To the Graduate Council:

I am submitting herewith a dissertation written by Jessica Blalock entitled "The Development of a Conscientiousness Measure for African-American College Students". I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Experimental Psychology.

John Lounsbury, Major Professor

We have read this dissertation and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of the Graduate School

The Development of a Conscientiousness Measure for African-American College Students

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Jessica Blalock
May, 1999

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DEDICATION

This dissertation is dedicated to my parents

Mr. Jesse Blalock

and

Mrs. Ramella Blalock

for their endless support and encouragement throughout my matriculation.

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ABSTRACT

Conscientiousness has become an important construct in predicting the academic performance of students and the job performance of employees. However, there is some question as to whether or not conscientiousness is valid for African-Americans (AFAs). The present research project investigated the differences between AFA and European-Americans (EUA) students on two culturally specific conscientiousness measures: the African-American Conscientiousness Scale (AFACS) and *Factor G* from the Sixteen-Personality Factor (16PF).

This study was conducted in two phases. In Phase one, the AFACS was developed on AFAs. The AFACS was administered to 160 AFAs to determine the validity and reliability of the scale. The results demonstrated that there were two main factors that formed the AFACS (competence and rule following). In Phase two, differences between 192 AFA and 214 EUA students on the AFACS and Factor G were examined. This study also examined students' reactions (using the face validity scale and the perceived predictive validity scale) to the AFACS and Factor G.

The results of this study show that AFAs had higher mean scores on competence than EUAs, but there were no statistical significant differences on the rule following factor. For Factor G, AFA females had higher conscientiousness scores than EUA females, contrary to my hypothesis. The findings regarding students' reactions to the conscientiousness measures using the face validity scale and the perceived predictive validity scale show that there were no statistically significant differences between AFA females and EUA students on the etic and emic conscientiousness measures.

Nevertheless, the findings show that AFA males had more negative reactions toward all of the conscientiousness measures except on the perceived predictive validity scale measuring reactions toward the AFACS. It is proposed that for AFA males, their elevated feelings of distrust in American society may extend to their negative reactions toward tests.

The study on AFA and EUA differences is complex and will not lend itself to simple racial differences but by specific constructs being studied. There is a need for further research regarding etic and emic personality measures for AFAs and EUAs and reactions to these measures.

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PREFACE

Conscientiousness has recently become a widely studied and talked about personality variable that measures academic and job performance. Nevertheless, the research that has established these findings is mainly based on European-Americans (EUAs). Because different cultural groups have different values and beliefs, this personality construct may not adequately assess African-Americans (AFAs).

AFAs and other minority groups have often been left out in the validation of testing measures. Many researchers assume that behavioral patterns between cultural groups are the same and there is no reason to validate testing measures on minority groups. In my opinion, this viewpoint disregards the uniquely established behavioral patterns that exist in different cultural groups and across different ethnic groups.

This study represents a first attempt to develop a conscientiousness measure based on AFAs. This study also contributes to the limited research that has developed culturally based testing measures. Moreover, further research is needed that establishes whether or not culturally specific measures better predict the behavior for AFAs and other minority groups.

CHAPTER I: Introduction

Introduction

Overview

Conscientiousness is one of the five factors within the Five-Factor Model (FFM). The FFM, which emerged in the 1980s, was derived from extensive research (Costa & McCrae, 1985; Digman & Takemoto-Chock, 1981; Fiske, 1949; Norman, 1963). This research indicated that there are five basic dimensions of adult personality that have been repeatedly confirmed by factor analytic investigations. The five factors are: *Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness*. The FFM provides psychologists a framework for organizing research and guiding the assessment of individuals. This framework should be valuable to educational, clinical, and industrial and organizational psychologists (McCrae & John, 1992). In personality research there has been growing agreement that traits were consistent across situation and time (McAdams, 1992). Using different instruments, research has indicated that the FFM is quite robust (Costa & McCrae, 1988; Costa & McCrae, 1985), in different cultures (Borkenau & Ostendorf, 1990; Noller, Law & Comrey, 1987), as well as across different theoretical perspectives (Barrick, Mount & Strauss, 1994).

The FFM has provided an influential framework for assessing personality traits. Moreover, the FFM, especially the factor conscientiousness, has become an important tool in predicting the academic performance of students and the job performance of employees (Barrick & Mount, 1991; Digman, 1972; Digman & Takemoto-Chock, 1981; Dollinger & Orf, 1991; Johnson & Bloom, 1995). However, there has been some

question as to whether or not conscientiousness is valid for African-Americans (AFAs). Unfortunately, there has been limited evidence examining the impact of conscientiousness in relations to AFAs. That research indicates that AFAs score lower than European-Americans (EUAs) on conscientiousness (Blalock, 1998; Resource Associates, 1998).

