a one year interval for 41.5% (males) and 40% (females) for 483 high school students (Power, Pretty, Kelso, & Taylor, 1978).

Holland (1985) reports moderate to high reliability. Internal consistency coefficients range from .81 to .91 for the interest scales and .53 to .81 for the remaining scales. Test-retest studies have shown interest scale reliability coefficients to range from .71 to .83 at two weeks and .57 to .84 at two months. The remaining scales range from .66 to .79 and .62 to .80 for women for the same time periods. Holland reports that the Infrequency, Acquiescence, Self-Control, Masculinity-Femininity, and Status scales have moderate construct validity but are not comparable to other inventory scales.

The VPI has shown lower concurrent validity than the SDS (Bingham & Walsh, 1978; Matthews & Walsh, 1978; Walsh, Bingham & Sheffey, 1986; Walsh et al., 1983; Ward & Walsh, 1981). Additionally, Holland (1985c) reported that the VPI is less comprehensive and is oriented to the needs of clinicians, whereas the Self-Directed Search, the final inventory to be discussed, is comprehensive and geared toward the test-taker.

Self-Directed Search (SDS)

Holland’s Self-Directed Search (1985) is the most widely used interest inventory in existence (Spokane & Holland, 1995). It is a staple of the professional working with clients who have career issues. It is an occupational interest measure that helps the client ascertain what his or her interests and abilities are. The SDS is a self-administered, self-scored, and self-interpreted career counseling tool.

Holland felt it was an improvement over the VPI because it could be used without the aid of a counselor and was more comprehensive in that, rather than just measuring interests, the SDS contained scales to assess an individual’s occupational daydreams, activities, occupations, and
self-estimates of ability within the RIASEC typologies. From these sections, the individual can assess his three point summary code, which is a hierarchical list of his three highest scores of the six RIASEC categories.

The SDS begins with an Occupational Daydreams section. This asks that the person their historical to present career aspirations. This section was included because Holland found that the predictive validity of an individual’s stated aspirations held better predictive ability than the high-point code of the VPI or selected scales from the SVIB. It emphasizes the importance of a person’s self-direction and is useful to compare the SDS assessed interest three point code.

The six Activities scales measure the personal involvement and the potential that are characteristic of each personality/environment type. Gottfredson & Holland (1975) found they had moderate predictive validity over one and three year intervals.

The six Competencies scales estimate an individual’s proficiencies and aptitudes for each occupational type. Kelso, Holland, & Gottfredson (1977) found these scales have low but statistically significant correlations with the Armed Services Vocational Aptitude Battery (ASVAB; Department of Defense, 1984).

The six Occupations scales contain many of the same items as the VPI Occupational scales. These scales also correlate with the SVIB (Holland, 1975).

The Self-Estimates scales include self-ratings of abilities identified with only one occupational type. This section has also been shown to correlate with the ASVAB (Department of Defense, 1984).

Validity and reliability.

The research on the SDS’s validity and reliability with normed populations has been extensive, addressing both college and employed adult populations. Most of this research aimed at establishing the validity of the SDS for groups within these populations such as males, females, blacks, and whites.

In a sample of 521 females and 297 males aged 14 to 74, the SDS showed internal consistency coefficients to range from .59 to .92 for the sections and .84 to .92 for the summary scales. Test-retest reliabilities of the summary scales ranged from .57 to .78 after a four year time interval in a sample of 540 college students (Holland, 1985c).
The revisions in the SDS from 1971 to 1985 edition resulted in item content improvement and ease of use. Holland asserts that the item content is applicable to both genders in a wide age range (Holland, Fritzsche & Powell, 1994).

The SDS was chosen by the developers of Career Quest because of its advantages over other career interest measures. Its required reading ability level was conducive/appropriate to the chosen population. Its method of self-scoring is straightforward, convenient, and cost effective as no counselor or computer analysis is required. It is organized in such a manner as to facilitate the client’s development of a concept of her interests and abilities in the career milieu. Finally, it is the most widely researched career interest measurement ever developed which provides the largest research base.

**Holland’s Theory & Women**

Because Holland’s theory was originally developed from male samples, and many women have joined the workforce since the advent of his theory, much attention has been given to its applicability to women in the world of work. Most researchers have examined the various instruments developed to operationalize his theory and have drawn inferences about the applicability of the theory based on their findings. In general, researchers found that the theory’s principles are valid for women. These findings are consistent for populations of both college educated and non-college educated working women. Some researchers have investigated the similarities and differences between women and men. Holland acknowledges these differences and believes they are a true reflection of personality differences between men and women, rather than any gender bias in his theory. Most research findings support this assertion because men and women in the same occupation score similarly on Holland’s assessment tools. This section reviews these studies that have addressed the applicability and dynamics of career interests in women.

**Validity for Women**

Werner (1969) examined the construct validity of Holland’s theory for 348 selected working women using the VPI (Holland, 1972) and the Employed Women’s Questionnaire, a measure of role choice and job satisfaction. The women held jobs as production workers
(Realistic), research scientists and technicians (Investigative), writers, interior decorators and commercial artists (Artistic), teachers (Social), supervisory persons or managerial professions (Enterprising), and bank employees (Conventional).

He found that 303 of the women had VPI scores that were congruent with their Holland career type. Werner concluded that Holland's theory, according to his study, accurately described women's career interests. This study was the first major investigation of women's career interests and the applicability of Holland's theory for women. It also had a sample size large enough to lend strength to its findings.

Harvey and Whinfield (1973) conducted a study to investigate whether Holland's theory was applicable to 61 adult women. A correlational analysis was done between the VPI and selected scales from these four instruments: the Strong Vocational Interest Blank for Women (SVIB-W; Strong & Campbell, 1966); the Edwards Personal Preference Schedule (EPPS; Edwards, 1959); the Allport-Vernon-Lindsey Study of Values (SOV; Allport, Vernon & Lindsey, 1970); and the Differential Aptitude Test (DAT; Bennett, Seashore & Wesman, 1966).

Results found support for Holland's Realistic scale with a significant positive correlation with the SVIB-W ENGINEER and a significant negative correlation with the SOV SOCIAL scale. While the two other measures did show tendencies in the expected directions, they were not statistically significant.

Results found support for Holland's Intellectual scale in three of the four measures. Only the SOV SOCIAL scale failed to show a significant negative correlation. Results showed support for Holland's Conventional scale with a positive correlation with the SVIB-W STENOGRAPHER-SECRETARY and OFFICE WORKER and the SOV ECONOMIC scale.

The Enterprising scale showed a positive correlation with the SVIB-W LIFE INSURANCE SALESMAN and BUYER, the EPPS ACHIEVEMENT and NURTURANCE scales and the SOV ECONOMIC scale. The EPPS dominance and Aggression scales were meaningfully related but did not reach statistical significance. Holland's Artistic scale was supported by the significant negative correlation with EPPS ORDER and the significant positive correlation with SOV AESTHETIC. As neither the DAT nor the SVIB-W showed significant correlations with the VPI's Artistic scale, the authors questioned the support for its validity in this group of women. It is important to note that the study failed to find statistical support for
Holland's Social scale. The authors suggested that it may not have been tapping commonly assumed characteristics related to the Social type in this sample of women.

This article was important because it was the first study to look for correlations between Holland's six career scales using several of the other dominant measures in the field at the time and established the importance of the study of women's career interests. The fact that many expected correlations failed to appear may have been attributable to the small sample size, or because the VPI has been shown to be less accurate in measuring Holland's theory than the later developed SDS (Bingham & Walsh, 1978; Matthews & Walsh, 1978; Walsh, Bingham & Sheffey, 1986; Walsh et al., 1983; and Ward & Walsh, 1981).

Horton & Walsh (1976) investigated whether the VPI and the SDS measured the same constructs in a sample of 179 employed college degree women. Only participants having two or more years experience in their current occupation were included in the study. Women who held jobs as engineers (N=41), physicians (N=38), architects (N=25), ministers (N=20), lawyers (N=32), and certified public accountants (N=23) were administered both the VPI and the SDS. Based on Holland's theory, these researchers anticipated that engineers would score higher on the Realistic scale, the physicians on the Investigative scale, the architects on the Artistic scale, ministers on the Social scale, lawyers on the Enterprising scale, and the CPAs on the Conventional scale.

Results of a MANOVA across the 12 scales were significant, thus demonstrating differences between the six occupational groups. A univariate analysis found that both the VPI and SDS successfully differentiated between all six occupational groups among these women.

Holland has categorized occupations according to three-point codes based on his theory. For example, the three-point code for physicians is IRS. Horton and Walsh used a one-point code for occupational groups and expected the occupational groups to score highest on the predicted scale. In a secondary analysis, a Tukey b test (Winer, 1971) was used to investigate whether the occupational groups received their highest scores on the expected code. In this secondary analysis of the VPI and the SDS, the researchers found both confirmation and deviation from the expected results. A limitation of this study is its dependence on the score of a single scale to evaluate the appropriateness of each of the occupational types. Holland (SDS, 1985c) suggests the use of two or more scales to predict occupational group membership.
In general, the findings indicated that both the VPI and SDS correctly identified occupational groups of women, demonstrating that Holland's theory was applicable to employed women with a college degree. Because this study was the first to investigate Holland's theory using the SDS in a sample size over 100 women, it provided the statistical strength lacking in many other studies reviewed and established the SDS as a viable assessment tool.

Matthews and Walsh (1978) investigated whether the VPI and the SDS measured the same constructs in a sample of 114 employed non-college degreed women. Only occupations with a maximum of high school, business or technical were included in the study. Women who held jobs as assemblers (N=19), laboratory technicians (N=15), floral designers (N=19), ward technicians (N=20), salespersons (N=20), and clerk-typists (N=21) were administered both the VPI and the SDS. Based on Holland's theory, these researchers anticipated that assemblers would score higher on the Realistic scale, the laboratory technicians on the Investigative scale, the floral designers on the Artistic scale, ward technicians on the Social scale, salespersons on the Enterprising scale, and the clerk-typists on the Conventional scale.

A MANOVA was used to investigate differences between the six different occupational groups. Results for the VPI showed differences between the Realistic, Artistic and Social groups (p < .01), but not the Investigative, Enterprising and Conventional groups (p < .05). The SDS successfully differentiated between all six occupational groups at p < .01.

Similar to Horton and Walsh's (1976) study of employed college educated women, a limitation of this study is its dependence on the score of a single scale to evaluate the appropriateness of each of the occupational types. Holland (1985) suggests the use of two or more scales to predict occupational group membership. This study demonstrated the usefulness of Holland's theory for non-college-degrees employed women. It was also the first of several studies to establish the SDS as the superior measurement tool of his theory.

Walsh, Woods and Ward (1986) investigated whether the VPI and the SDS measured the same constructs in a sample of 88 employed non-college educated women in three of Holland's occupational types. The sample was employed as maids (N=26), florists and dancers (N=26), and teacher aides (N=36). All women in the sample responded to the VPI and the SDS, had not completed more than two years of college and had a minimum of one year experience in their current occupation. Based on Holland's theory, these researchers anticipated that maids would
score higher on the Realistic scale, florists and dancers on the Artistic scale, and the teacher aides on the Social scale. Using a MANOVA across the three scales, researchers found significant differences between the three occupational groups for both the VPI and the SDS. A univariate analysis found that both the VPI and the SDS successfully differentiated between the Realistic and Artistic occupational groups (p < .01), but not the Social group. This finding may be attributable to small sample size.

In summary, all of the previously reviewed studies provided some support for the usefulness of Holland’s theory with employed women. They all demonstrated more similarities between women within the same occupations and differences between women in different occupations. While study results indicated differences in career interests between men and women, the two sexes within the same occupational groups tended to show more similarities than differences.

A recurring limitation was the use of only the highest mean score to determine the appropriateness of occupational group membership. Holland (1985c) incorporates the use of two or three scales to predict occupational group compatibility. The studies may have yielded different results if a two- or three-point occupational code had been analyzed. Another limitation of some studies was sample size. After the participants are categorized into their respective occupational groups, it is difficult to be certain that these studies carried the statistical power to return meaningful results. Larger samples may have revealed relationships not found in the smaller samples. Finally, all of the studies examining the usefulness of Holland’s theory with women are dated. No recent studies of the dynamics of Holland’s theory pertaining to women were found. Economic necessity, societal norms and occupational opportunities have changed in the last twenty years. It is possible that if similar studies were conducted using women in the workforce today, different results may manifest.

Comparison of Women and Men

Alston, Wakefield, Doughtie, and Bobele (1976) investigated similarities between female and male responses on both the VPI and the Adjective Checklist (ACL) that were developed from Holland's theory. Both measures were administered to ninety-two women and eighty-two men attending a state university. A principal component Varimax rotation was performed for each measure. The cosines for the eleven VPI scales for the women and men had a cosine mean
of .87 for the six personality types. The authors concluded that the constructs measured by the adjective checklist and the VPI assess the same constructs for both women and men. This study is one of the earlier attempts to measure construct validity of Holland’s theory for women as well as men by comparing the two groups. The study’s use of a small sample size as well as its age makes it less viable on which to base general conclusions.

Henry, Bardo and Bryson (1986) investigated whether gender would have an effect on response patterns on Holland’s six personality types for non-traditional premedical students. The SDS was administered to 57 Black students (27 males and 30 females) and 43 white students (26 males and 17 females). A MANOVA was performed to examine the effect of sex on the mean RIASEC scores. Results revealed differences between men and women. Follow up analysis of the individual types revealed no differences for Artistic, Social, Enterprising or Conventional. However, women obtained lower scores on both the Realistic and Investigative scales. Researchers concluded that SDS results for females and males should be analyzed separately in nontraditional medical students.

In summary, studies have shown that Holland’s theory is valid and can be successfully applied to the career interests of women. While differences were found between the sexes, women and men in the same occupation had similar scores on Holland’s assessment instruments. A recurring problem with the existing literature is that many studies are dated, use small sample sizes and fail to take socioeconomic factors into account. It is necessary to correct these problems in order to obtain a more accurate reflection of women’s career interests in relation to men’s.

**Holland’s Theory and African Americans**

Because Holland’s theory was originally developed from white male samples, much attention has been given to its applicability to African Americans in the world of work. Holland’s theory has generated more career research on African Americans than any other existing career theory (Brown & Brooks, 1990). Most researchers have examined the various instruments developed that operationalized his theory and have drawn inferences about the applicability of the theory based on their findings.
In general, researchers found that assessment instruments developed from Holland’s theory are valid for African Americans. These findings are consistent for populations of both college educated and non-college educated, working African American men and women. Some researchers have investigated the similarities and differences between Black and white sample populations. While less pronounced than gender differences (Brown & Brooks, 1990), Holland believes these differences are a true reflection of personality differences between the races rather than bias in his theory. Most research findings support this assertion in that Black men and women in the same occupation score similarly to the same gender as whites on Holland’s assessment tools. This section reviews these studies that have addressed the applicability and dynamics of career interests in African Americans.

*African Americans and Whites*

Several studies have found that Blacks showed a tendency to score higher on the Social scale than whites. (Hager & Elton, 1971; Kimball, Sedlacek & Brooks, 1973; Doughtie, Chang, Alston, Wakefield & Yom, 1976; Miller, Springer & Wells, 1988). Hager and Elton (1971) compared the vocational interests of Black and white male college freshmen. They hypothesized that Blacks would show higher interest in the social service occupations than their white counterparts. They administered the Strong Vocational Interest Blank (SVIB) (Strong, 1959) to one hundred-fifty white male freshmen and to forty Black male freshmen. Researchers found that Black males did score significantly higher on the social service vs. science occupations than whites. The median family income for the whites was $4000 while the median income for Blacks was $3400, suggesting differences in the SES of these two groups. This difference may be a confounding variable that must be taken into account when assigning significance to this study. Another limitation is the small sample size of the Black freshmen group.

Kimball et al. (1973) investigated first, second and third choice summary codes in 286 incoming freshman, half of whom were Black. Black students scored significantly higher on the Social scale and significantly lower on the Realistic and Conventional scales than whites.

Doughtie et al. (1976) administered the VPI to 115 Black and 122 white college undergraduates. They compared the two groups, using discriminant analysis, and found significant differences in responding between Blacks and whites. The Black sample scored higher than the white group on the Social, Enterprising, Conventional, Self-Control, and
Infrequency scales. The white sample scored higher on the Masculinity scale. This study is important because, unlike other studies, it uses a sample size large enough to make the statistical findings meaningful.

Henry et al. (1986), reviewed in the previous section, investigated whether race or the interaction of race and sex would have an effect on response patterns on Holland’s six personality types for non-traditional premedical students. A MANOVA was performed to examine the effect of race by sex on the mean RIASEC scores. Results revealed no main effect for race. Thus, there were no differences between Black and white premedical students responses on the SDS. While the study’s research question was admirable, small sample size makes the significance of the findings suspect.