The present research project investigated the differences between AFA and EUA students on two culturally specific conscientiousness measures: the African-American Conscientiousness Scale (AFACS), which was designed based on AFAs responses and *Factor G* from the Sixteen Personality Factor (16PF), which was designed based on EUAs responses. This study was conducted in two phases. In Phase One, the AFACS was developed based on AFAs. The AFACS was administered to AFAs to determine the validity and reliability of the scale, and the results are presented later in this section. In Phase Two, differences between AFA and EUA students on the AFACS and *Factor G* of the 16PF were examined.

Historical Background

Costa and McCrae (1992) developed a personality inventory to measure the FFM termed the NEO-PI. This was the first scale that explicitly measured the FFM. Presently, this instrument appears to be the most widely used and researched personality scale for measuring the FFM. According to the NEO-PI Manual, conscientiousness is defined as the degree of organization, persistence, and motivation in goal-directed behavior. Costa and McCrae proposed six facets of conscientiousness: *competence, order, dutifulness, achievement striving, self-discipline, and deliberation. Competence* is the disposition to

be accomplished, sensible and capable. *Order*, is an individual's tendency to keep one's environment tidy and well organized. *Dutifulness* refers to adhering to strict standards of conduct and it concerns the extent to which normative principles are observed. *Achievement Striving* is the motivation to strive for excellence. *Self-discipline* is the choice to consciously choose to continue with a task despite boredom or other distractions. Finally, *deliberation* refers to caution, planning, and thoughtfulness.

There has been lack of consensus regarding the labeling of the conscientiousness factor as a scale in research (see Appendix A; Barrick & Mount, 1991) and in its dictionary definition (Digman, 1990). In the past, conscientiousness has been defined as *will* (Digman, 1989; Digman & Takemoto-Chock, 1981; Webb, 1915), *superego strength* (Cattel, 1933), *dependability* (Tupes & Christal, 1961/92), and *conformity* (Fiske, 1949). However, in the literature, the term conscientiousness has become the term of general choice (and will be applied in this paper).

Conscientiousness was first defined by Webb (1915) as *will*. Webb analyzed a set of 39 "character qualities" and noted that beyond the general intelligence factor, there was a secondary factor; he termed this factor *will*. Webb explained:

> The evidence thus appears . . . that a second factor of wide, generality exists; and this factor is prominent on the 'character' side of mental activity (as distinguished from the purely intellectual side) (p. 58).

Later, Garnett (1919) confirmed Webb's finding of the secondary factor *will*. More recently, *will* has correlated with educational achievement in various studies (Digman & Takemoto-Chock, 1981; Dollinger & Orf, 1991; Johnson & Bloom, 1995).

Digman (1989) explained that conscientiousness was defined as persistence, planful, careful, responsible, neat, and orderly (in the positive direction) and by lackadaisical, careless, irresponsible, and quitting (in the negative direction). Digman hypothesized that the reason *will* was given its name was twofold: (1) Several studies indicate that this dimension played a major part in the missing variance in educational achievement studies, and (2) it has existed in the literature for years.

Another major milestone in the derivation of conscientiousness was Cattell's (1933) development of a standardized set of factors. The factor emerging from Cattell's studies that coincided with conscientiousness was *superego strength.* Cattell's *superego strength* was defined by the variables persevering, responsible, insistently orderly, conscientious, attentive to people and emotionally stable.

Cattell (1989) observed that *superego strength* consisted of cultural mainstream values. The *superego strength's* actions restrained and prompted certain behavior that was perceived as conscientious. In Cattell's view the psychoanalytic position proposed that the superego's contents were transformed into an image of an ideal self, which was called guilt whenever behavior was incongruous with this image or was in danger of becoming so. Conscientiousness was felt when the *superego's* contents clashed with incompatible personality elements. Cattell (1933) noted that:

> A number of normally, reliable and socially accepted but cynically ambitious individuals score low on the G (superego), although they have obviously exacted much from themselves in the pursuit of personal success and are in positions demanding high conscientiousness, or at least, wariness (p. 125).

In 1949, Fiske labeled this factor as *conformity*. Fiske investigated six groups of clinical psychologists who were applying for a job. Fiske found five recurring factors. One of these factors, *conformity*, was similar to the conscientiousness factor. *Conformity* was identified by the variables readiness to co-operate, serious, trustful, good-natured, easy-going and conscientiousness. Fiske explained that:

> These characteristics describe the person who "does the right thing", who obeys the social mores. He is " the good child in our society" grown older . . . he sees himself as well behaved, dependable, and conforming (p. 337).

Tupes and Christal (1961/1992) designed a study of personality trait-ratings. Their study was based on responses of military personnel and college students. These researchers found evidence for a factor similar to conscientiousness, which they labeled *dependability*. They reported that the primary definers of *dependability* are:

> . . . orderliness, responsibility, conscientiousness, perseverance, and conventionality, with several other variables (cooperativeness, mildness and emotional stability) (p. 233).

Hough (1992) explained that a less dependable person is one who acts on the spur of the moment, was rebellious, and contemptuous of laws and regulations.

One group of researchers argued that conscientiousness consisted solely of characteristics representative of dependability such as being careful, thorough, responsible, organized, efficient, and planful (Mount & Barrick, 1995). On the other hand, there is another group that suggested that the construct include characteristics of academic striving such as being perserving, hardworking, and achievement oriented.

Moreover, the term *conscientiousness* consisted of both dependability and will to achieve factors.

Overall, the research indicated that conscientiousness has been a consistent factor in many personality studies. Nevertheless, there has been variation in the name of this factor.

Significance of Study

There is ample evidence to suggest that conscientiousness significantly predicts job performance (Barrick & Mount, 1991; Mount & Barrick, 1995) and academic performance (Digman, 1972; Digman & Takemoto-Chock, 1981; Dollinger & Orf, 1991; Johnson & Bloom, 1995). In addition, there is evidence that conscientiousness is a reliable indicator of integrity (Murphy & Lee, 1994a.; Ones, 1993; Sackett & Wanek, 1996). Considering that various studies have noted that conscientiousness predicted job performance and academic achievement, it is important to examine whether or not the construct conscientiousness is racially biased against AFAs.

It is important to assess racial bias on the construct conscientiousness because for many years it was assumed that personality measures, like the Rorschach, had the same meaning to respondents regardless of cultural background (Moreland, 1996). However, by the 1960s, several psychologists had revealed that personality assessment devices developed in European culture might not adequately assess personality for members of minority groups. Moreland (1996) reported that:

> . . . this research generated a lasting interest in this problem for two reasons. It coincided with the rise of our current instance that all persons be treated fairly without regard for factors such as ethnic and cultural background. Moreover, the

> MMPI and similar instruments are used routinely to help make important decisions about individuals, such as whether they should be hired for a job (p. 52).

Since 1960, evidence has accumulated that AFAs have consistently responded differently from EAUs on several personality inventories, particularly on the Minnesota Multiphasic Personality Inventory (MMPI) (Dana, 1988; Gynther, 1972; Gynther, 1989; Jones, 1978). Unfortunately, this has led to misdiagnosis and exaggeration or minimization of psychopathology (Bryan, 1989; Gynther, 1989). On the other hand, many studies have noted that there were no differences in AFA and EUA responses to these personality measures (Greene, 1987; Kamp & Hough, 1988; Prichard & Rosenblatt, 1980). Thus, there have been mixed findings in the literature regarding the use of personality measures for AFAs.

Although there is extensive research examining racial bias on the MMPI, there has been limited data that specifically assessed racial bias on the construct conscientiousness. Several studies have investigated racial differences on conscientiousness among AFAs and EAUs. One study investigated conscientiousness among 400 EUA and 58 AFA college students using the conscientiousness measure in the NEO-PI (Blalock, 1998). There were six facets of the conscientiousness measure: competence, orderliness, dutifulness, deliberation, achievement-striving and self-discipline. Blalock found that AFA students had statistically significant lower scores on the conscientiousness factors dutifulness, achievement striving, and competence. There were no differences on the other conscientiousness facets.