Henry, Bardo, Mouw, and Bryson (1987) investigated whether race would have an effect on response patterns on Holland’s six career interest types for non-traditional premedical students. The SDS was administered to twenty-nine Black premedical students (15 males and 14 females) and thirty-one (19 males and 12 females) White premedical students. Individual tests found no racial differences in responding between Black and White students across the six personality types (p<.05). This finding indicates that Holland’s theory is as applicable to Black premedical students as white premedical students. However, the small sample size makes the power of these findings questionable. Additionally, the findings only pertain to premedical students and may not be generalized to other populations.

Ford-Richards (1992) investigated possible differences in career interests between Blacks and whites and whether any differences could be accounted for by interactions between race, gender, age, and education. The sample consisted of 536 Whites (178 males and 358 females) and 84 Blacks (28 males and 56 females) ranging from fifteen to forty-nine years of age. All subjects completed the Strong Interest Inventory (SII; Hansen & Campbell, 1985).

Results revealed no significant two-way interactions between Race and Gender, Age or Education. Significant differences were found between Blacks and Whites for the Realistic, Investigative, Enterprising and Conventional occupational types. Blacks scored significantly lower on both the Realistic and Investigative types (p<.01) and significantly higher on both the Enterprising and Conventional types (p<.01). These findings are consistent with Holland’s theory.
Africans Americans

Miller et al. (1988) investigated whether or not the tendency of Blacks to move into the Social vocational environments begins in the early teens. The SDS was administered to 65 Black youths (39 males and 26 females). Researchers hypothesized that most would score highest on the Social scale. It is interesting to note that all subjects were from a lower SES as measured by mean family income and eligibility in a free lunch program in their schools. Subjects ranged between 14 and 17 years of age.

Results revealed that nearly 74% of the sample attained their highest score or second highest score on the Social scale. Thirty-eight percent of the sample obtained their highest score or second highest score on the Conventional scale, 34% on the Enterprising scale, 29% on the Realistic scale, 19% on the Artistic scale, and less than 1% on the Investigative scale. The authors speculate on the possible explanations for this high representation of the Social scale. Unfortunately, the sample size is too small to draw any generalizations to other populations.

Validity for African American Women

Bingham and Walsh (1978) investigated the usefulness of both the VPI and the SDS in a group of 93 Black women with college degrees in Holland’s six career typologies. The population sample was employed as engineers (Realistic; N=11), physicians (Investigative, N=15), English teachers (Artistic, N=15), social workers (Social, N=18), lawyers (Enterprising, N=18), and business teachers (Conventional, N=16). All women in the sample had a minimum of a Bachelor’s degree with a range of three to five years of employment in their current occupation. All participants responded to the VPI and the SDS.

Results demonstrated that both inventories differentiated between the six occupational groups. Upon examination of results specific to each inventory, results revealed significant differences for the Investigative, Artistic, Social, and Conventional scales of the VPI and all six of the scales of the SDS. Additionally, the SDS was more frequently able to identify specific occupational group differences.

Researchers concluded that the study gave some support of the concurrent validity of Holland’s theory for the college-degreed Black working women in this sample, while also revealing some deviations. They attributed inconsistent findings to statistical inefficiency (small
sample size), possible misclassification of occupational groups and the use of a single scale to evaluate the appropriateness of occupational environments.

Ward and Walsh (1981) investigated the usefulness of both the VPI and the SDS in a group of 102 Black women without college degrees in Holland’s six career typologies. The population sample was employed as maids (Realistic; N=17), x-ray technicians (Investigative, N=16), florists and dancers (Artistic, N=12), teacher aides (Social, N=18), sales clerks (Enterprising, N=16), and clerk-typists (Conventional, N=23). All women in the sample have a minimum of one year experience in their current occupation. All participants responded to the VPI and the SDS.

Group differences were found across the twelve scales of the two inventories. Results showed that four scales of the VPI (Realistic, Investigative, Artistic and Enterprising) and four scales of the SDS (Investigative, Artistic, Enterprising and Conventional) differentiated between occupational groups. They also note that all occupational groups tended to score high on the Social scale of the SDS and the VPI. Three groups on the VPI obtained their highest mean score on the Social scale while the remaining three groups had their second highest mean score on the Social scale. Four of the six groups on the SDS received their highest mean score on the Social scale while the remaining two ranked second. These findings are consistent with other studies (Doughtie et al., 1976; Kimball et al., 1973; Miller et al., 1988). Researchers concluded that the SDS and VPI scales effectively discriminate among the occupational groups consistent with Holland’s theory to some extent.

_African American Women and African American Men_

Walsh, Bingham, and Sheffey (1986) investigated differences between Black college educated working men and women employed in traditional occupations. Specifically, they investigated whether there were differences between Black men and women, whether the instruments (Holland’s theory) differentiated among occupations for Black women and for Black men; and whether it differentiated between Black men and women in the same occupation.

Researchers administered the VPI and the SDS to 109 black college educated workers (44 women and 69 men). Only participants having a minimum of one year of experience in their current occupation were included in the study. Subjects having jobs as engineers (11 women and
20 men), physicians (15 women and 16 men), and lawyers (18 women and 29 men) were administered both the VPI and the SDS.

Results of a multivariate test (MANOVA) across the 6 scales were significant, indicating differences between women and men across the scales. A univariate analysis found differences between the two sexes on the Realistic scale of both the VPI and SDS. It is important to note that while the Realistic scale of the SDS and the VPI differentiated the female and male occupational groups, none of the occupational scales differentiated men and women within the same occupational group. Researchers suggested that men and women in the same occupation tend to produce similar mean raw scores. Results of a MANOVA demonstrated significant differences between the three occupational groups for both women and men. A univariate analysis found that all of the scales of both the VPI (p<.05, p<.001) and SDS (p<.001) successfully differentiated between occupational groups in both men and women.

Researchers pointed at two limitations to the study. They suggested that only taking the highest mean scale score does not effectively differentiate within occupational groups of black working women and men. Holland (SDS, 1985c) suggests the use of two or more scales to predict occupational group (see discussion in SDS section). Researchers also acknowledged the small sample size for the study. This is particularly problematic given the number of statistical analyses run.

Swanson (1992) also investigated whether gender would have an effect on response patterns on Holland’s six personality types in a sample of African American college students. The SII (Hansen & Campbell, 1985) was administered to 189 females and 168 males ranging in age from 18 to 55 years.

Results showed that women scored lower on the Realistic, Investigative, Enterprising and Conventional scales. Differences were also obtained for education level as well as the interaction of gender and education level. Male graduate students and all undergraduates obtained higher scores on the Realistic scale than female graduate students. Education level did not show significant differences within gender. Researchers concluded that more research on the applicability of Holland’s theory with African Americans was needed.

These gender differences in responding are consistent with other studies and with Holland’s theory. Holland readily acknowledges that there are differences in interests that reflect
the reality of society. This study has the statistical power necessary to apply these results to other African American college students, and it includes an education component that other studies on this population lack.

**African American Women and White Women**

Walsh, Bingham, Horton and Spokane (1979) investigated whether the VPI and the SDS measured the same constructs in a sample of 111 white and 44 Black employed college degreed women in three of Holland's occupational types. The sample consisted of engineers (11 Black and 41 white), physicians (15 Black and 38 white), and lawyers (18 Black and 32 white). All women in the sample responded to the VPI and the SDS and had a minimum of one-year experience in their current occupation. Researchers hypothesized that there would be no difference in mean raw scores for Black and white women, there would be no differences in mean raw scores for the three occupational groups, and there would be no differences in mean scores between Black and white women in the same occupational group.

Results of a multivariate test (MANOVA) across the three scales were significant, demonstrating differences between the mean scores of Black and white women. A univariate analysis for each scale found differences between Black and white women for the Investigative scale of both the VPI and SDS.

The multivariate test for group differences was significant. The univariate analysis showed all six tests were significant at $p < .01$ demonstrating differences in mean raw scores. The multivariate test for determining differences in mean scores between Black and white women in the same occupational group was significant. A follow-up univariate test revealed differences for the Investigative scale of both the VPI and the SDS.

The secondary analysis of the VPI scales showed that the white engineering group had the highest mean score of the Realistic scale and was successfully differentiated from both the Black and white lawyer groups. The Black engineering group had the second highest mean score. The white engineering group also had the highest mean score on the Investigative scale while the white physician group obtained the second highest mean. Both groups significantly differed from the Black and white lawyer groups and the Black engineering group. The Black physician group obtained the third highest mean. This finding is divergent from Holland’s theory. The Black lawyer group obtained the highest mean score on the Enterprising scale and was significantly
different from the Black and white physician groups. The white lawyer group had the third highest mean.

The secondary analysis of the SDS revealed the Black and white engineering groups had the highest and second highest mean respectively on the Realistic scale and were significantly different from the Black physician group and the Black and white lawyer groups. The white and Black physician groups had the second and third highest means respectively on the Investigative scale and were found significantly different from both lawyer groups. The Black and white lawyer groups obtained the highest and second highest mean score respectively on the Enterprising scale and were found to be significantly different from the white engineering and physician groups and the Black physician group.

Researchers concluded that the Investigative scale of both the VPI and the SDS successfully differentiated the white and Black occupational groups. This study is important because results showed that neither the VPI nor the SDS successfully differentiated between Black and white women in the same occupation on any scale. Therefore authors concluded that Black and white women in the same occupation tend to report similar mean scores. This is in accordance with Holland’s theory.

Walsh et al. (1983) investigated whether the VPI and the SDS measured the same constructs in a sample of 110 employed non-college degreed Black and white women in three of Holland’s occupational types. The sample consisted of laboratory technicians (N=31), sales persons (N=36), and clerk-typists (N=44). All women in the sample responded to the VPI and the SDS and had a minimum of one-year experience in their current occupation. Based on Holland’s theory, these researchers anticipated laboratory technicians would score higher on the Investigative scale, salespersons on the Enterprising scale, and the clerk-typists on the Conventional scale.

Results of a MANOVA across the six scales were significant, demonstrating differences between the three occupational groups. A univariate analysis found that both the VPI (p<.05, p<.01) and SDS (p<.01) successfully differentiated between all three occupational groups. This study demonstrated that Holland’s theory was applicable to employed non-college-degreed women in the Investigative, Enterprising, and Conventional occupational groups. It also demonstrated that the SDS was the better career assessment tool in regard to Holland’s theory.
Summary

In summary, studies have shown that Holland’s theory is valid and can be successfully applied to the career interests of African Americans and especially African American women. While differences were found between the races, the race variable had less differentiation than gender. Blacks and whites in the same occupation had similar scores on Holland’s assessment instruments. A recurring problem with the existing literature is that many studies are dated, use small sample sizes and fail to take socioeconomic factors into account. It is necessary to correct these problems in order to obtain a more accurate reflection of the career interests of African Americans.

Career Interests and Socioeconomic Status

Socioeconomic status (SES) has received little attention in the development of career theory and in the resultant literature. Roe (1957) is the only theorist to have incorporated a SES component that postulated that the spectrum of career options decreased as SES decreased. In other words, there is less career interest differentiation at the lower SES levels. Teahan (1974) believed that SES affected students’ occupational aspirations in that, while all students showed the same desire for success, they differed in terms of their expectations of success. He felt this may, in turn, affect their career decision choices. Holland (1985a) noted that career interests may be affected by an individual’s race, sex, SES, intelligence, age, and environmental circumstances. However, he believed the effects of these characteristics to be relatively small. Most interest inventories use scales that fail to cover the SES spectrum, based on the implicit assumption that these measures would not be used to differentiate between menial labor jobs. Consequently, most of the literature has confounded SES with race and sex, with women and minorities having a higher representation in the less prestigious careers (Harmon, 1999). Therefore, it is possible that sex and racial differences found in the literature can at least be partly accounted for by SES, especially in these populations. This section will review the few studies that have accounted for SES in the investigation of career interests.

Slaney and Brown (1983) investigated the effects of race and SES on career choice in Black and white college men. A sample of 48 black and 48 white undergraduates were matched
on the Socioeconomic Indicator (SEI; Duncan, 1961) and administered the VPI (Holland, 1977). Results showed that participants who reported a preference for the Realistic type occupations tended to be from a low SES than the high SES group. White upper SES students expressed a higher preference for Investigative careers that the low SES group. Finally, Blacks indicated a higher preference for Artistic careers than white subjects. There was also a significant effect for SES status and congruence between VPI three-point codes and College majors. Low SES subjects reported higher congruence scores that did the upper SES group and less career indecision. Race effects were found for career indecision, with whites having higher indecision scores than blacks. Researchers suggest caution in the interpretation of these findings as the sample size was small.

Poole, Langan-Fox and Omodei (1990) studied career orientations in 1300 college women from both high SES (n=692) and low SES (n=797) backgrounds. The data was analyzed using a LISREL structural equation model and was guided by Krumboltz’s (1981) Career Decision-Making theory. Significant differences were found between the two groups. The exploratory tendencies of low SES women had less influence on their School Attainment then high SES women. Political preferences did not show an effect on career orientations in low SES women, while right-wing orientation predicted orientation in the high SES women. Low SES women had a less good fit between job satisfaction and Aspired Occupational Interests, and professional attainment and occupational interests were less effective in determining career orientation.

Slaney (1980) investigated racial differences on vocational variables among Black and white college women. A sample of 73 Black women were matched using the SEI (Duncan, 1961) to 73 white women and completed the VPI (Holland, 1977). Three-point Holland codes were assigned to each parent’s occupation using Holland Occupation Finder (1977). A t-test did not yield significant differences in the VPI scales based on race. Researchers concluded that there are no significant differences between Black and white college women’s interests after SES was controlled for.

Ryan, Tracey and Rounds (1996) investigated the generalizability of the hexagonal RIASEC structure to African Americans with regard to SES. Subjects were obtained from an urban Midwestern high school and contained 370 students (193 females and 177 males). Of the
subject group, 109 students were African American while 261 were white. Students were separated into high SES (n=239) and low (n=131) socioeconomic status. Researchers hypothesized that the lower fit to Holland’s model to African Americans would be related to SES. Results showed no differences in the structure of interests between high and low SES groups. Additionally, when high and low SES African American groups were compared, the low SES group was better fit by the RIASEC model than the high SES group. These findings seem to support the applicability of Holland’s model across African American and SES groups.

Most of the literature has cited the need for more research to fully investigate similarities and differences for racial and ethnic minorities with regard to SES. Given the potential impact that economic class may play on vocational interests and aspirations, it seems clear that in order to fully understand the career dynamics of poor Black women, socioeconomic status will have to be addressed in the research in order to decrease the likelihood that inaccurate conclusions are reached. The next section will review personality factor theories and the assessment instruments developed to assess personality traits.

*Personality Factor Theories & Measures*

The goal of any factor theory of personality is to develop a taxonomy of personal traits (Hall, 1997) by measuring the different variables of an individual and identifying those variables that co-relate (Hergenhahn, 1990). These theories posit that the elements of personality and situational variables determine behavior. With the exception of Eysenck (1964), factor theory differs from other personality theories in that there is no undergirding theory that posits the number or description of personality dimensions. The description of personality dimensions is derived from the statistical analysis of trait adjectives found in the English language. This process eliminates bias in that it is formulated on no specific population because the adjectives are applicable to anyone regardless of sex, race, age, and socioeconomic status. After the personality traits have been identified, a model can be constructed that can explain and predict an individual’s behavior in a given situation (Hall, 1997). The three most researched factor theories are those supporting three, five, or sixteen factors.
Three Factor Theory

While the Three Factor theory, developed by Eysenck (1964), differs from other personality factor theories in that it was established before factor analysis was applied, it seems important to include it as it was the first personality theory to apply the new method of factor analysis. As a result of his findings in his research with twins, Eysenck viewed personality as being genetically determined. He proposed that personality can be broken down into three general factors: neuroticism, introversion/extroversion, and psychoticism.

In Eysenck’s theory, neuroticism vs. emotional stability is described as the extent to which an individual’s sympathetic nervous system responds to his world. He has asserted that neuroticism is a ‘normal’ personality dimension. Individuals with high neuroticism tend to have drive that can be healthy and useful in their life or, when that individual is subjected to stress, it can result in psychological distress.

The second dimension, introversion vs. extroversion, is described as individual variations in neurophysiological functioning. Introverts are more easily aroused by events and learn social prohibitions more easily than extroverts. As a result, they are more restrained and inhibited. Eysenck also found some evidence that introverts may be more influenced by punishments in learning while extroverts are more influenced by rewards. Eysenck & Eysenck (1964) developed the Eysenck Personality Inventory (EPI) to measure these personality dimensions which was widely used until they added a third dimension to their model.