Resource Associates (1998) also found differences among AFA and EUA applicants. They collected extensive data assessing conscientiousness among AFAs and EAUs at seven southeastern corporations. Participants were applying for the following positions: entry level, production associate, and manufacturing associate. Participants completed the factor *conscientiousness* within the Industrial Personal Style Inventory (IPSI). The factor *conscientiousness* was defined as a person's dependability, norm adherence and rule following orientation. Resource Associates found that there were statistically significant differences between AFA and EUA applicants in five of the seven companies examined (see Table 1). When there were differences, EUA applicants scored higher than AFA applicants did on the construct conscientiousness. In addition to these findings, Resource Associates found that the conscientiousness factors on the IPSI significantly correlates with the NEO-PI conscientiousness facets (.50) and Factor *G* of the 16 Personality Factors (.49).

In sum, there has been limited data examining racial bias among AFAs. However, the data showed that personality assessments may not adequately assess AFAs experiences. Other research also implied that participants' reactions may be a predictor of how individual's perform on tests (Schuler, 1993). Nonetheless, studying conscientiousness, racial bias in personality assessments, and participants reactions are needed to determine if the factor conscientiousness is a valid predictor for AFAs success in the workforce and in school.

Table 1:

Results of t-tests comparing African-American and European-American working adults on conscientiousness [Provided by Resource Associates (1998)]

		AFA	EUA	t
Sample 1				-3.21***
	Mean	4.0600	4.232	
	SD	.587	.540	
	Number	110	1577	
Sample 2				-2.28*
	Mean	6.8239	7.1196	
	SD	1.511	1.617	
	Number	176	1154	
Sample 3				-2.55*
	Mean	3.9500	4.0811	
	SD	.625	.487	
	Number	112	737	
Sample 4				-3.21***
	Mean	3.6833	4.0962	
	SD	.879	.566	
	Number	24	680	
Sample 5				-1.73
	Mean	3.9063	4.0894	
	SD	.812	.610	
	Number	37	559	
Sample 6				.63
	Mean	3.8392	4.0022	
	SD	.683	.549	
	Number	51	274	
Sample 7				-3.84***
	Mean	3.9790	4.1819	
	SD	.679	.531	
	Number	127	803	

Note: *p<.05; ***p<.001

Statement of Problem

This research project investigated the differences between AFA and EUA students on two culturally specific conscientiousness measures: the African-American Conscientiousness Scale (AFACS) and *Factor G* from the Sixteen-Personality Factor Scale (16PF). The AFACS was designed based on AFAs responses and *Factor G* was designed based on EUAs responses to statements that measured conscientiousness. The variables of research were conscientiousness and participants' reactions.

The purpose of this project was to determine whether or not there were differences between AFA and EUA students' scores on two culturally specific measures (*Factor G* and AFACS). A secondary hypothesis was proposed to determine if the AFACS better predicted academic performance of AFAs than did *Factor G.*

The AFACS has two facets: competence and rule following. The AFACS was developed by the author specifically for this research project and will be discussed more extensively later in the paper. *Factor G* is a common tool used in assessing conscientiousness among individuals (Cattell, 1989). According to Cattell, *Factor G* represented a construct similar to the Freudian superego, because it measured an internalized set of rules. The superego's action restrained and prompted certain kinds of behavior and was experienced as conscientiousness. Characteristics of *Factor G* are: conscientiousness, persistent, moralistic and staid.

A second problem was to identify the participants' reactions to measures of conscientiousness. The research assessed the participants' reactions to the AFACS and *Factor G* (to determine how participants feel about the measures). Helms (1992)

explained that AFA and EAU examinees had different cultural values, beliefs and experiences. Moreover, they have different beliefs and attitudes about (cognitive) testing. Consequently, AFAs could have negative reactions about their test-taking experiences. There has been limited data exclusively on AFAs and other minorities' reactions to tests.

An individual's reaction to assessments (tests) could strongly influence his or her response on the testing measures. Smither et al. (1993) reported that job applicants' reactions were a concern for several reasons.

> First, the effects that applicant reactions have on organizational attractiveness can indirectly influence pursuit or acceptance of job offers and can have other "spillover" effects. Second, applicant reactions may be related to both the likelihood of litigation and how successful a selection procedure can be defended. Third, such reactions may indirectly affect both validity and utility. . . . For example, perceived unfairness or low face validity may lower motivation to perform well on a test or other procedures (p. 49-50).

In the past, there has been limited attention on the social side of the selection process (Gilliland, 1993). The focus has primarily been on reliability, validity, and utility of employee selection procedures (Gilliland, 1993; Smither et al., 1993). Until recently, there has been limited research on individuals' reactions to a particular measure (Chan, 1997; Schuler, 1993; Smither et al., 1993). The 1990s sparked interest in investigating the social side of the selection process (Kudisch, Poole, Dobbins & Ladd, 1994). More specifically, Schuler (1993) found growing interest in considering the impact of selection situations on applicants: their well being, decisions, and behavior.