This third dimension was psychoticism vs. superego control. They have described those who have a high level of this trait to be troublesome, cruel, lacking in feeling and empathy, sensation seeking, and like odd and unusual things while low levels indicate a constraint and rigidity. (Eysenck & Eysenck, 1968).

Eysenck’s model of personality structure is hierarchical. The lowest level is described as an individual’s specific responses to his environment. The next level is as described as habitual responses that are composed of clusters of specific responses. The third level is described as traits that are characteristics inferred by observable behavior. The highest level is described as the type that consists of clusters of related traits and refer to Eysenck’s three personality dimensions.
With the advent of the statistical method of factor analysis, Eysenck performed a confirmatory analysis of data collected by questionnaires and ratings and found three first-order factors that correspond to his theory. From this data he developed the Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1976) to measure these dimensions of personality. In a study that examined EPQ data from thirty-seven countries, researchers found that women scored higher than men on neuroticism while men scored higher on psychoticism. No significant differences were found on the extroversion factor (Lynn & Martin, 1997). A study of the EPI and SDS found that the N scale did not differentiate for career interests. Individuals who scored low on extroversion scored higher (p = .05) on the Conventional and Intellectual scales and lower on the Social scale (Banikiotis & McCabe, 1972).

However, this measure has met with much criticism. Other researchers have been unable to recover these factors, especially the psychoticism factor, in independent findings and question Eysenck’s method of analysis (Bishop, 1977; Block, 1977; Howarth, 1976; Loo, 1979). Cattell (1973) has argued that Eysenck’s factor of extroversion and neuroticism are not first order factors. He has purported that Eysenck underfactored his data trying to fit the analysis to his previously established theory of personality.

*Five Factor Model*

Supporters of the Five Factor Model (FFM), or the Big Five, have used research from earlier personality theorists such as Cattell (1946) and Norman (1963) who began with an analysis of trait adjectives found in English and other languages. They define personality as relatively enduring styles of thinking, feeling, and acting that characterize an individual (Costa & McCrae, 1995). As a result of factor analysis, they have proposed that these styles can be understood in terms of these five factors; neuroticism, extroversion, openness, conscientiousness, and agreeableness, or OCEAN. Neuroticism defines a continuum of adjustment or emotional stability with maladjustment. Extroversion is the continuum of an individual’s liking of people and large groups as well as assertiveness, activeness and talkativeness. Openness is an individual’s attentiveness to feelings, imagination, intellectual curiosity and independence of judgment. Agreeableness addresses capacity for altruism and sympathy for others as opposed to being egocentric, skeptical of others, and competitive. Conscientiousness addresses the degree of purpose, strength of will, and determination.
**NEO-PI-R.**

The NEO-PI-R (Costa & McCrae, 1992) was devised to operationally measure the five-factor model of personality using the five primary domain OCEAN scales and 30 smaller facet scales in an attempt to show a comprehensive view of personality. The authors report that the research leading to the development of the NEO-PI-R was conducted primarily on two longitudinal samples. The original instrument, the NEO-PI (Costa & McCrae, 1985) was administered to participants in the Normative Aging Study (NAS; Bell, Rose, & Damon, 1972). This sample was in excess of 2,000 male veteran volunteers, who were mostly white. The lowest SES groups were not represented.

The second population was participants in the Augmented Baltimore Longitudinal Study of Aging (ABLSA; Shock et al., 1984). Again, the NEO-PI was given to these volunteers that were mostly working or retired in profession, managerial, or scientific vocations and were much more educated than the general population. Costa (1986) found "some evidence" that the participants did not greatly differ in the distribution of personality dispositions. Again this sample was exclusively male but later female participants, mostly spouses, were added. The final sample consisted of approximately 400 men and 300 women.

A third sample was used that consisted of over 1,800 men and women who were employed by a large organization (Costa, McCrae, & Dye, 1991). This sample differed from the previous two in that participants were much younger, had graduated from high school but had less advanced degrees, and contained a higher minority population. Black participants represented 21% of the sample while other non-white participants represented 10% of the sample.

Each scale of the NEO-PI represents a continuum of the personality factor. The scales are most easily explained when they are extremely high or low scores, however, most scores fall towards the middle of the scale. The authors have found it useful to summarize results in reference to five levels of each scale: very low, low, average, high, and very high. There are no single cutoff points which distinguish those who "have" a trait from those who do not. Raw scores do not hold meaning in themselves, but need to be applied to a reference group. There are normative groups for men, women, and college-age users.
Like Eysenck and Cattell, Costa and McCrae (1992) have assumed that traits are hierarchically arranged from very broad traits to very narrow, and that both general (domain) and specific (facet) traits must be assessed.

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<th>Facet Scales</th>
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<td>N</td>
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<tr>
<td>anxiety</td>
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<td>angry hostility</td>
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<td>depression</td>
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<td>vulnerability</td>
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*Validity and reliability.*

While internal consistency for the domain scales are acceptable, only 11 of the 30 facet scale scores have values over .75, making them acceptable for use in research but not for evaluating individuals. Costa and McCrae (1992) assert these low alpha coefficients for the scales are acceptable due to having a low item content.

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<th>Domain scale</th>
<th>Facet scales</th>
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<td>C</td>
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Test-retest studies showed NEO-PI reliabilities for the domain scales to be .87, .91, and .86 respectively (McCrae & Costa, 1983). However, a sample size of only 30 men and women were used. Additionally, it found three-year retest coefficients for A and C scales to .63 and .79 (McCrae & Costa, 1983).
Neurotic and Extroversion facet scales corresponded with the EPI (Eysenck & Eysenck, 1964) Neuroticism and Extroversion scales respectively (Costa & McCrae, 1986). McCrae and Costa (1992) report that the NEO-PI-R E1 (Warmth) and E2 (Gregariousness) facet scales correlate with the Personality Research Form (PRF; Jackson, 1984) Affiliation; E3 (Assertiveness) is correlated with the PRF Dominance; E5 (Excitement-Seeking) is negatively correlated with PRF Harmavoidance; and E6 (Positive Emotions) is correlated to PRF Play.

McCrae & Costa (1992) assert that the same factor structure exists in both white and non-white populations and men and women. Studies found that women tend to score higher than men on the N and A scales, however, the authors report differences are modest.

The authors qualify that the NEO-PI-R should not be given in the place of other vocational interest scales, but rather should be used as part of a comprehensive vocational assessment. This instrument currently it lacks the large research base that the older, more established personality measures provide.

_Sixteen Factor Model_

The Sixteen Factor Model, developed by Cattell et al. (1970) relies on the statistical method of factor analysis, which describes the degree to which variables are either positively or negatively related to each other. He has differed from Eysenck in that he did not begin with a theory of personality and apply a confirmatory analysis, but rather chose to use exploratory factor analysis to ascertain the structure of personality.

Cattell et al. (1970) set out to systematically sample the domain of personality-by-questionnaire. They began with a list of trait adjectives developed by Allport and Odbert (1936) and expanded upon it. From this list they developed self-report questions. They next performed a factor analysis of these questions along with a small number of ability items. This factor analysis produced 16 oblique primary variables. The sixteen factors are: warmth, intelligence, stability, dominance, impulsivity, conformity, boldness, sensitivity, suspiciousness, imagination, shrewdness, insecurity, radicalism, self-sufficiency, self-discipline, and tension.

They next factor analyzed these 16 variables and found eight global factors of extroversion, anxiety, tough poise, independence, self-control, realism, intelligence and superego strength. Cattell describes many of these factors as states as opposed to traits, that are “only tolerably well defined” and in need of further investigation (Cattell, Eber, & Tatsuoka, 1970).
Sixteen Personality Factor Questionnaire.

The Sixteen Personality Factor Questionnaire (16PF; Cattell, Eber & Tatsuoka, 1970) is a 187 item inventory that measures comprehensively the normal personality domain. The factors are bi-polar which means they represent each factor on a continuum so that both ends hold meaning. Standardized ten scoring is used where 3 and below is considered low while 8 and above is considered high. The more extreme a score is toward the given factor, the more likely an individual will display that factor pole’s characteristics. The 16PF scales are arranged in the order of the degree to which they are assumed to account for variance in the personality domain.

Primary factors.

Factor A (Warmth) addresses the tendency to be involved with people as opposed to be more socially reserved. High scores indicate more interest in people and preference for occupations that deal with people. Low scores indicate less social involvement and attachment. These individuals tend to enjoy working alone, often in mechanical, artistic, or intellectual careers.

Factor B (Intelligence) serves as a brief intelligence measure. High scores indicate higher reasoning ability while low scores indicate lower reasoning ability. Cattell cautions that low scores may not accurately indicate an individual’s ability but rather low education, depression, anxiety or lack of motivation to ascertain the correct answer.

Factor C (Emotional Stability) addresses the ability to cope with life and its challenges. High scores indicate the ability to manage events and emotions in a balanced adaptive manner. Low scores show a lack of control over life and a tendency to react to external events rather than make proactive choices.

Factor E (Dominance) measures the extent an individual exerts her will over others. High scores indicate a tendency to be vocal in expressing opinions and forceful. Low scores indicate a wish to avoid conflict by acquiescing to other’s wishes.
Factor F (Impulsivity) measures an individual’s spontaneity to the environment. High scores indicate spontaneity, enthusiasm and attention seeking tendencies. Low scores indicate a more quiet and cautious approach to the environment.

Factor G (Conformity) measures the extent to which an individual embraces the North American and Northern European cultural standards of right and wrong. High scores indicate a strict follower of rules. Low scores indicate an eschewal of rules and regulations, either due to poorly developed morality or an ascription to values not solely based on conventional norms.

Factor H (Social Boldness) measures boldness in social situations. High scores indicate little fear of social interactions and a tendency to be bold in social groups. Low scores indicate social timidity, caution, and shyness.

Factor I (Sensitivity) measures an individual’s tendency to react emotionally versus logically. High scores indicate a tendency to base judgments on personal tastes and to rely on empathy. Low scores indicate a utilitarian focus and objectivity without taking others into account.

Factor L (Suspiciousness) addresses the tendency to either trust or be mistrustful of others’ motives. High scores indicate an expectation to be misunderstood or taken advantage of. Low scores indicate an expectation to be treated with loyalty and fairness.

Factor M (Imagination) abstract versus concrete thinking. High scores indicate an occupation with thinking imagination and fantasy and less attention to the outer environment. Low scores indicate a focus on the external environment and its demands.

Factor N (Shrewdness) addresses the tendency to be nondisclosing and private as opposed to forthright and open. High scores indicate a personal guardness. Low scores indicate genuineness and willingness to self-disclose.

Factor O (Insecurity) addresses the continuum of being guilt-prone and insecure versus self-assured. High scores indicate a tendency to worry and feel insecure. Low scores indicate self-assurance, confidence and self-satisfaction.

Factor Q1 (Radicalism) measures the continuum of conservatism versus radicalism. High scores indicate an enjoyment of experimentation and finding ways to improve things. Low scores indicate a liking for the status quo, the traditional and predictability.
Factor Q2 (Self-sufficiency) addresses the tendency to maintain contact with or be in proximity to others. High scores indicate self-decision making and an enjoyment of time alone. High scores indicate a group orientation and need for being around other people.

Factor Q3 (Self-Discipline) addresses the tendency to be compulsive versus careless. High scores indicate a preference for organization. Low scores indicate a tendency to leave things to chance.

Factor Q4 (Tension) is associated with nervous tension. High scores indicate restless energy, motivation to act and impatience. Low scores indicate a tendency to be more relaxed and less driven.

Validity and reliability.

Stability coefficients ranged from .63 to .88 at a two month interval. They were .85, .63, .75, .85, .78, .84, .88, .87, .76, .71, .74, .77, .83, .81, .70, and .78 respectively. Validities for the scales ranged from .35 (intelligence) to .83 (impulsivity). They were .79, .35, .70, .63, .83, .67, .92, .70, .49, .44, .41, .71, .62, .70, .68, and .57 respectively (Cattell et al., 1970). Williams (1972) investigated the validity of the 16PF in 145 male graduate students. The 16PF correctly classified 85 students into the correct field of study.

Summary

Similar to theories of career interest development, none of the personality factor theories have addressed specifically issues of gender, race, or socioeconomic status. In order to better understand the dynamics of these factors in relation to the development of career interests, research these different populations is needed. The next section will review the research that investigates the relationship between career interests and personality.

Career Interests & Personality

There is a substantial body of research that explores the relationships between career interests and personality. Although various measures of personality have been employed, almost all of the researchers have utilized Holland’s career interest measurements. This section will review this body of research.
Holland and the Three Factor Theory

Bankiotes and McCabe (1972) studied the relationship between the Career interests and the personality. Researchers administered the VPI (Holland, 1965) and the EPI (Eysenck & Eysenck, 1968) to a sample of 113 college sophomore men. Individuals were categorized into low, average and high on the neuroticism and extraversion scales. Results showed no differences in SDS scores between the three neuroticism groups. Individuals in the low extraversion group scored higher (p<.05) on the Conventional and Intellectual scales and lower (p<.05) on the Social scale. Contrary to researchers expectations, results did not generally support differences in career interests as a function of the EPI. These results are consistent with literature noted in the literature review of the personality factor theories and measures. The Three Factor theory does not seem to be a useful measure of the personality or career domains.

Goh and Leong (1993) investigated the relationship between career interests and personality variables. Researchers used the SCII (Campbell & Hansen, 1981) to operationalize the constructs of Holland’s theory and the EPQ (Eysenck & Eysenck, 1975) to operationalize Eysenck’s Three Factor Model of personality. Both measures were administered to 119 undergraduates (54 women and 66 men). The Realistic, Investigative, Social and Enterprising types were significantly predicted by the EPQ variables. Both Psychoticism and Neuroticism predicted the Realistic scale. The Investigative scale was negatively predicted by the Neuroticism scale. The Social scale was negatively predicted by the Psychoticism scale and the Enterprising scale was predicted by the Extraversion scale. These results were consistent with theory and previous research. Researchers concluded that there was some support that career measures and personality measures are tapping into similar domains but not to the extent they had expected. Again, this finding may be more indicative of the personality factor theory and measurement utilized in the study rather than a lack of relationship between the career and personality domains. It may have been more useful to use a different measure that has proven correlation with both domains such as the 16PF.

Holland and the 16PF

Hughes (1972) investigated the relationship between personality type and Holland’s occupational typologies in a sample of 400 employed men aged 25 to 35 years who were members of the New York Army National Guard. Subjects were assigned to one of the six
Holland occupational types based on job title. Researchers did not specify whether they used the job types subjects had in the National Guard or their civilian positions. All participants completed the SVIB (Strong, 1965), the VPI (Holland, 1970), and the 16PF (Cattell et al., 1970). Results showed that the VPI was the best predictor of Holland type (42%), followed by the 16PF (23%) and the SVIB (14%). The researcher concluded that the VPI was the most sensitive instrument for tapping into Holland’s occupational typologies. It is not surprising that Holland’s instrument would be the best predictor of career types delineated in his theory. While 23% correlation between the VPI and the 16PF is modest, it provides some support for a relationship between the career and personality domains. A limitation of the study is that the occupational assignment was based on employment status rather than on a career assessment instrument. This choice assumes (as does Holland) that individuals are working in the job that best fits their personality. However, the assumption seems to have merit as the VPI was the best predictor of career type.

Ward, Cunningham and Wakefield (1976) investigated the relationship between the VPI (Holland, 1970) and the 16PF (Cattell et al., 1970) in 425 undergraduates (297 females). A canonical correlation of the two instruments yielded three significant canonical correlations. In the first correlation, the Enterprising and Artistic scales were related to tender-minded and imaginative on the 16PF. In the second correlation, the Enterprising and Status scales were correlated with being assertive and conservative on the 16PF. In the third correlation, the Conventional and Enterprising scales were related to being assertive and venturesome on the 16PF. Given that the Realistic and Investigative types were not involved in the relationships between the two instruments, researchers concluded that the 16PF may give a less complete a picture of vocational interests than the VPI. However, findings support the importance of personality variables in relation to career choice.

Bolton (1985) investigated Holland’s assertion that RIASEC types have different personality characteristics. Sixty-nine occupational groups were placed in one of the six Holland types. Bolton used a MANOVA to identify which 16PF factors would significantly differentiate between Holland’s six occupational types. The MANOVA was significant at p < .0001. Warmth, Imagination, Shrewdness and Self-Sufficiency effectively discriminated among the six Holland types at p < .0001. Intelligence, Conformity and Tension effectively discriminated
among the six Holland types at p < .0005. Dominance, Sensitivity, Radicalism and Self-Discipline effectively discriminated among the six Holland types at p < .005. This finding lends credence to Holland’s assertion that people in different career types have different personality characteristics.