In sum, because of the limited data that assessed culturally specific tests on AFAs, this research project was designed to measure the differences between AFA and EUA

students' responses on culturally specific conscientiousness measures and their reactions to the measures. The next section discusses Phase One, the development of the AFACS.

Phase One

Overview and Method

During this phase, the AFACS was developed to assess conscientiousness among AFA students. The process was threefold. First, 15 AFA managers in the Atlanta-metro area developed statements that were representative of successful employees. Thereafter, they reviewed the conscientiousness measures in the 16PF (*Factor G)* and the NEO-PI. Participants made changes to the wording of the statements. Second, statements were reworded and revised by the researcher. Some of the statements were not included because they were not related to definitions of conscientiousness provided by Cattell (1989) or Costa and McCrae (1985). Third, 10 participants met with the researcher to discuss their interpretations of the scale.

There were 31 items in the AFACS (see Appendix B). Responses for each item were structured on a five-point Likert scale and organized into a three-page survey, along with demographic items regarding gender and age. This scale was administered to 160 AFA students and working adults.

Results

This section discusses the results of the demographic data, participants' interpretations of the scale, and the statistical analysis of the AFACS.

Of the 160 AFA students and working adults who participated in this study, 38% of the subjects were male, 61.9% female. Twenty-five percent of the subjects were 19

years of age. The remainder were: 25.6%, 23 and over; 17%, 20; 13%, 21; 9.4%, 18; 7.5% 22; and 2.5%, were under 18.

Ten participants provided feedback, six female and four male college students who previously completed the AFACS. All of the participants revealed that the AFACS seemed to be a good predictor of performance for AFAs.

The 31 items were factor-analyzed using the principal components method with varimax rotation (Norusis, 1993). Two main factors emerged, containing 11 items in the first factor and 10 items in the second factor. These items formed the AFACS. The first factor was labeled *competence,* and the second factor was labeled *rule following.* Coefficient alpha for competence was .82 and coefficient alpha for *rule following* was .82 (see Table 2 and Table 3). Modifications were made to the scale. Ten items were removed from the scale because they did not factor load on *competence* or *rule following*; they all had low factor loadings. The revised scale was administered in Phase Two.

Table 2:

Summary of Corrected Item Total Correlation and Alpha for

Competence

General evaluative factors	Corrected Item-Total Correlation
Question 24: I always strive for excellence despite barriers.	0.5477
Question 25: I strive to achieve all I can despite setbacks.	0.5943
Question 26: I strive to live up to moral values and principles promoted by leaders I respect.	0.6351
Question 4: In order to succeed, I focus on striving for excellence no matter what the barriers.	0.6888
Question 8: I keep my belongings clean and neat at all times.	0.3931
Question 6: I continually strive toward my goals regardless of barriers.	0.4837
Question 3: I have a strong desire to be successful.	0.5182
Question 33: I always have to stay on target because there are people who want to see me fail.	0.3681
Question 11: I am always persistent in getting the job done.	0.4976
Question 5: Because of my cultural status, I know it is important for me to be fully prepared at my workplace.	0.3917
Question 21: I admire a person who has strict moral standards.	0.3388
Alpha = .8150	

Table 3:

Summary of Corrected Item Total Correlation and Alpha for Rule Following

General evaluative factors	Corrected Item-Total Correlation
Question 12: I respect authority only when it is necessary.	0.4308
Question 18: Following a lot of rules can prove to be disturbing.	0.5412
Question 17: If a person is clever enough to get around the rules then he or she should do it if there is an important reason for it.	0.5543
Question 22: In some instances, I will not respect an authority figure if I feel that the person has different values than mine.	0.6413
Question 23: I respect rules only if they are worthwhile or legitimate to my cultural norms.	0.7242
Question 14: I think it is O.K. to disregard a rule if another cultural group that is difference from my own cultural group has imposed on me.	0.5252
Question 32: I prefer a workplace without a lot of rules and regulations.	0.3937
Question 10: It is O.K. to break rules if there is a good reason for it.	0.4949
Question 27: I do not conform to professional standards if it risks jeopardizing my culture.	0.3888
Question 7: I respect rules only if they are legitimate.	0.3276
Alpha = .8181	

CHAPTER II: Literature Review

Research on Conscientiousness

As noted in Chapter 1, conscientiousness is becoming a widely studied factor that often examines the relationship between academic performance, job performance, and integrity. This section discusses research on conscientiousness relating to the aforementioned variables.

Academic Performance

Digman (1972) reported that academic aptitude explained 40% to 50% of academic achievement. Thus, there may be other factors accounting for academic factors such as nonintellective factors. One nonintellective factor that has received extensive attention in the literature as an effective predictor of academic performance was conscientiousness. Digman explained that conscientiousness correlated with academic achievement. By using characteristics that relate to conscientiousness, there have been impressive predictions made in the area of educational achievement for college students (Digman, 1972/1990; Smith, 1967). This section discusses research on the relationship between conscientiousness and academic performance, mainly investigating college students. These studies looked at academic achievement and procrastination.

Conscientiousness was first noted by Webb (1915) as an important component in predicting academic achievement. Later, Smith (1967) conducted one of the first studies linking academic achievement and conscientiousness. Smith noted the impressive predictions that could be made in the area of educational achievement for undergraduate and graduate students. He examined the relationship between nonintellective factors and

academic success on 42 bipolar personality traits. There were 348 college students who each rated the personality of five of their peers. He found that 10 variables predicted first year grades for students: quitting, inquisitive, conscientious, prone to daydream, responsible, insistently orderly, self-reliant, languid, socially mature and resourceful. All of these variables except conscientious, were factors of *strength of character*. Smith concluded that factors relating to *strength of character* (conscientiousness) were important correlates of academic success. Wiggins and Blackburn (1969) reported similar findings. They found that for graduate students, conscientiousness and need-achievement were important predictors of success.

Taking a different approach, Digman (1972) conducted a longitudinal study on children's personality from 1959 to 1966. Digman used teachers' ratings of student personality. This study correlated 11 personality measures (i.e., friendliness, intelligence, ego strength, activity, dominance, industriousness, gregarious, relational security, compliance, creativity, tension) with grade point average. The highest correlations with grade point average were intelligence and industriousness (or will to achieve).

During the late 1970s and the 1980s there was limited research examining conscientiousness-related factors with academic performance. However, the 1990s sparked a renewed interest in investigating conscientiousness-related factors with academic performance. Dollinger and Orf (1991) assessed the construct validity of conscientiousness. They wanted to determine if conscientiousness was a predictor of performance for students enrolled in an undergraduate psychology course. There were 118 college students who completed the NEO-PI. The authors found that

conscientiousness was a successful predictor of students' grades, objective test performance, and independent credit points.

Like Dollinger and Orf (1991), DeFruyt and Mervielde (1996) examined the relationship between academic achievement and personality variables among students in Europe. Subjects were 741 students attending the University of Ghent and 193 seniors from the Catholic Industrial Engineering School of Ghent. Participants completed the NEO-PI. Detailed information about the students' careers and grades were obtained from the administrative boards at the two colleges. The authors concluded that conscientiousness was related to academic achievement and that interest and personality traits were significant predictors of educational streaming. For both groups, conscientiousness was significantly correlated with student grades. For the first sample, students at the University of Ghent, all conscientiousness facets were substantially and significantly related to educational outcomes except for deliberation.

More specifically, Wolfe and Johnson (1995) conducted a regression analysis to determine what factors contribute to college grade point average. Factors that were used in the regression analysis were SAT scores, average grade point average in high school and 32 personality variables. Data were collected from 201 college students. The regression analysis indicated the main factors that contributed were college grade point average, self-control, and SAT scores, respectively. Intercorrelations among the self-control variables showed that conscientiousness accounted for equal portions of GPA variance and entered the regression analysis ahead of SAT scores.

A different study that looked at how personality factors impacted motivational constructs found that subjects who scored high on the achievement scales were more conscientious (Piedmont, 1995). In that study, 263 women completed several measures: an adjectives checklist, Fear of Success Scale (FOS), Concern Over Negative Consequences of Success Scale (CNCS-FOS), Reactions to Tests Scale (RTT), Fear of Failure Scale (FOF), Projective Assessment of Fear of Success (TAT-FOS) and a Projective Assessment of Achievement Motivation (TAT-ACH). Piedmont found that achievement scores correlated positively with conscientiousness and the FOS, FOF and Test Anxiety scales all correlated negatively.