Bolton also conducted a multiple discriminant analysis using the 16 primary scales of the 16PF as the independent variables. Two highly significant canonical discriminate functions and one marginally significant function accounted for 90.5% of the total personality variance among occupational groups. These functions were labeled as Independence, Extraversion and Anxiety, respectively.

Bolton cites two limitations of the study. First, the analyses were based on the high-point Holland code. Second, the occupational assignment was based on employment status rather than on a career assessment instrument and combined male and female samples. Despite the study’s limitations, the results provide strong support for the hypothesized personality correlates of Holland’s occupational typologies.

Holland (1985b) investigated the relationship between career interests and personality characteristics. Researchers administered the VPI and the 16PF (Cattell et al., 1970) to a sample of 1177 school age students (394 girls and 783 boys). All significant relationships are discussed below.

For female students, the Realistic scale was positively correlated with Super-ego Strength (persistence) and negatively correlated with Cyclothymia (sociable), Dominance (aggressiveness), Surgency (enthusiasm), Parmia (adventuresomeness), and Premia (effeminate). For male students, the Realistic scale was positively correlated with Emotional Stability (maturity) and Shrewdness (sophistication) and negatively correlated with Cyclothymia (sociable), Intelligence, Premia (effeminate) and Autia (introversion).

For female students, the Investigative scale was positively correlated with Radicalism and negatively correlated with Cyclothymia (sociable), Dominance (aggressiveness), Parmia (adventuresomeness), Premia (effeminate) and Paranoid Tendency. For male students, the Investigative scale was positively correlated with Radicalism, Self-Sufficiency and High Self-Sentiment and negatively correlated with Cyclothymia, and Premia.
For female students, the Artistic scale was positively correlated with Cyclothymia and Premsia. For male students, the Artistic scale was positively correlated with Cyclothymia, Dominance, Parmia, Premsia, Autia and Guilt Proneness and negatively correlated with Emotional Stability, Super-ego Strength and Shrewdness.

For female students, the Social scale was positively correlated with Cyclothymia, Dominance, Surgency, Parmia and Premsia and negatively correlated with Shrewdness, Radicalism and Self-sufficiency. For male students, the Social scale was positively correlated with Cyclothymia, Dominance, Surgency, Super-ego Strength, Parmia and Premsia and negatively correlated with Shrewdness, Radicalism and Self-Sufficiency.

For female students, the Enterprising scale was positively correlated with Cyclothymia, Dominance, Surgency, and Parmia and negatively correlated with Self-sufficiency. For male students, the Enterprising scale was positively correlated with Cyclothymia, Dominance, Surgency, and Parmia and negatively correlated with Radicalism, Self-sufficiency and High Self-sentiment.

For female students, the Conventional scale was positively correlated with Premsia and negatively correlated with Intelligence. For male students, the Conventional scale was positively correlated with Cyclothymia, Intelligence, Super-ego Strength, Premsia and Autia and negatively correlated with Emotional Stability, Dominance, Surgency, and Shrewdness.

Holland concluded that low to moderate correlations exist for both boys and girls between similar scales of the VPI and the 16PF. However, the VPI is less comprehensive than the SDS as it does not include subject activities, competencies and occupational likes and dislikes (Weinrauch & Srebalus, 1990). Therefore, correlations may have been higher if the SDS had been used.

In summary, the relationships between career interests and personality variables varied according to gender. Correlations were low to moderate between similar constructs as represented by the VPI and the 16PF. However, it is difficult to meaningfully interpret the relationships due to the vague nature of VPI scale descriptions.

Holland and the Five Factor Model

Larson and Borgen (2002) investigated the relationship between career interests and personality characteristics in a sample of predominantly 223 gifted students (197 girls and 126
boys) with a mean age of 16.39 years. Students were administered the SII (Hansen & Campbell, 1985) and the NEO-PI-R (Costa & McCrae, 1992).

The Realistic scale was significantly positively correlated with Openness and Conscientiousness and statistically negatively correlated with Neuroticism, Extraversion and Agreeableness. The Investigative scale was significantly positively correlated with Extraversion, Openness and Conscientiousness and negatively correlated with Neuroticism and Agreeableness. The Artistic scale was significantly positively correlated with Neuroticism, Extraversion, Openness and Agreeableness and statistically negatively correlated with Neuroticism and Conscientiousness. The Social scale was significantly positively correlated with Extraversion, Openness, Agreeableness and Conscientiousness and statistically negatively correlated with Neuroticism. The Enterprising scale was significantly positively correlated with Extraversion, Openness, and Conscientiousness and statistically negatively correlated with Neuroticism and Agreeableness. The Conventional scale was significantly positively correlated with Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness. Researchers conclude that there is convergence between career interests and personality, with interests measured by the Investigative, Artistic, Social, and Enterprising scales showing the most overlap with the Five Factor personality constructs. The NEO-PI-R failed to meaningfully represent the Realistic and Conventional scales of Holland’s theory. It may be that the NEO-PI-R is not measuring all dimensions of personality. A more comprehensive personality measure might have captured more of the dimensions of personality that would relate to Realistic and Conventional career interests. Another explanation for these findings is that the Realistic and Conventional career interest types do not represent personality dimensions.

Career Interests, Personality Characteristics and Race

Tumer and Horn (1975) investigated the relationship between personality characteristics and career interests in a sample of 168 women and 234 men of Mexican-American descent. All subjects were administered the Guilford-Zimmerman Temperament Survey (Guilford & Zimmerman, 1949) and the Kuder Occupational Interests Survey (Kuder, 1968). Subjects were then categorized into one of the six Holland typologies based on their responses on the Kuder. Women only occupied five of the six types as no women expressed interests in the Realistic career type. A discriminant analysis showed that the Guilford-Zimmerman differentiated among

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the six groups of men (p < .001), but not among the five groups of women. Two significant discriminant functions were found to account for 78% of the total variance in the male sample. The first function accounted for 45% while the second accounted for 33%. The first function was characterized as Ascendancy, Sociability and Emotional Stability. The second function was characterized as Restraint, Friendliness, Thoughtfulness, Activity, Ascendancy and Masculinity. Based on the lack of relationships between personality and career interests of the female groups, researchers questioned whether Holland’s theory of career types was applicable to women and to Mexican-American women in particular. This study is one of many examples where it may have yielded more insight into the findings if SES had been assessed. Mexican-Americans and all non-dominant culture groups have a lower average income than White Americans (U.S. Census Bureau, Current Population Survey, 2002) due to overt and covert racism. These populations may not be getting the opportunity to explore the full spectrum of careers available to White males, so developed career interests are less indicative of their personalities. It is also possible that stereotypes are internalized and members may self-select out of these career types. A third possibility is that gender roles in this population tend to select out some of the choices in the six career typologies. This selection process may also be apparent in women in other non-dominant culture groups. This is another reason to do the proposed study.

Career Interests, Personality Characteristics and Socioeconomic Status

Peraino and Willerman (1983) investigated the correlation of personality and career interests in 175 men. Subjects were separated into one of six of Holland’s career types based on occupation and administered the Socioeconomic Indicator (SEI; Duncan, 1961) and the 16PF (Cattell et al., 1970). Intelligence assessment and educational information were also utilized. Researchers chose to use only four of the 16PF secondary factors. The Artistic and Conventional groups were eliminated from the study due to small sample size. Results of an ANCOVA showed that the Realistic occupations had a significantly lower IQ compared to the other three groups, which did not differ from each other. The Social and Realistic groups had the highest and lowest educational attainments respectively. The Investigative group was significantly higher in SES while the Realistic group was significantly lower. While researchers discussed “non-significant trends”, no significant differences manifested for the personality factors and Holland’s career typologies. Researchers attributed the lack of findings to utilizing too few
personality factors and encouraged future researchers to use a greater range of personality factors. It may have been useful for researchers to use the primary factors of the 16PF.

Clark (1986) investigated predictors of scientific majors for Black (n=91) and white (n=109) college students. The Black students were lower middle class and the white students were upper middle class as assessed by Hollingshead Index of Social Position (Hollingshead, 1957 in Clark, 1986). The 16PF was administered to all subjects. Results showed that science majors tended to be from a higher social class and have a higher IQ than nonscience majors. In addition, more white students were concentrated in the natural science areas than Black students. Because race was confounded with social class, researchers performed separate discriminant analyses. For the Black students, three variables significantly discriminated between the college majors: social class, tough-minded vs. tenderhearted, and practical vs. imaginative. White college major groups were discriminated by sex-role orientation and sober vs. happy go lucky.

Natural science majors were from a higher social class, more toughminded and practical than the social and nonscience majors. Natural and nonscience majors were more masculine than nonscience majors. Natural science majors were more sober than nonscience and social science majors. Researchers concluded that SES and personality factors affect outcomes in the prediction of natural science majors. The proposed study will specifically address the relationships between career interests and personality variables in one SES status in Black women.

*Women and Men- Holland & 16PF*

Holland (1960) examined the relationship between career interests and personality characteristics using the VPI and the 16PF in a sample of high school seniors (394 girls and 783 boys). The educational level and the SES of their parents were well above the national average. Results showed many significant correlations between career interests and personality. Gender differences were also found. Forty-seven percent of the correlations between the two measures were significant for boys and 28% were significant for the girls. Holland concluded that the preferences for occupational titles are significantly related to several personality variables. However, meaningful interpretation of the results was problematic due to the inadequacy of the definitions of the VPI scales.

Since this study was conducted, Holland has clarified the descriptions of the VPI scales. The SDS may be a better measure because it only measures Holland’s six career personality
types. This difference may allow for a clearer interpretation of the relationships between career interests and personality characteristics because the constructs on the SDS are more clearly defined than those of the VPI and can be more readily translated to the various domains of personality. For example, even a revised description (e.g., low aspiration level, history of unemployment and low salary) of the VPI Infrequency scale is vague in its pertinence to career interests.

Because the 16PF scales are arranged in order of the degree to which they are assumed to account for the variance of the domain of personality (Cattell, 1950), the VPI scales were more related to the first eight factors than the latter eight factors. Obviously, further research needs to be done on the relationships between career interests and personality characteristics to obtain a better understanding of what these relationships are.

**Holland & Other Personality Measures**

Apostal and Marks (1990) investigated relationship between career interests and personality characteristics in a sample of 219 undergraduate students (130 women and 89 men). All subjects completed that MBTI (Myers & McCauley, 1985) and the SII (Hansen & Campbell, 1985). Of particular interest were the Basic Interest Scales and the Introversion-Extraversion scale of the SCII and the Extraversion-Introversion scale of the MBTI (Myers & McCauley, 1985). Results showed that women had a significant negative correlation between the MBTI Extraversion-Introversion scale and the Realistic scale. Men had no significant results. Researchers concluded that the SCII was not a good predictor of Introversion-Extraversion on the MBTI.

In a study of 278 female and 260 male college undergraduates, Nelson (1986) investigated the relationship between career interests and personality characteristics, using the MBTI (Myers & McCauley, 1985) and the SCII (Hansen & Campbell, 1985). Results showed few pronounced interests for any of the four MBTI types in females or males. She concluded that the findings provided only weak evidence in support of the Myer’s and Briggs personality types as they relate to vocational interests. The findings did not support using the MBTI to predict career interests or the SCII to predict MBTI personality types in college populations. The results Apostal and Mark’s (1990) and Nelson’s (1986) studies are evidence that personality
assessments other than the MBTI would be more useful in investigating the relationship between career interests and personality.

Bachtold (1975) examined the relationship between career interests and personality characteristics using 16PF scores of women employed as psychologists (n=375), natural scientists (n=146), artists (n=132) and writers (n=107) and politicians (n=103) to determine whether the groups might differ in personality characteristics. All five groups were differentiated by personality factors. The first of three discriminant functions ranked the groups from high to low in the following order: politicians, artists and writers, scientists and psychologists. The highest positive weights were for 16PF factors A Sociable, G Conformity, L Suspiciousness and Q3 Self-Discipline. The highest negative weights were for the B Intelligence and Q1 Radicalism. The politicians as compared to the psychologists were very sociable, conscientious and controlled and had less conceptual power and greater conservatism.

The second discriminant function ranked the four groups as politicians, scientists, psychologists and artists and writers. The highest positive weights were for Sociability, Intelligence, Emotional Stability, Shrewdness and Self-Discipline. The highest negative weights were for Imagination and Self-Sufficiency. Therefore, the artists were more affected by feelings, more changeable, less calculating, more spontaneous and impulsive. The artists and writers were more imaginative and unconventional while politicians were more intelligent and sociable.

The third discriminant function ranked the four groups as politicians, psychologists, artists and writers and scientists. The highest positive weights were on factors Sociability, Dominance, Impulsivity, Social Boldness, Sensitivity and Imaginative. Scientists were more detached and reserved, restrained, conventional and tough-minded while politicians were more aggressive and adventurous. Bachtold concluded that different professions of high functioning women did differ in personality as measured by the 16PF, indicating a relationship between career interests and personality characteristics. This proposed study will examine whether a similar relationship exists in African American women on welfare.

To investigate the construct validity of the MBTI as a career guidance assessment tool, Hepp-Murphy (1992) examined how the degree of interest in eight occupational clusters measured by the Career Occupational Preference System Interest Inventory (COPS; Knapp, Knapp & Knapp-Lee, 1990) varied as a function of MBTI type (Thinking-Feeling; Sensing-
Intuitive; Introversion-Extraversion; and Judgment-Perception). Results of a MANOVA showed no significant differences in career interests between Sensing and Intuitive types. Significant differences were found between Thinking and Feeling types. Discriminant analysis showed that the greatest contribution to the difference between the Thinking and Feeling types were by the Technology and Arts COPS scales. The researcher cited the possibility that failure to find significant differences in career interests between the Sensing and Intuitive types may have been attributable to the sample size and homogeneity. These findings conflict with other research investigating the relationship between career interests and personality characteristics, indicating a need for continued study of this relationship.

Parker (1989) conducted a comparative study of the relationship between career interests and personality characteristics in a sample of print journalists and television broadcast journalists using the SCII (Hansen & Campbell, 1985) and the Adjective Checklist (ACL; Gough & Heilbrun, 1983). Subjects consisted of 82 print journalists (34 females and 48 males) and 48 broadcast journalists (22 females and 26 males).

Results showed no differences in female response patterns on the ACL need scales between the print and broadcast journalists. However, broadcast females had significantly higher mean scores on the Achievement, Dominance, Exhibition, Autonomy and Aggression scales and significantly lower mean scores on the Abasement and Deference scales than the Adult Female norm group. The print journalist females scored higher on Achievement, Dominance, Endurance and Order and lower on Succorance and Abasement than the Adult Female norm group. No differences were found between the male groups. The ANOVA results of the SCII scores indicated that the broadcast females scored higher than male or female print journalists groups on Public Speaking. No other significant results manifested. This study indicated there were more differences related to gender rather than differences due to career interests. However, the two careers represented in the sample are very similar, reducing the likelihood of successful differentiation among career interests. This study may have benefited from a larger sample size and comparing subjects from more differentiated career personality types. The proposed study will not limit the range of career interests in the sample population.

Holland & the NEO

Using the NEO and the SDS in a sample of 144 women and 217 men, Costa et al. (1984)
examined the relationships between career interests and personality characteristics. In women, no significant correlations were found between the Realistic scale and any of the three NEO factors. The Investigative scale positively correlated with the Openness factor; the Artistic scale positively correlated with both the Openness and Extraversion factors; the Enterprising positively correlated with the Extraversion factor; and the Artistic scale negatively correlated with the Neuroticism factor. No significant relation was found between the Conventional scale and any of the NEO factors. The failure of the Realistic or Conventional scales to correlate with personality characteristics, as measured by the NEO, challenges the assumed relationship between career interests and personality factors in women. Viewing the above relationships at a conceptual level, they seem consistent with their undergirding theories. However, some expected relationships fail to manifest, such as a negative correlation of Investigative and Extraversion. This lack of correlations implies either a lack of relationship between the domains of career interests and personality or problems with the measurements used. The proposed study will utilize a personality measurement with the greatest body of research and designed to address the full spectrum of the normal personality domain. Also the proposed study is designed to focus on elucidating the relationships between personality and career interests in women.

In the male sample, again, no significant correlations were found between the Realistic scale and any of the three NEO factors. The Investigative scale was negatively correlated to the Extraversion factor, the Artistic scale positively correlated with the Openness and Neuroticism factors, the Social scale positively correlated with the Extraversion factor, the Enterprising scale correlated with the Extraversion factor and the Conventional scale negatively correlated with both the Openness and Extraversion factors. It is interesting to note that more relationships between career interests and personality characteristics were found in the male sample. Both of the undergirding theories were developed from studies of male samples. Also, both instruments were normed on male populations. Therefore, both the theories and instruments may describe male career interests and personality better than they describe female career interests and personality.