These studies found that conscientiousness was a valid predictor of college students' academic performance. In addition, conscientiousness was found to be just as important as SAT for measuring academic success in college students. Conscientiousness has also been found to be a valid predictor of students' procrastination. Watson and Hubbard (1996) explained that:

> Conscientiousness is related to active, problem-focused response strategies. Conscientious individuals devise a careful strategy (planning) to eliminate the problems they face (active coping), and they forego other activities to concentrate more fully on the tasks of the problem solving (suppression and competing activities); furthermore, they are persistent and do not give up their efforts at goal attainment (behavioral disengagement), nor do they turn to alcohol, drugs, or diversionary activities to take their minds off their problems (alcohol-drug disengagement, mental disengagement) (p. 758).

Thus, conscientiousness may be inversely related to procrastination (postponing the completion of a task to the point of feeling uncomfortable about one's delay) (Johnson & Bloom, 1995).

Schouwenburg and Lay (1995) analyzed the trait procrastination and the Big Five (i.e., Neuroticism, Extroversion, Openness, Conscientiousness, Agreeableness) in several European countries using personality statements and trait adjectives. Correlates of trait procrastination include achievement motivation or hope for success, planning and time management skills, work discipline, study motivation and self control. They found that procrastination was largely associated with lower levels of conscientiousness. Trait adjectives that were highly related to trait procrastination (in study 1) included undisciplined, lazy and disorganized. Trait procrastination (in study 2) was highly related to lower scores on each of the six facets on conscientiousness.

More specifically, Johnson and Bloom (1995) examined academic procrastination. The study investigated whether or not the Big Five contributed to procrastination. There were 202 undergraduate students who completed the NEO and the Aitken Procrastination Inventory. Stepwise multiple regression revealed that conscientiousness accounted for a significant portion of the variance of procrastination scores. It also indicated that lack of self-discipline (the most powerful predictor of procrastination) and impulsiveness accounted for most of the variance of the procrastination scores. The author suggested that:

> . . . high procrastination may be viewed as disorganized, absentminded, inefficient and lacking industriousness. Additional characteristics of procrastinators would include decreased Achievement Striving with a relative lack of ambition, determination, and persistence. Finally, procrastinators are characterized by decreased competence and deliberation which suggests a lack of self-confidence, resourcefulness and thoroughness combined with carelessness and impulsivity (p. 131).

Overall, conscientiousness (i.e., will to achieve, industriousness, and strength of character) was found to be a valid predictor of performance according to children's and college students' peer ratings. More recent studies, using the NEO, also have demonstrated that conscientiousness was a valid predictor of academic performance and that low conscientiousness was related to high procrastination. Similar findings occur in research relating to job performance.

Job Performance

Over the past 25 years, research examining the validity of personality measures for selection purposes have been limited (Barrick & Mount, 1991). During this time, there was no well-accepted taxonomy for classifying personality traits. Hough et al. (1990) offered an explanation:

> We believed one reason for this finding was the validity coefficients were summarized across temperament constructs, thereby obscuring underlying predictor-criterion construct relationships (p. 583).

However, in the past 10 years, researchers have come to a general consensus regarding the structure and concepts of personality (Barrick & Mount, 1991). As a result, there has been substantive interest regarding the role of personality measures in understanding behavior at work (Mount & Barrick, 1995).

Through the use of taxonomies, mainly from the Big Five personality dimensions and meta-analytic methods, researchers have identified predictive relationships between personality constructs and job-related criteria (Ones, Mount, Barrick & Hunter, 1994). Due to this, substantial progress has been made in understanding the structure of

personality and the relationship of personality constructs to job performance. This section discussed meta-analytic studies that had been conducted within the past ten years on the relationship between conscientiousness and job performance and research on conscientiousness and integrity tests.

The meta-analyses have categorized various personality scales to examine the relationship between performance criteria and personality constructs. One study reviewed literature on correlations between self-reports on dependability and achievement (Hough et al., 1990). Specifically, this study reviewed criterion-related validities of personality constructs. They found that achievement and dependability were valid predictors for all job-related criteria. Researchers included 146 content scales of 12 multiscale temperament inventories that appeared to be the most widely used. Each scale was assigned to one of six category constructs. The taxonomy for criteria for studies conducted between 1960 and 1984 were: education, training, job involvement, job proficiency, delinquency, and substance abuse. That study found that achievement, adjustment, and dependability correlated positively with education, training and job involvement. In addition, these constructs correlated negatively with the delinquency criterion. The authors explained that surgency, adjustment, agreeableness, dependability, achievement and locus of control were "potentially important predictors of performance in the United States Army" (p. 583).