Researchers conceded that although some of the expected relationships between career interests as represented by scores on the SDS and personality characteristics as measured by the NEO were found, the adjectives that describe the Realistic and Conventional personality types do
not correspond to any of the factors measured by the NEO. Additionally, they postulated that Holland’s typology lacked attributes of Neuroticism. It is possible that a more comprehensive personality measure may better capture the relationship between career interests and personality characteristics in female populations. The proposed study will utilize the 16PF, which has sixteen distinct personality dimensions. However, it also was developed and normed from studies on male populations. There is no measurement that was developed to examine the personality characteristics of women.

In a study of the relationship between career interests and personality characteristics, Gottfredson et al. (1993) administered the NEO-PI and the VPI to a sample of 246 female and 479 male Navy trainees. A canonical correlation analysis was used to assess the significance of common factors in the two measures. In the entire sample, five factors reached significance. The female sample had two significant factors while the male sample showed four. The first factor was the same in both genders, and involved the Artistic and Investigative types characterized by Openness. For women, the second factor of Openness was positively related to the Investigative, Artistic, Social and Realistic scales and negatively related to the Conventional scale. For men, the second factor negatively related to Extraversion.

Direct correlations between the two measures indicated that Openness was positively correlated with Investigative, Artistic, Social and Realistic VPI scales and negatively correlated with the Conventional scale in women. This result is somewhat contrary to Holland’s theory that posits that Enterprising types are Open and Realistic types are not Open. The only other significant result for women found that Social and Conventional types were negatively related to Neuroticism. Researchers concede that correlations were small to modest and did not show definitive relations. Consistent with previous research, more correlations between career interests and personality characteristics were present in the male samples than female samples. As stated previously, the relationship between career interests and personality characteristics in women has not been adequately described and shows a need for more study of the respective domains in the female population.

Tokar and Swanson (1995) investigated the relationship between career interests and personality characteristics using the SDS (Holland, 1985c) and the NEO Five Factor Inventory (NEO-FFI; Costa & McCrae, 1992) in a sample of predominantly white female (n=213) and
male (n=146) employed adults. No significant differences were found on the summary scale scores as a function of income, education level or age. Mean comparisons of the two measures by gender yielded significant differences in total scores for women and men for three of the five NEO-FFI variables and three of the SDS scores. Therefore, the remainder of the analyses was run for each gender. A discriminant analysis for females revealed two significant discriminant functions that accounted for 75% and 34% of the relative variance while two significant discriminant functions were found to account for 53% and 42% of variance in males. The first function, Openness, similar to Gottfredson et al.'s (1993) study, was the same in both women and men. The second function for women was Agreeableness and Extraversion and for men Extraversion.

The first function for females best discriminated the Investigative and Artistic groups from the Conventional and Enterprising groups, while the second function discriminated the Artistic and Social groups from the Realistic and Investigative groups. In men, the first function discriminated the Artistic and Investigative groups from the Conventional and Enterprising groups while the second function discriminated the Enterprising groups from the Realistic and Conventional groups.

Forty-nine percent of the male sample was correctly classified by Holland type, while over 44% of the female sample was correctly classified. Researchers concluded that Artistic and Investigative types were more open while Conventional and Enterprising types were more closed, and discussed the apparent inconsistency with Holland's Enterprising description, which does not entail lack of Openness. In females, the Artistic and Social types scored highest on Friendliness while Realistic and Investigative types scored the lowest, which is more in keeping with Holland's theory. Although researchers found some significant relationships between the FFM and Holland's theory, they concede that the FFM does not provide for Holland's theory in its entirety. Again, it may be beneficial to use a more comprehensive theory and measure of personality. The possibility that the two domains of personality and career interests are not identical must also be considered.

Holland et al. (1994) investigated the relationship between the SDS (Holland, 1985) and the NEO-PI/FFI (Costa & McCrae, 1985), a short form of the NEO-PI (Costa & McCrae, 1985) in a sample of 123 women and 175 men. The SDS scales revealed differences in mean scale
scores for men and women, which was consistent with earlier findings. The correlations between the SDS and the FFI for women showed Openness correlated .43 with the Investigative scale and .51 with the Enterprising scale. Extraversion correlated .39 with the Social scale. For men, Openness correlated .62 with the Investigative scale and .50 with the Artistic scale while Extraversion correlated .31 with the Social scale. Researchers conceded that the SDS and the FFI were only weakly related. As previously stated, further research needs to be conducted to determine whether there is a meaningful relationship between the career and personality domains.

De Fruyt and Mervielde (1997) investigated the relationship between SDS (Holland, 1985c) and the NEO-PI-R (Costa & McCrae, 1992) in a sample of college students consisting of 436 women and 498 men from various departments. The student sample was slightly skewed toward higher SES. For women the Realistic scale had a .13 correlation with Extraversion and a .18 correlation with Openness. The Investigative scale did not show meaningful correlations. The Artistic scale correlated .15 with Extraversion and .50 with Openness. The Social scale had a -.13 correlation with Neuroticism, a .15 correlation with Openness and .30 correlation with Agreeableness. The Enterprising scale had a -.36 correlation with Neuroticism, a .46 correlation with Extraversion, a -.20 correlation with Agreeableness and a .31 correlation with Conscientiousness. The Conventional scale had a -.19 correlation with Neuroticism, a -.22 correlation with Openness, and a .39 correlation with Conscientiousness.

In men, the Realistic scale correlated -.13 with Neuroticism, .14 with Extraversion and .17 with Conscientiousness. The Investigative scale correlated .15 with Openness. The Artistic scale correlated .13 with Neuroticism, .56 with Openness and -.23 with Conscientiousness. The Social scale correlated .29 with Extraversion and .21 with Agreeableness. The Enterprising scale correlated -.24 with Neuroticism, .54 with Extraversion, -.21 with Agreeableness and .32 with Conscientiousness. The Conventional scale correlated -.23 with Neuroticism, .25 with Extraversion and .45 with Conscientiousness.

Researchers found that the Extraversion scale correlated with both the Social and Enterprising scales, Openness correlated with the Artistic scale and somewhat with the Investigative scale, and correlated negatively with the Conventional scale. As in other findings, the FFM fails to represent the Realistic and Investigative scales. These findings suggest that
while career interests and personality characteristics may be complementary, the two domains are not the same.

In a similar study of the relationship between career interests and personality characteristics, Schinka, Dye and Curtiss (1997) investigated the relationship between the Five Factor Model and Holland's theory of career choice. Researchers administered the NEO-PI-R (Costa & McCrae, 1992) and the SDS (Holland, 1985c) to 645 female and 389 male employed adults. A MANOVA determined significant gender differences (37% of the variance) so results for men and women were determined separately.

The results for men showed a relationship between Extraversion scale and the Social and Enterprising scales; the Openness and the Investigative, Artistic and Enterprising scales; the Agreeableness and Social scale; and a negative relationship between the Conventional and Social and Enterprising scales. The results for women showed a negative relationship between the Neuroticism and Investigative and Conventional scales; a positive relationship between the Extraversion and Enterprising and Investigative scales; a negative relationship between the Extraversion and Artistic scale; a positive relationship between Openness and both the Investigative and Artistic scales; a negative relationship between the Openness and Enterprising scale; a positive relationship between the Agreeableness and Social scale; and a positive relationship between the Conscientiousness scale and the Investigative and Social scales.

Researchers concluded that the Five Factor Model and Holland's theory are not parallel models of personality. Once again, the Five Factor Model did not address interest and activity patterns measured by Holland's Realistic scale. Conversely, the SDS failed to include traits typical of the Neuroticism dimension of the NEO-PI-R. In addition, Holland's theory does not have a relationship with Agreeableness in women or Neuroticism in men. The NEO-PI-R may not provide powerful predictors of some global aspects of personality including career interests. Therefore, it may have been more helpful if a measure with a large literature base in career prediction had been used such as the 16PF. It is clear that more research is needed to clarify these relationships.

Summary

Most of the research designed to investigate the relationships between career interests and personality has found moderate correlations. The most frequent findings were that gender
differences existed that affected the relationship between the two domains. SES and race also affected the relationships.

In addition, many researchers found that the Realistic and Conventional scales of Holland’s theory have not been adequately represented by the three or five factor personality models. Although some researchers, including Holland himself, have utilized Cattell et al.’s 16 Personality Factor model, they have failed to attend to race, sex, or SES. This study is designed to investigate the correlations between career interests as defined by Holland (1985) and personality characteristics as defined by Cattell et al. (1970).

Summary

The Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) has imposed several types of participation requirements on both individuals and states. States must outline how they will require a parent or caretaker receiving TANF to engage in work once they determine her to be job ready or she has received assistance for twenty-four months. It has forbidden the use of federal TANF funds to provide assistance to a family for more than sixty months in total and also has required that welfare recipients engage in “work” as defined by the state within twenty-four months.

States must also meet rising standards for the proportion of TANF recipient work activities, which include: unsubsidized employment, subsidized private sector employment, subsidized public employment, work experience, on-the-job training, job search and job readiness assistance, community service, vocational educational training, job skills training, education related to employment. PRWORA has encouraged states to move people into employment as rapidly as possible. It adopted a work first philosophy and people are encouraged to find jobs immediately.

Despite civil rights laws and affirmative action, the poor are more likely to be a racial or ethnic minority or live in a female headed family. In 2002, 39% of all AFDC recipients were Black, and of all Black women, 24.9% were below poverty level (Population Resource Center, 2003). Long term welfare users often lack the education, skills, or work experience to obtain
stable employment that pays enough to sustain their families. These users constitute the greatest policy challenge, and are the focus of most current efforts to move people from welfare into the work force. However, this task is not easy. Even the most successful welfare programs have met with limited success, and success was often determined by the strength of the local economy. The statistics point out that this is a population in need. If we are to assist in helping Black women on welfare with career counseling, psychological support, and career building skills, then we must understand the dynamics of their career development.

Currently, there are no career theories that exclusively address career interest development in racial and ethnic minorities. Several of the theories discussed fail to address this issue while others addressed sex, race and SES as some of the many relevant factors in understanding career interests. A few of these theories have been modified or enlarged with varied success to incorporate these variables. As no comprehensive theory for the career development specifically for minorities has been developed, it comes as no surprise that even less attention has been given to the unique career issues of Black women.

Career theories are also fairly consistent in their failure to directly address the manner in which race and socioeconomic status could impact career development. However, Holland recognizes that these factors may affect career development and does not discount that African American women may have different career development patterns. While all of Holland’s career interest assessment instruments are widely used, Holland (1990) himself cites the SDS as being the most comprehensive, user friendly, and is the most widely researched career interest measurement ever developed which provides the greatest research base (Brown & Brooks, 1990).

In general, researchers found that Holland’s theory is applicable to women. While gender differences were found in career interests, men and women in the same occupation tended to have similar scores on career interest assessment measures. Researchers also found that Holland’s theory is valid for college educated as well as non-college educated employed African Americans. While occupational interest differences were found between Black and white sample populations, they were less pronounced than gender differences. Blacks tended to score higher on the Social scale and lower on the Realistic scale than whites. African Americans and Whites in the same occupations tended to have similar scores on career assessment instruments.
Recurring problems in most of the research reviewed was that studies were dated, Black samples tended to be small, and researchers failed to take SES into account, and may have led to false conclusions regarding the impact of sex and race on career interests. In order to fully understand the career dynamics of poor Black women, socioeconomic status will have to be addressed in the research in order to decrease the possibility of inaccurate conclusion.

Holland readily acknowledges that characteristics such as race, gender and socioeconomic status may influence personality variables and therefore ipso facto career interests. The Three, Five and Sixteen personality factor models were reviewed in relation to career interests. Eysenck’s three factor model generally failed to be a useful measure of the relationship between the personality and career domains. While Costa and McCrae’s (1985) Five Factor Model showed more promise, the assessment instruments failed to meaningfully represent the Realistic or Conventional scales of Holland’s theory.

The Sixteen Factor Model (Cattell et al., 1970) tended to offer the most opportunity for the relationships between occupational interests and personality characteristics to manifest. Their personality assessment instrument, the 16PF has the largest research base in the field of career interests and job prediction. However, while the research base is extensive, researchers consistently failed to address the influencing variables of gender, race and SES. Non-dominant culture and gender groups may not have the opportunity to explore the full spectrum of occupations available to White males, and therefore, developed career interests are less indicative of their personalities. It is also possible that stereotypes have been internalized by these groups, and members may self-select out of certain occupational opportunities. With the advent of welfare reform, and its emphasis on work requirements, it behooves us to fully investigate these mitigating factors on the relationships between occupational interests and personality characteristics in African American women on welfare.

The researcher of this study sought to investigate the relationships between occupational interests and personality characteristics in African American women on welfare and contribute information previously lacking about the dynamics of gender, race, and socioeconomic status of these relationships to the existing body of research.
CHAPTER III

METHODOLOGY

Previous studies (Costa et al., 1984; DeFruyt & Mervielde, 1997; Gottfredson et al., 1993; Tokar & Swanson, 1995) have demonstrated that people tend to choose occupations that correspond to the personality characteristics. However, these studies generally did not include minorities or socioeconomic status in their sample. This study will explore the extent to which personality characteristics are related to career interests for African American women on welfare. This chapter will describe the procedures to be used to collect and analyze the data for this study that include research question and hypothesis, participants, procedures, research design, variables, instrumentation, and data analysis.

Research Question and Hypothesis

This investigation was designed to answer the question: What are the differences in personality characteristics based on career interests in African American women on welfare? The following null hypothesis was proposed: There are no differences between personality characteristics based on career interests in African American women on welfare. The alternative hypothesis was proposed: There are differences between personality characteristics based on career interests in African American women on welfare.

Participants

This study utilized pre-existing data of 185 participants from The Florida State University’s Career Quest Project. Career Quest, a career development and life skills training
workshop using a cognitive behavioral paradigm for welfare recipients, was funded by the State of Florida Department of Labor. The objectives of Career Quest were to aid and encourage participants to develop short and long term career goals and to recognize their abilities to change their current economic status. Participants attended a three-week program that consisted of sixty hours of psychological assessment, psychoeducational groups and individual counseling. Workshop content included career and self-exploration, career development, job seeking skills, communication skills, and assertiveness training. In addition, participants conducted independent research that pertained to increasing knowledge about vocational interests, opportunities, and self-efficacy.

Career Quest participants were referred to the workshop by the local state welfare office. Welfare recipients could be referred to Career Quest on either a voluntary or mandatory basis. Mandatory referral was made for those welfare recipients that met the following criteria: 1) unemployed for twelve of the previous twenty-four months 2) the participant had not earned a high school diploma (or its equivalent) and 3) children were a minimum of three years of age. However, those with younger children had the option to participate in Career Quest if they so chose (Ebener, Grider, Sankofa-Amammar, & Humphreys, 1996, cited in Sankofa-Amammar, 2000).

While the vast majority of participants fell under the above description, a small number unable to find employment volunteered as well. Many of these volunteers held high school or college diplomas and had extended employment histories. The entire participant sample had a mean education level of 11.5 years (Sankofa-Amammar, 2000).

Career Quest participants received Aid to Families with Dependent Children (AFDC) benefits such as food stamps, travel allowance (gas vouchers or bus passes), and Medicaid. In the fourth year of the program participants received child care expenses. Over 95% of the participants were women and 75% were African American. The mean age was 32.6 years and the mean length of time on AFDC was just over 5 years (Sankofa-Amammar, 2000).

The subjects for this study were drawn from this population based on the following criteria: 1) subjects identified themselves as African American 2) female 3) completed the two instruments to be used in this study.
Instrumentation

All Career Quest participants completed self-report and objective measures during the first two days of the workshop. The SDS (Holland, 1990) was given to participants on the first day of the workshop, and given instructions to take the assessment home to be completed. The 16PF (Cattell et al., 1970) was administered during workshop hours on the second day of the workshop. Prior to administration of these instruments, staff members assessed reading levels to ensure that participants comprehended them. Staff members explained the purpose and directions for each measure and were available to answer questions that arose.


Holland’s Self-Directed Search (1990) is the most widely used interest inventory in existence (Spokane & Holland, 1995). Holland (1990) described several benefits of this instrument such as small expense, non-threatening, and the quickness and ease of administration. It is a self-administered and interpreted career interest and ability assessment instrument. Participants were given an explanation of the purpose of the SDS, instructions, and unlimited time to complete. Staff members were available to address questions. The SDS begins with an Occupational Daydreams section. This asks the person their historical to present career aspirations. This section was included because Holland found that the predictive validity of an individual’s stated aspirations held better predictive ability than the high-point code of the VPI (Holland, 1985b) or selected scales from the SVIB. It emphasizes the importance of a person’s self-direction and is useful to compare the SDS assessed interest three point code. The Activities section contains 11 items, to be endorsed “Like” or “Dislike”, that list activities typical for each of the six career types and measure the personal involvement and the potential that are characteristic of each personality/environment type. The Competencies section contains 11 items to be endorsed “Yes” or “No”, that list abilities necessary to each career type and estimate an individual’s proficiencies and aptitudes for each occupational type. The Occupations section lists 14 occupations for each of the six types to be endorsed as “Yes” or “No” to convey interest. The Self-Estimates scales include self-ratings of abilities identified with only one occupational type. From these sections, the individual can assess his three point summary code, which is a hierarchical list of his three highest scores of the six RIASEC categories.
Validity and reliability.

The research on the SDS's validity and reliability with normed populations has been extensive, addressing both college and employed adult populations. Most of this research aimed at establishing the validity of the SDS for groups within these populations such as males, females, blacks, and whites.

In a sample of 521 females and 297 males aged 14 to 74, the SDS showed internal consistency coefficients to range from .59 to .92 for the sections and .84 to .92 for the summary scales. Test-retest reliabilities of the summary scales ranged from .57 to .78 after a four year interval in a sample of 540 college students (Holland, 1990).

Two studies have addressed construct validity of the SDS in various Black populations by comparing them to White populations. Walsh et al. (1983) compared a sample of 55 Black non-college-degreed working females with 55 White non-college-degreed working females in three traditionally female occupations in the Investigative, Enterprising and Conventional groups. The SDS differentiated between black and white population groups on the Enterprising scale (F=3.48, p .05). Walsh, Woods and Ward (1986) compared 47 Black working females with 41 White working women in the Realistic, Artistic and Social occupational groups. The SDS differentiated between black and white population groups on all six scales (F=3.23, p .01).

Walsh, Bingham and Sheffley (1986) compared a sample of 44 Black college educated working females with 65 Black college educated working males in Realistic, Investigative and Enterprising work environments. The SDS differentiated between males and females across all three scales (F=3.30, p .005). However, the findings in all three studies are based upon group sample sizes as small as 11 participants and may therefore not be statistically representative of a larger population. Additionally, Holland (1990) states that these differences are reflective of true group interests rather than an artifact of biased testing instruments.

Several studies have addressed concurrent validity using the SDS and the VPI (Holland, 1985b) with varying populations. Matthews and Walsh (1978), using a sample population of 114 non-college-degreed working women, found significant group differences in both the SDS and VPI inventories (F=3.50, p .001). Additionally, the test for main effects of groups was significant for all six scales of the SDS (p .01). In a similar study, Bingham and Walsh (1978), using a sample of 114 college-degreed Black women found significant group differences in both the
SDS and VPI inventories (F=7.03, p .001). Additionally, the test for main effects of groups was significant for all six scales of the SDS (p.01). In a third study, Ward and Walsh (1981), using a population of 102 non-college-degreed Black women, found significant differences between the mean scores for the six occupational groups on each scale for both SDS and VPI inventories (F=3.79, p .05). The SDS had a significant main effect (p .05) for the Investigative, Artistic, Enterprising, and Conventional scales. It must be noted that the N for each of the six occupational groups ranged from 12 to 23. This sample size may have been too small to capture the true effect for the groups.

**Sixteen Personality Factor Questionnaire Form C (16PF: Cattell, Eber, & Tatsuoka, 1970)**

The 16PF Form C (Cattell et al., 1970) is a 187 item inventory that measures the normal personality domain. The factors are bi-polar which means they represent each factor on a continuum so that both ends hold meaning. Standardized sten scoring is used. Sten scores range from one to ten, with a mean of 5.5 and a standard deviation of two. Scores of three and below are considered low while 8 and above are considered high. The more extreme a score is toward the given factor, the more likely an individual will display that factor pole’s characteristics.

The Sixteen Factor Model, developed by Cattell et al. (1970), relied on the statistical method of factor analysis, which describes the degree to which variables are either positively or negatively related to each other. In contrast to Eysenck’s Three Factor Model (described in Chapter Two), the Sixteen Factor Model was not based on a theory of personality to which a confirmatory analysis was applied, but rather utilized exploratory factor analysis to ascertain the structure of personality.

Cattell et al. (1970) systematically sampled the domain of personality-by-questionnaire. They began with a list of trait adjectives developed by Allport and Odbert (1936) and expanded upon it to develop self-report questions. They next performed a factor analysis of these questions along with a small number of ability items. This factor analysis produced 16 oblique primary variables. The sixteen factors are: warmth, intelligence, stability, dominance, impulsivity, conformity, boldness, sensitivity, suspiciousness, imagination, shrewdness, insecurity, radicalism, self-sufficiency, self-discipline, and tension. These factors are described fully in Chapter Two.
The 16PF has well developed norms based on more than 15,000 individuals in high school, college, and adult populations. The 16PF has been used extensively in vocational psychology to determine the personality profiles of various occupational groups (Cattell et al., 1970).

**Validity and reliability.**

Evidence is presented in the 16PF handbook for the validity of pure factors in relationship to the entire battery, with coefficient correlations “at least as high as have been reached for any attempted primary factor-pure measures” (Cattell et al., 1970, p. 37). A large body of research has reported the validity of the 16PF in various contexts and is among the most researched of personality questionnaires (Graham & Lilly, 1984). Construct validity ranged from .44 to .87, with most coefficients in the .60 to .80 range (Cattell et al.).

Average 16PF scores differ slightly by gender or cultural background (Schuerger, 2000), but usually less than half a sten (Hinman & Bolton, 1980; Hubbard, 1982; Whitworth & Perry, 1990). Minorities may show substantial differences on the Suspiciousness factor while women show substantial differences on the Sensitivity factor (Schuerger, 2000).

Test-retest reliabilities for American subjects at a 4-7 day interval range from .54 to .93, with most coefficients in the 0.7 to 0.8 range (Cattell et al., 1970). Stability coefficients ranged from .63 to .88 at a two month interval. They were .85 (Factor A), .63 (Factor B), .75 (Factor C), .85 (Factor E), .78 (Factor F), .84 (Factor G), .88 (Factor H), .87 (Factor I), .76 (Factor L), .71 (Factor M), .74 (Factor N), .77 (Factor O), .83 (Factor Q1), .81 (Factor Q2), .70 (Factor Q3), and .78 (Factor Q4) respectively.

For this study, researchers used the 1970 edition of the 16PF. Cattell, Cattell, and Cattell created an updated version of the 16PF in 2001 after the data for this archival study were collected. One of the primary differences between the two versions is the use of updated terminology within the items and factor names. For example, Factor F in the 1970 edition was labeled Surgency while in the updated version, it was named Liveliness. Another important difference is the increased user-friendliness of the manual of the updated version. Finally, the new edition uses new norms reflecting the 2000 census data on age, sex, race, and education level; and updated item text. Items were evaluated for potential gender, cultural, and racial bias and updated to make them easier to understand and often shorter. The two versions do not differ
substantially in content and share the same research foundation. In other words, the two versions measure the same 16 factors with the validity and reliability being built upon the previous version's validity and reliability.

**Procedures**

This study utilized 185 participant records. An identification number was assigned to each participant to insure anonymity. All participants signed research consent forms (Appendix A) and were informed of how obtained information would be used. Participants completed the demographic questionnaire on the first day of the workshop, which included a blank for filling in their race. Participants filled out both the 16PF and the SDS during the first two days of the Career Quest Program. The use of the archival data was approved by the Human Subjects Committee at The Florida State University.

**Research Design and Variables**

This archival study utilized data collected during the Career Quest project from 1992-1996. In order to assess the relationship between career interests and personality factors, the following variables were examined. The independent variables of career interests to be used in this study are the scales from the Self Directed Search (SDS): Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The dependent variables that will be used in this study are personality factors from the Sixteen Personality Factor (16PF): Warmth, Intelligence, Ego Strength, Dominance, Impulsivity, Group conformity, Boldness, Tender mindedness, Suspiciousness, Imagination, Shrewdness, Guilt proneness, Experimentiveness, Self-sufficiency, Compulsivity, and Anxiety.

**Data Analysis**

This study utilized the Statistical Package for the Social Sciences (SPSS 12.0; SPSS Inc., 2003). A multiple analysis of variance (MANOVA) was used to examine the differences in
personality characteristics based on the career interest types using the primary Holland code. Because the frequencies of the high point codes for the Realistic, Investigative, Artistic, and Enterprising types were too small to analyze statistically, only data from women who scored a high point code on the Social and Conventional groups could be used to investigate the differences in personality characteristics based on career interests. The dependent variables were analyzed using their derived ten scores in accordance with the stipulations of the 16PF test authors.

Follow-up ANOVAS were used to examine the differences in personality characteristics between the Social and Conventional career interest type groups on the 16PF (Cattell et al., 1970). Holland's RIASEC career interest types were used as the dependent variables and the 16PF factors was used as the dependent variables. Alpha was set at .05 for all statistical procedures.
CHAPTER IV

RESULTS

The purpose of this archival study was to investigate the relationships between career interests and personality characteristics in African American women on welfare. The study participants had to have completed a demographic questionnaire and identified themselves as African American, Holland's (1987) SDS, a career interest measure and the 16PF (Cattell et al., 1970), an instrument that measures normal personality characteristics. The differences in personality characteristics based on career interests were examined through the use of a multiple analysis of variance with the alpha level set at .05. This chapter is a presentation of the results that address the null hypothesis of the study.

Sample Population Descriptive Statistics

The sample population consisted of 185 participants. The mean age of the sample population was 32 years. The women in the sample had an average of 2.5 children. The descriptive statistics for the frequency of occurrence of high point, secondary, and tertiary summary codes are presented in Table 1. Eight participants had a tie for high point code and were therefore excluded from the frequency count. Of the 177 remaining participants in the study, the order of frequency of Holland’s high point summary codes was Social (n=94; 50.8%), Conventional (n=44; 23.8%), Enterprising (n=18; 9.7%), Artistic (n=10; 5.4%), Realistic (n=8; 4.3%), and Investigative (n=3; 1.6%). The frequency of secondary codes was Social (n=45, 24.3%), Conventional (n=41, 22%), Enterprising (n=28, 15.1%), Artistic (n=24, 13%), Investigative (n=16, 8.6%), and Realistic (n=11, 5.9%). Twelve participants had a tie for the secondary code and were therefore excluded from the frequency count. The frequency of tertiary
codes was Enterprising (n=50, 27%), Conventional (n=28, 15.1%), Investigative (n=24, 13%), Artistic (n=23, 12.4%), Social (n=20, 10.8%), and Realistic (n=8, 4.3%).

Table 1
Descriptive Statistics for the Frequency of Holland Career Interest Type codes

High Point Code (n = 177)

<table>
<thead>
<tr>
<th>RIASEC Code</th>
<th>Frequency</th>
<th>Percent</th>
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</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>8</td>
<td>4.3</td>
</tr>
<tr>
<td>Investigative</td>
<td>3</td>
<td>1.6</td>
</tr>
<tr>
<td>Artistic</td>
<td>10</td>
<td>5.4</td>
</tr>
<tr>
<td>Social</td>
<td>94</td>
<td>50.8</td>
</tr>
<tr>
<td>Enterprising</td>
<td>18</td>
<td>9.7</td>
</tr>
<tr>
<td>Conventional</td>
<td>44</td>
<td>23.8</td>
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Secondary Code (n = 165)

<table>
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<tr>
<th>RIASEC Code</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
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<td>5.9</td>
</tr>
<tr>
<td>Investigative</td>
<td>16</td>
<td>8.6</td>
</tr>
<tr>
<td>Artistic</td>
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<td>13.0</td>
</tr>
<tr>
<td>Social</td>
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<tr>
<td>Enterprising</td>
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<tr>
<td>Conventional</td>
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Table 1 - continued  
Tertiary Code (n = 153)

<table>
<thead>
<tr>
<th>RIASEC Code</th>
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<tbody>
<tr>
<td>Realistic</td>
<td>8</td>
<td>4.3</td>
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<tr>
<td>Investigative</td>
<td>24</td>
<td>13.0</td>
</tr>
<tr>
<td>Artistic</td>
<td>23</td>
<td>12.4</td>
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<tr>
<td>Social</td>
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<tr>
<td>Enterprising</td>
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<tr>
<td>Conventional</td>
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<td>6.5</td>
</tr>
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3-Point Code (n = 173)

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>35</td>
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</tr>
<tr>
<td>Investigative</td>
<td>46</td>
<td>24.9</td>
</tr>
<tr>
<td>Artistic</td>
<td>64</td>
<td>34.6</td>
</tr>
<tr>
<td>Social</td>
<td>170</td>
<td>91.9</td>
</tr>
<tr>
<td>Enterprising</td>
<td>119</td>
<td>64.3</td>
</tr>
<tr>
<td>Conventional</td>
<td>130</td>
<td>70.3</td>
</tr>
</tbody>
</table>

When ties were accounted for, 170 of the 185 women (91.9%) scored Social as one of their three summary codes. The Social type was either the high-point code or secondary code for 153 women (82.7%). Ninety-eight women (52.9%) had Social as their high-point code. These results are consistent with the literature in that African Americans have a higher frequency of social codes than Caucasian groups (Doughtie et al., 1976; Kimball et al., 1973; Miller et al., 1988). In review of the other career types in the three point summary code, the Conventional
code appeared in 130 women (70.3%), Enterprising appeared in 119 women (64.3%), Artistic appeared in 64 women (34.6%), Investigative appeared in 46 women (24.9%), and Realistic appeared in 35 women (18.9%).

The means and standard deviations of the raw scores on each of the six career interest types and the means and standard deviations of the 16PF are presented in Table 2 and Table 3, respectively.

Table 2
Descriptive Statistics of Holland Career Interest Type codes (n=185)

<table>
<thead>
<tr>
<th>RIASEC Code</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>15.0</td>
<td>10.1</td>
</tr>
<tr>
<td>Investigative</td>
<td>17.1</td>
<td>9.0</td>
</tr>
<tr>
<td>Artistic</td>
<td>17.8</td>
<td>11.1</td>
</tr>
<tr>
<td>Social</td>
<td>29.4</td>
<td>10.6</td>
</tr>
<tr>
<td>Enterprising</td>
<td>22.4</td>
<td>11.1</td>
</tr>
<tr>
<td>Conventional</td>
<td>24.8</td>
<td>11.3</td>
</tr>
</tbody>
</table>

Table 3
Descriptive Statistics of the 16PF Personality Factors (n=185)

<table>
<thead>
<tr>
<th>16PF Factor</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth (A)</td>
<td>4.24</td>
<td>2.12</td>
</tr>
<tr>
<td>Intelligence (B)</td>
<td>4.17</td>
<td>1.68</td>
</tr>
</tbody>
</table>
Table 3 continued

<table>
<thead>
<tr>
<th>Trait</th>
<th>Mean</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Stability (C)</td>
<td>4.69</td>
<td>1.90</td>
</tr>
<tr>
<td>Dominance (E)</td>
<td>5.60</td>
<td>1.70</td>
</tr>
<tr>
<td>Impulsivity (F)</td>
<td>4.92</td>
<td>1.7</td>
</tr>
<tr>
<td>Conformity (G)</td>
<td>6.15</td>
<td>1.55</td>
</tr>
<tr>
<td>Social Boldness (H)</td>
<td>5.08</td>
<td>1.91</td>
</tr>
<tr>
<td>Sensitivity (I)</td>
<td>4.76</td>
<td>1.72</td>
</tr>
<tr>
<td>Suspiciousness (L)</td>
<td>5.79</td>
<td>1.84</td>
</tr>
<tr>
<td>Practicality (M)</td>
<td>5.05</td>
<td>1.48</td>
</tr>
<tr>
<td>Shrewdness (N)</td>
<td>6.10</td>
<td>2.10</td>
</tr>
<tr>
<td>Insecurity (O)</td>
<td>5.04</td>
<td>1.83</td>
</tr>
<tr>
<td>Radicalism (Q1)</td>
<td>5.07</td>
<td>1.73</td>
</tr>
<tr>
<td>Self-Sufficiency (Q2)</td>
<td>6.41</td>
<td>1.67</td>
</tr>
<tr>
<td>Self-Discipline (Q3)</td>
<td>5.12</td>
<td>1.88</td>
</tr>
<tr>
<td>Tension (Q4)</td>
<td>5.14</td>
<td>1.76</td>
</tr>
</tbody>
</table>

Because the frequencies of the high point codes for the Realistic, Investigative, Artistic, and Enterprising types were too small to analyze statistically, only data from women who scored a high-point code on the Social and Conventional groups could be used to investigate the differences in personality characteristics based on career interests.
Differences Between Social and Conventional Career Interest Groups

In order to determine the differences between the Social and Conventional career interest groups on personality characteristics, a MANOVA was used. Wilks’ lambda test of significance was used, and alpha was set at .05.

The results of the MANOVA were statistically significant, $F(16, 121) = 1.916$, $p = .025$. Because the MANOVA was significant, follow-up ANOVAS were conducted to determine the differences in personality characteristics of each group. Social and Conventional. The results of the ANOVAS are presented in Table 4.

Table 4
Follow-up ANOVAS Examining Mean Differences in Personality Characteristics for Social and Conventional Groups

<table>
<thead>
<tr>
<th>Personality Factor</th>
<th>Mean Difference (Social – Conventional)</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth (A)</td>
<td>1.0691</td>
<td>8.087</td>
<td>.005**</td>
</tr>
<tr>
<td>Intelligence (B)</td>
<td>-.309</td>
<td>1.038</td>
<td>.310</td>
</tr>
<tr>
<td>Emotional Stability (C)</td>
<td>.5571</td>
<td>2.901</td>
<td>.091</td>
</tr>
<tr>
<td>Dominance (E)</td>
<td>-.4487</td>
<td>2.345</td>
<td>.128</td>
</tr>
<tr>
<td>Impulsivity (F)</td>
<td>.3622</td>
<td>1.337</td>
<td>.250</td>
</tr>
<tr>
<td>Conformity (G)</td>
<td>.2162</td>
<td>0.612</td>
<td>.435</td>
</tr>
<tr>
<td>Social Boldness (H)</td>
<td>.8936</td>
<td>6.517</td>
<td>.012*</td>
</tr>
<tr>
<td>Sensitivity (I)</td>
<td>-.544</td>
<td>3.222</td>
<td>.075</td>
</tr>
<tr>
<td>Suspiciousness (L)</td>
<td>-.5236</td>
<td>2.351</td>
<td>.128</td>
</tr>
<tr>
<td>Practicality (M)</td>
<td>.3912</td>
<td>2.098</td>
<td>.150</td>
</tr>
</tbody>
</table>
Table 4 continued

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrewdness (N)</td>
<td>-.4956</td>
<td>1.583</td>
<td>.210</td>
</tr>
<tr>
<td>Insecurity (O)</td>
<td>-.796</td>
<td>6.348</td>
<td>.013*</td>
</tr>
<tr>
<td>Radicalism (Q1)</td>
<td>.2491</td>
<td>0.671</td>
<td>.414</td>
</tr>
<tr>
<td>Self-Sufficiency (Q2)</td>
<td>-.7887</td>
<td>7.248</td>
<td>.008**</td>
</tr>
<tr>
<td>Self-Discipline (Q3)</td>
<td>-.1678</td>
<td>0.229</td>
<td>.633</td>
</tr>
<tr>
<td>Tension (Q4)</td>
<td>-.7476</td>
<td>5.840</td>
<td>.017*</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01.

Significant differences were found between the Social and Conventional groups on Warmth (A) (F = 8.087, p = .005), Social Boldness (H) (F = 6.517, p = .012), Insecurity (O) (F = 6.348, p = .013), Self-Sufficiency (Q2) (F = 7.248, p = .008), and Tension (Q4) (F = 5.84, p = .017).

The Social group scored significantly higher on Warmth (A) and Social Boldness (H) than the Conventional group. The Conventional group scored significantly higher on Insecurity (O), Self-Sufficiency (Q2), and Tension (Q4) than the Social group.
CHAPTER V

DISCUSSION

The purpose of this archival study was to investigate the differences in personality characteristics based on career interests in African American women on welfare. This chapter is a discussion of the descriptive data and the results of the statistical analysis and the implications for theory development, practice, policy and welfare reform, and future research.

Characteristics of the Study Group

Contrary to the stereotype of the young, unwed welfare mother with many children that is so often depicted in the popular media, the women in this sample averaged 32 years of age and had between two and three children. With the exception of 15 women, the women studied had Social as one of their three-point Holland career interest codes. The proclivity of African Americans to be represented by the Social code noted repeatedly in the literature clearly was evident in this sample population. This finding supports other studies of African American populations (Hager & Elton, 1971; Kimball et al., 1973; Doughtie et al., 1976; Ward & Walsh, 1981; Miller et al., 1988). It could be speculated that this proclivity is due to bias in Holland’s theory.

Holland maintains that it is not bias inherent in his theory, but rather an actual reflection of the career interest structure of African Americans. It is important to remember that he does not say why this occurs, but only that it does. In a response to Prediger and Hanson (1976), he asserts that while his theory does not address the roles that race, nationality, sex and religion have in career interest development, it does not mean that these factors do not influence vocational behavior (Holland, 1976).
This silence leaves other theorists and researchers to fill the gap. It is possible that the collectivistic nature of the African American culture is related to the overrepresentation of African Americans in Social career interests. Some researchers believe the preponderance of Social career interest type among African Americans is due to less discrimination in these career environments (Miller et al., 1988). Or at least, African Americans perceive these environments as more open to them. Miller et al. (1988) conjectured that African Americans may perceive these careers as being more acceptable in terms of prestige (than Realistic careers, for example) and more accessible than other careers, such as Investigative.

The history of oppression and discrimination of African Americans in the United States may be related to this overrepresentation of African Americans in Social career areas. Cheatham (1990) observed that the history of slavery in the United States serves to differentiate African American women from other minorities. A historical review of occupations held by African Americans in America reveals that many were relegated to jobs as household servants such as nannies, maids and other domestic positions. In addition, African Americans viewed these jobs as more prestigious than manual labor jobs such as working in agriculture.

Others assert this tendency to choose Social occupations occurs because women, Blacks, and people in the lower SES levels may not have access to knowledge about all of the spectrums of the world of work (Carter & Swanson, 1990; Hackett & Byars, 1997). Their lack of knowledge about the full range of careers available may preclude them from entering other areas.

Beale (1970) believed that Black women experience the “double jeopardy” of racism and sexism. The current sample population not only contends with these two-isms, but with classism as well. This fact brings to mind a concept of ‘triple jeopardy’, or to put it colloquially, three strikes and you’re out. It may indeed be that this population of poor, Black women feels they are sitting on the bench in the occupational arena and do not know how the game is played, what the rules are, and if others will let them play. We, as vocational counselors, may be able to serve as coaches in helping them to learn all of the playing positions available to them.

In an effort to explain the possible causes of the narrowing of career interests evident in these groups, several theorists and researchers have applied Bandura’s Social Cognitive theory to the development of career interests, behaviors and decision making. Krumboltz’s (1986) Social Learning Theory applies Bandura’s (1977) theory of Self-Efficacy directly to the career decision
making process. He attempts to address both internal and external factors and how they influence occupational choice and behaviors. Interactions between factors such as inherited qualities and attributes such as race, sex, and disabilities; environmental conditions and events beyond an individual’s control such as natural disasters, and political, social, and economic climates; learning experiences; and task approach skills produce three outcomes. These are new task approach skills, self-observation generalizations and actions that are relevant to the career decision process. Race, gender and SES, or their interaction, may influence the manner in which individuals approach tasks related to career decision-making, how they view their performance, and resulting actions.

Brown (1995) believed that African Americans may place a higher importance on outcome expectations than suggested by Bandura’s theory. If this is true, then interests may be curtailed because an individual does not believe they would receive a good outcome of pursuing certain career environments. Therefore, poor African American women may believe that efforts to train or apply for other interest code jobs may not be rewarded.

Hackett and Byars (1997) discuss the impact of vicarious learning on Black women’s self-efficacy expectations. Research has shown that models can influence the likelihood that an observer will engage in activities modeled (Bandura, 1977). When the models are personally relevant to the observer, it increases the chances that the observer will engage in the modeled behavior. In other words, if an admired Black woman engages in a behavior, the observing African American woman may be more likely to imitate that behavior.

This likelihood of imitation is also affected by the outcome that the model receives for engaging in the behavior. Although the number of visible successful African American women is increasing, there is still a scarcity of role models in relation to the number of white male role models, who are not personally relevant to poor African American women. Women such as Dr. Condalisa Rice and Oprah Winfrey are still seen as the exception to the rule, rather than the norm. As more African American women achieve in the workplace, Black women may have enough successful role models to believe they can choose from a wider career interest spectrum.
Because the frequencies of the high point codes for the Realistic, Investigative, Artistic, and Enterprising types were too small to analyze statistically, only data from women who scored a high-point code on the Social and Conventional groups could be used to investigate the differences in personality characteristics based on career interests.

The results of the MANOVA were statistically significant. In other words, there are differences in personality characteristics between the Social group and the Conventional group. In order to ascertain which personality characteristics distinguished the two groups from each other, follow-up ANOVAs were performed. Significant differences were found on five of the 16 personality factors. The Social group had higher levels of Warmth (A) and Social Boldness (H) than the Conventional group. The Conventional group had higher levels of Insecurity (O), Self-Sufficiency (Q2), and Tension (Q4) than the Social group.

The finding that the Social group achieved higher scores on Warmth and Social Boldness is in accordance with Holland’s theory. Holland (1997) describes Social people as agreeable, cooperative, empathic, friendly, generous, helpful, idealistic, kind, patient, persuasive, responsible, sociable, tactful, understanding, and warm. Cattell et al. (1970) describes Warm people as outgoing, kindly, easy-going, participating and liking people. They describe Socially Bold people as venturesome, uninhibited and able to handle stress. The consistency between the career interest type descriptors and the personality type descriptors is obvious. Therefore, it appears that African American women on welfare who have Social career interests do have personality characteristics that are congruent with Holland’s conceptualization of the Social career interest type.

Holland (1997) describes Conventional type people as careful, conforming, conscientious, dogmatic, efficient, inflexible, inhibited, methodical, obedient, orderly, persistent, practical, thorough, thrifty and unimaginative. Cattell et al. (1970) describes Insecure people as apprehensive, self-blaming, guilt-prone and worrying. They describe Self-sufficient people as resourceful and independent decision-makers. Finally, they describe Tense people as frustrated, overwrought and highly driven. These relationships between the personality traits of Insecurity, Self-sufficiency, Tension and Conventional career interests would be expected according to
Holland's theory. Therefore, it appears that African American women on welfare who have
Conventional career interests do have personality characteristics that are congruent with
Holland's conceptualization of the Conventional career interest type.

These findings are somewhat consistent with previous research. As in this study, Bolton
(1985) found that the Social and Conventional types scored near the mean on almost every 16PF
scale. Therefore, he concluded that the career interest types provided few relatively unique
descriptive personality characteristics. It is possible that the Social and Conventional types are
less well defined than other types such as Artistic and Enterprising, which have more unique
16PF profiles. Consequently, individuals who have Social and Conventional career interests may
have less distinctive personality characteristics.

Hughes (1972) investigated whether the VPI or the 16PF would be a better indicator of
Holland typology. He hypothesized that the 16PF would identify the Social type people as Warm
(A) and Controlled (Q3), but not Conservative (Q1) nor Self-Sufficient (Q2). He hypothesized
that the 16PF would identify Conventional type people as Conscientious (G), Practical (M),
Controlled (Q3), and Conservative (Q1). However, analysis of the data showed that the 16PF
successfully predicted only four Social people and only five Conventional people. He concluded
that the VPI is a better predictor of Holland type than the 16PF. In the current study, in
accordance with Hughes’ predictions, analysis showed that Social people were indeed more
Warm (A) and Conventional people were more Self-Sufficient (Q2).

The present study results show that the Social type individuals tend to be more Socially
Bold than Conventional individuals. Similarly, Ward et al. (1976) found that Conventional
people tended to score low on Dominant (E) and Socially Bold (H) characteristics.

Holland (1985b) investigated the relationship between career interests and personality
characteristics utilizing the VPI and the 16PF (Cattell et al., 1970) in a sample of school age
students. For female students, the Social career interest type positively correlated with Warmth
(A), Dominance (E), Impulsivity (F), Social Boldness (H), and Sensitivity (I). There were
negative correlations with Shrewdness (N), Radicalism (Q1), and Self-Sufficiency (Q2).
Conventional career interest types were found to be more Sensitive (I) and less Intelligent (B).
Accordingly, the current study also found the Social women were more Warm (A) and Socially
Bold (H) and less Self-Sufficient than the Conventional group. However, other relationships found in the earlier study did not manifest in the current study.

The findings of this study were also echoed in research using other personality assessments. Researchers who utilized the NEO-PI (Costa & McCrae, 1985) and either Holland’s SDS or VPI found some similar relationships. The Social scale was positively correlated with Extraversion [Warmth (A)] (DeFruyt & Mervielde, 1997; Schinka et al., 1997; Gottfredson, 1993) and Openness to Experience [Lack of Conservativeness Q1].

There was a negative correlation between Social career interest type and Neuroticism [Emotional Stability (C)] (Schinka et al., 1997) not found in the current study. This finding may be due to differences in sample population. DeFruyt and Mervielde’s (1997) sample was drawn from male and female students in Belgium. The racial, cultural, gender and socioeconomic differences may be too great for similarities to manifest.

Turner and Horn (1975) investigated personality characteristics and career interests in women of Mexican-American descent. In contrast to this study, they failed to find any personality characteristics that differentiated between the RIASEC groups. Again, this inconsistency in findings may be due to differences in sample populations and to the gap in time between the two studies. It stands to reason that there may be significant differences in career interest development between a population of Mexican American women in the 1970s and African American women in the 1990s.

Summary

The current study investigated a population not addressed in previous studies. The confounding variables in previous research of race, gender and socioeconomic status were removed because only poor Black women were studied. The study supported previous research in that, this population, like previously studied African American populations, showed a high proclivity to the Social career interest type. Also consistent with previous research, individuals with a Social high-point code tended to be more Warm (A) (Holland, 1985b) than the Conventional individuals. It also revealed other relationships between Holland’s career interest types and personality characteristics not previously seen (e.g., the relationship between the Conventional career interest type and Tension). The findings in the current study may indicate
that there is something unique about the relationship between career interests and personality characteristics in this population.

It is surprising that more personality factors did not differentiate the two groups. For example, it could be hypothesized that the Conventional group would be significantly more Conscientious (G), Suspicious (L), Practical (M), Conservative (Q1), and more Self-Disciplined (Q3) than the Social group. However, it must be remembered that personality characteristics are not completely independent. There is interplay between them and they can combine with each other which make the relationships between career interests and personality characteristics less linear. Or, given that this population may not be getting the opportunity to explore the full spectrum of careers available to other populations, developed career interests may be less indicative of their personalities.

Implications for Theory Development

Much debate has been generated about the applicability of the extant theories of career interest development that were based on research performed on white male samples. From the limited findings of this study, Holland’s theory seems to apply to low income African American women. Black women on welfare who were assessed using Holland’s (1985) SDS represented the full spectrum of career type interests. Therefore, Holland’s assertion that people can be categorized into the six personality types of Realistic, Investigative, Artistic, Social, Enterprising, and Conventional was supported with this population. Holland’s assumption that individuals differ in personality, abilities and interests also seems applicable to these women. Additionally, the study results showed that the women in the Social and Conventional Holland codes had significantly different scores on five of the 16 factors on the 16PF (Cattell et al., 1970). This provides support for Holland’s assumption that different occupations have people of different personalities.

However, while the women in this study did differentiate among themselves with respect to career interest types, as a sample group they showed an extremely high tendency toward Social occupations and interests. Holland maintained that gender, racial, socioeconomic,
geographic region, and age can influence the development of career interests. However, it seems necessary that in order to attend to the needs of this population, theory must provide more information regarding the extent and dynamics of these influences.

This population may not be getting the opportunity to explore the full spectrum of careers available to White males, so developed career interests are less indicative of their personalities. It is also possible that stereotypes are internalized and members may self-select out of some career types. A third possibility is that gender roles in this population tend to select out some of the choices in the six career typologies. This selection process may also be apparent in women in other non-dominant culture groups.

It may be helpful to integrate additional theory that provides more information not only on the dynamics of the relationships between career interests and personality characteristics, but other relevant factors such as the role of outcome expectations, role models, and racism, both real and perceived, and the effects they may have on career decision-making behaviors. Only with a foundation of a sound career development theory that addresses the unique dynamics of this population can we develop effective career counseling interventions. With appropriate career counseling interventions, it may be possible to improve the outcomes of the transition from welfare to work in African American women.

Counseling Implications

In this study, 170 of the 185 African American women on welfare (91.9%) scored Social as one of their three summary codes. The Social type was either the high-point code or secondary code for 153 women (82.7%). Ninety-eight women (52.9%) had Social as their high-point code. These findings have significant implications for career counseling of this group. As discussed previously, this overrepresentation of the Social career interest type may be related to contextual variables such as culture and past and current sociopolitical factors. The counselor must be aware of the potential truncation of career interest development as a result of these factors and utilize interventions to encourage exploration of the full spectrum of careers available. If, after career exploration, the client and counselor find that the Social type is a true representation of the
client’s career interests, it seems prudent to address upgrading occupational skills and training with this population to increase the likelihood of obtaining a job that is enjoyable and can provide financial stability.

Given the influence of contextual moderating variables on career development, the use of multicultural counseling interventions seem warranted. When working with low income African American women, it seems essential that the counselor consider the role of her and her client’s racial identity development in the counseling process. Career counselors are predominantly Caucasian and the impact of this cultural disparity should be assessed with regard to the counseling process. Consider the possible impact of rapport building between an African American female client who is in the resistance or immersion stage of racial identity development, characterized by anger and distrust of the dominant population, and a white counselor is in the Contact stage (Helms, 1991), characterized by lack of awareness of sociopolitical implications of race in the United States. It is highly likely these factors will pose a barrier to effective communication and change.

This population may benefit from an African American counselor (Betz & Hackett, 1981; Hackett & Byars, 1997) who could provide a better forum for the frustrations that this population may encounter when attempting to gain entry into a majority culture workplace. Due to the smaller numbers of minority counselors, this option often will not be possible. Therefore, in light of research that supports the effectiveness of role models (Bandura, 1977; Krumholz, 1986), it may be useful for the counselor to help the client develop a list of accessible role models and encourage the client to use them as a part of their support network. In addition, a formal mentoring program that includes African American women mentors may also benefit this population.

Despite multicultural training required by accreditation and credentialing bodies during pre-service and continuing education in many counseling fields, some Caucasian counselors may not be aware of the pervasive racism present in the world of work and the daily toll it may take on an individual who is trying to enter and improve their place in the workforce. At the minimum, additional training may be necessary for the counselor to acquire the knowledge and insight necessary to be effective with African American women on welfare.
While it would be an egregious generalization for a counselor to assume that every African American woman will experience racial, gender, or socioeconomic discrimination, a client’s beliefs regarding the accessibility of careers and previous or anticipated experiences of discrimination should be explored. African Americans and women may face both overt and institutional racism and sexism, not only in the hiring process, but in the career advancement process as well. Many individuals transitioning from welfare to work experience prejudice and discrimination due to their history of welfare dependence. It seems crucial for counselors to address these issues and assist African American women on welfare to develop appropriate methods to be assertive self-advocates and knowledgeable about legal recourse in instances of discrimination. This may help African American women to feel more power with regard to their ability to get a job and advance up the job ladder. Hopefully, this power can combat the stress and enhance the outcome expectations that can hinder career decision-making behavior.

To a limited extent, this study showed a relationship between career interests and personality characteristics in this sample population, which supports the applicability of Holland’s theory to African American women on welfare. However, it is surprising that more personality factors did not differentiate the two groups. If it is true that this group of women has limited opportunity to explore the full spectrum of careers in the world of work, their developed career interests may be less indicative of their personalities. Based on these results, Holland’s theory may be applicable but not adequate to develop effective career counseling interventions with African American women on welfare. Therefore, the career counselor may find it helpful to incorporate additional theory such as those based on Social Cognitive Theory (Bandura, 1977).

*Implications for Policy and Welfare Reform*

An individual’s economic conditions play an integral role in how the world of work is perceived (Fitzgerald & Betz, 1994). People on welfare often lack the education, skills, or work experience to obtain stable employment that pays enough to sustain themselves financially. In the United States, there is a high correlation between being an African American woman and
being poor. In 2002, 39% of all AFDC recipients were Black, and of all Black women, almost 25% were below the poverty level (Population Resource Center, 2003).

In light of the findings of this study, that career interests and personality are related, it seems prudent for the policies of TANF to include programs designed to include exploration of personality and career interests. Programs that target individuals with barriers to employment, such as disability, low educational achievement, and work histories that are unstable or include low wage, no benefit jobs are necessary to break the cycle of poverty. In order to do this, it seems feasible to help these individuals explore their career interests and options as well as encourage further career investigation and career decision-making behavior.

Programs based on rehabilitation models may be more effective than traditional career counseling models with this population. Interventions that target not only the individual but also the environment are an integral part of rehabilitation models. Psychoeducational interventions such as mentoring, education on the world of work, job seeking skills, and stress management, seem particularly relevant for poor African American women. Job shadowing may be useful to broaden the client’s experience of the world of work. Individual psychological counseling would also help these women resolve personal issues that may be barriers to employment.

Environmental interventions could include educating employers about the misperceptions of the welfare population and resulting discrimination. Client advocacy is also an appropriate service within rehabilitation models. For example, the counselor may speak to potential employers about a client’s abilities or facilitate the client’s entrance into training or educational programs. On a macro-level, the counselor could advocate for policy reform through professional associations.

There seems to be a conflict between the long-term goal of economic independence and policies that emphasize “work first” employment strategies without regard to career interests, job quality, skills (Kramer, 1998) and career interests. Although legislators believe that they provide necessary services to this population, welfare-to-work program outcome studies show that while there has been a dramatic decrease in the number of recipients, most welfare leavers have obtained low-wage jobs that do little to improve their long-term career outcomes (Fremstad, 2004).
Limitations of the Study and Implications for Future Research

The subjects in this study were African American women receiving AFDC benefits who attended the three week Career Quest program at The Florida State University in Tallahassee, Florida. Therefore, the study has addressed many of the limitations of the previous research, including confounding the variables of race, gender and socioeconomic status. However, the results are not generalizable to men, women of other races and ethnicities, people of other socioeconomic statuses, or African American women in other regions of the United States.

In addition, the instruments used in the analysis of the data are self-report format. Therefore, they may be susceptible to social desirability and attributional errors. Due to the large preponderance (51%) of Social high-point codes, the sample size was too small to have enough subjects to study all of the six Holland types. Therefore, the researcher was unable to analyze the correlations between the other four career interest types. Finally, due to statistical necessity, this study, like its predecessors, analyzed the data using the high point code. Holland believes that in practice, it is essential to use all three codes in investigating careers.

Further research needs to be conducted on this overlooked population. Because of the tendency for these women to have a Social high-point code, it would be helpful if future researchers studied a larger sample population. This way all six of the career interest groups could be studied for their relationship to personality characteristics. In addition, it would be helpful if a sound statistical method could attend to the entire three-point code, rather than only an individual’s high-point code.
APPENDIX A

HUMAN SUBJECTS COMMITTEE APPROVAL
APPROVAL MEMORANDUM
from the Human Subjects Committee

Date: December 20, 1999
From: David Quevedo, Chair
To: Peggy Ann Russell
P.O. Box 62
St. James City, FL 33956
Dept: Human Services and Studies
Re: Use of Human Subjects in Research
Project entitled: The Relationship Between Career-Interests and Personality Factors for African American Women on Welfare

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be exempt per 45 CFR § 46.101(b)2 and has been approved by an accelerated review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals which may be required.

If the project has not been completed by December 20, 2000 you must request renewed approval for continuation of the project.

You are advised that any change in protocol in this project must be approved by resubmission of the project to the Committee for approval. Also, the principal investigator must promptly report, in writing, any unexpected problems causing risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is M1336.

cc: O. Eberer
APPLICATION NO. 99.455
Participant Consent Form

FLORIDA STATE UNIVERSITY HUMAN SERVICES CENTER
CONSENT FORM

My signature indicates my consent to the Human Services Center of the Florida State University to work with me in making a more effective educational, vocational, or personal adjustment. I also consent to participate in research conducted using surveys, questionnaires, and tests administered to me while at the Human Services Center and as follow-up. I authorize those affiliated with Project Independence at the Human Services Center to obtain my address and phone number from the Department of Labor and Employment Security and/or the Department of Health and Rehabilitation Services so that I may be contacted in the future for the purpose of follow-up. A photocopy of my original signature may be accepted in lieu of the original form.

I understand that portions of the interview may be observed or recorded for training purposes only, that the confidentiality of counseling information will be maintained, and that all relationships with the counselors and staff will be maintained on a strictly professional basis.

Signed: ____________________________
Date: ____________________________
Witness: __________________________
Date: ____________________________

12/20/99
99 455
12/24/00
APPENDIX C

DEMOGRAPHIC QUESTIONNAIRE
HUMAN SERVICES CENTER

Information Sheet

Date __________________________

Counselors in the Human Services Center are committed to maintaining complete confidentiality of information you reveal. If you are concerned about this issue, please discuss it with your counselor.

NAME: ___________________________ BIRTHDATE: ___________________________

AGE: _______ SEX: _______ RACE: ___________________________

ADDRESS: __________________________

CITY: __________ STATE: ______ ZIP: __________________________

HOME PHONE NUMBER: (____) ________ WORK PHONE: (____) __________

MARITAL STATUS: __________________________ OCCUPATION: __________________________

Please circle the number of letters showing the highest year of normal schooling you have achieved:

1 2 3 4 5 6 7 8 9 10 11 12 College 1 2 3 4 5 6 7+

DEGREES EARNED:

High School Diploma ___________ GED ___________ Bachelors Degree ___________

Associate Degree ___________ Masters Degree ___________ Doctoral Degree ___________

Other __________________________

Have you had counseling or therapy before: YES _____ NO _____

If so, with whom? __________________________

Who referred you to or told you about the Human Services Center?

_____ Project Independence _____ Academic Advisor _____ Administration

_____ Academic Advisor _____ Student Health Center _____ Friend

_____ Student Health Center _____ Residence _____ Newspaper Ad

_____ Residence _____ Radio/TV Ad _____ Brochure

_____ Radio/TV Ad _____ Other (please specify) _____ Counselor

Participant # _____

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I now have, or have in the past, experience problems with:

- depression
- relationships
- skin problems
- trouble concentrating
- stomach problems
- sleep difficulty
- frequent nausea
- anxiety
- fainting spells
- headaches
- nervousness
- obesity
- aching muscles
- other

(please specify) __________

1. Are you presently receiving medical treatment: ___ Yes ___ No

If so, name of physician _______________ Phone # _______________

2. Are you presently consulting with another counselor or therapist? ___ Yes ___ No

If so, name of counselor or therapist _______________

Phone# _______________________________

3. Religious Affiliation _______________

4. Do you have children? ___ Yes ___ No

If yes, name and ages _______________________________

Do any of your children live with you? ___ Yes ___ No

If yes, please indicate which ones: _______________________________

5. What do you expect from this counseling experience?

What would you like to talk to the counselor about?

- Vocational concern (career choice of college major choice: planning for the future)
- A personal concern (concerns relating to my behavior, attitudes, or feelings about myself)
- An educational concern (lack of academic skills, achievement, or information)
- A relationship concern (marriage and/or family problems: same sex/opposite relationship problems)
- Other (please specify) _______________________________
Are you interested in further education? ___ Yes ___ No
What are your career interests and/or goals?

Most recent employment:
1. Job Title: ____________________________________________
   Name of employer: ______________________________________
   Hourly wage: ________ # Hours worked weekly: ______
   How long did you work at this job? ______________________
   How did you like this job? _____________________________
   Why did you leave this position? ________________________
   How well did you get along with the supervisors and other
   employees? _________________________________________

Other Previous Employment:
2. Job Title: ____________________________________________
   Name of employer: ______________________________________
   Hourly wage: ________ # Hours worked weekly: ______
   How long did you work at this job? ______________________
   How did you like this job? _____________________________
   Why did you leave this position? ________________________
   How well did you get along with the supervisors and other
   employees? _________________________________________
3. Job Title: _______________________________________

Name of employer: ______________________________________

Hourly wage: _________ # Hours worked weekly: ______

How long did you work at this job? ________________________

How did you like this job? ________________________________

Why did you leave this position? __________________________

How well did you get along with the supervisors and other employees? ________________________________

4. Job Title: _______________________________________

Name of employer: ______________________________________

Hourly wage: _________ # Hours worked weekly: ______

How long did you work at this job? ________________________

How did you like this job? ________________________________

Why did you leave this position? __________________________

How well did you get along with the supervisors and other employees? ________________________________
REFERENCES


Banikiotes, P. G. & McCabe, S. P. (1972). Interest and personality measurement: Relationship between Self-Directed Search and Eysenck Personality Inventory scores. Psychological Reports, 30, 158.


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Hubbard, D. L. (1982). Differentiation of Black and White college females on the second-order factor Tough Poise as measured by the 16PF. In *Proceedings of the 2nd Annual Conference on the 16PF Test* (pp. 56-59). Champaign, IL: IPAT.


Schuering, J. M. (2000). *The Sixteen Personality Factor Questionnaire (16PF).* In Testing and


BIOGRAPHICAL SKETCH

Peggy Ann Russell

EDUCATION

The Florida State University
Ph.D. Counseling Psychology
Tallahassee, FL
07/2005

Boston College
M.A. Counseling Psychology
Chestnut Hill, MA
05/1995

University of Florida
B.S. Psychology
Gainesville, FL
12/1988

PROFESSIONAL EXPERIENCE

The Florida State University Student Counseling Center
Doctoral Counseling Psychology Intern
Provided individual, group, vocational and couples counseling to students. Administered and interpreted psychological and career assessments. Provided crisis intervention and suicide assessment.
Tallahassee, FL
08/98 - 08/99

The Florida State University Career Quest Project
Project Assistant
Provided psychological and career counseling to AFDC recipients most of whom were African American. Administered and interpreted personality, career, and skills tests. Delivered workshop lectures and wrote reports integrating obtained data for each participant.
Tallahassee, FL
03/96 - 07/96

The Florida State University Career Center
Career Counseling Intern
Provided individual career assessment and career counseling to students and the Tallahassee community.
Tallahassee, FL
9/96 – 5/97

Wheaton College Counseling Center
Master’s Counseling Intern
Provided individual counseling to students. Led Adjustment to College group. Served as staff liaison for campus rape awareness and education organization.
Brockton, MA
9/94 – 5/95

Alachua County Crisis Center
Training Coordinator/Consultant/Counselor
Coordinated & supervised volunteer counselor training. Developed training materials for assessing lethality/suicidality, phone counseling skills, and community outreach skills. Instructed, supervised and evaluated trainees. Delivered presentations to professional and community organizations. Case management. Psychological and suicidality assessment. Facilitated coordinating care from appropriate community resources and organizations. Resolved crisis situations. Phone counseling.
Gainesville, FL
09/89 - 07/93
Alachua Adult, Child & Family Guidance Center  
Gainesville, FL  
Group Co-Leader  
Co-leader for weekly group for children ages 7-11 diagnosed with ADHD. Group objectives consisted of behavior modification, impulse control, and self-esteem enhancement exercises.

TEACHING EXPERIENCE

Tallahassee Community College  
Tallahassee, FL  
Adjunct Instructor  
PSY 2012 - General Psychology. An introduction to the field of psychology addressing such topics as learning, perception, intelligence, personality, biological bases of behavior and social behavior. 
CLP 1002 - Psychology of Personal & Social Adjustment. A study of personality development and the meaning of adjustment in the areas of vocation, avocation, sex, education, morality, and in society in general.

The Florida State University  
Tallahassee, FL  
Adjunct Instructor  
EDG 2701 - Teaching Diverse Populations. Course enrollment 120 students. Students acquire an understanding of the complexity and diversity in the North American and Florida populations in general and the school and community populations in particular.

The Florida State University  
Tallahassee, FL  
Teaching/Graduate Assistant to Jane Burkhead, Ph.D.  
1/03 - present  
Assisted in lesson and class preparation. Prepared grant reports, prepared and submitted grant requests.

The Florida State University  
Tallahassee, FL  
Teaching Assistant to Jane Burkhead, Ph.D.  
1/98 - 6/98  
Developed syllabi, prepared and taught graduate level lectures. Prepared and graded exams, supervised students.

RESEARCH/DATABASE EXPERIENCE

Florida State University Career Quest Project  
Tallahassee, FL  
Research Assistant to Deborah Ebener, Ph.D.  
3/96 - 9/96  
Library research, literature reviews, data collection, input and analysis.

Boston College  
Chestnut Hill, MA  
Research Assistant to Maureen Kenny, Ph.D.  
9/94 - 5/95  
Library research, data assessment, input and analysis.

University of Florida  
Gainesville, FL  
Research Assistant to Edward Malagodi, Ph.D.  
5/88-12/88  
Conducted experiments in operant conditioning, data coding and entry.