Like Hough et al. (1990), Barrick and Mount (1991) identified conscientiousness as a main predictor of job performance. They attempted to explain the relationship between the personality dimensions and job performance criteria among different

occupations. They investigated the relationship between the Big Five personality dimensions to three job performance criteria (i.e., job and training proficiency, and personnel data) and four occupational groups (i.e., professionals, police, managers, sales and skilled/semi-skilled). A literature search was conducted to identify published and unpublished criterion-related validity studies for selection purposes between 1952 and 1988. This search yielded 117 acceptable criterion-related validity studies. The study found that conscientiousness was a valid predictor for all occupational groups studied and for all criterion types. The authors explained that, "those individuals who exhibit traits associated with a strong sense of purpose, obligation, and persistence generally perform better than those who do not" (p.18).

Up to this point, the aforementioned meta-analyses have demonstrated that conscientiousness was a valid predictor for all occupational groups and all job-related criteria studied. However, in one study, conscientiousness was not found to be a valid predictor of job performance (Tett, Jackson & Rothstein, 1991). They conducted a meta-analysis to assess the overall validity of personality measures as predictors of job performance; investigate the moderating effects of several study characteristics on personality scale validity; and appraise the predictability of job performance as a function of eight distinct categories. Data from 86 studies were included in the meta-analysis. Researchers found that out of the Big Five factors, agreeableness had the highest correlations with job performance and conscientiousness had the lowest correlation.

Ones et al. (1994) provided several explanations for the conflicting results in the aforementioned meta-analysis. First, Tett et al. had a small sample size. For predicting

job proficiency, Tett et al. (1991) used seven studies for the conscientiousness factor while Barrick and Mount used 92 studies. Second, the procedure used to assign scales to the personality dimension was not described in the article. Nevertheless, this information was described in Barrick and Mount's (1991) study. Third, Barrick and Mount summarized the validity of the Big Five constructs across a number of different occupations, whereas Tett et al. reported validities across job categories. Notwithstanding, most studies conclude that conscientiousness is a valid predictor of performance.

A more recent and comprehensive meta-analysis examined research on conscientious as a predictor of job performance (Mount & Barrick, 1995). In that study, conscientiousness was categorized into two lower-level components, achievement and dependability. The study addressed two main questions: whether better predictions occur at the Big Five construct level (conscientiousness) and whether better prediction is obtained when global criteria are compared to specific criteria. The performance measures were: (a) overall job performance, (b) training proficiency, (c) technical proficiency, (d) employee reliability, (e) effort, (f) quality, (g) administration, (h) interpersonal orientation, (i) creativity and (j) combat effectiveness. There were 173 studies with a total sample size of 37,780. The study had several findings. First, conscientiousness predicted specific criteria as well or slightly better than did achievement and dependability. Second, conscientiousness and its components predicted specific measures of performance better than they predicted overall measures of job success. Third, conscientiousness and its components were strongly related to criteria

determined by motivational effort as opposed to components strongly related to ability factors. Fourth, the lower level components were better predictors of specific performance measures than conscientiousness.

Moreover, most studies in these meta-analyses found that conscientiousness was a significant predictor of job performance. Studies that have examined the relationship between integrity and conscientiousness have revealed similar findings.

Integrity

Since meta-analyses have linked conscientiousness and job performance, links between conscientiousness and the field of integrity have been posited (Sackett & Wanek, 1996). Murphy and Lee (1994a.) reported that conscientiousness might be the best predictor of integrity. Sackett and Wanek (1996) explained that:

> Two lines of inquiry linking integrity and the Big Five have been pursued. The first is the question of the relationship between integrity tests and the Big Five in general and conscientiousness in particular. The second is whether conscientiousness explains the predictive validity of integrity tests. In other words, does the relationship between integrity tests and criteria of interest diminish or disappear after partialing out conscientiousness? (p. 805)

In an unpublished dissertation, Ones (1993) conducted a meta-analysis on the relationship between integrity and the Big Five. Ones classified personality measures into the Big Five and correlated the relationships between integrity measures. Ones reported that out of the Big Five personality dimensions, conscientiousness was the most reliable indicator of integrity (.42). She explained that integrity tests identify people who are conscientious, responsible, and dependable on the job.

Murphy and Lee (1994b.) found that conscientiousness is the best predictor of scores on two integrity tests. There were 180 college students who participated in this study. This study selected two integrity tests: The London House Personnel Selection Inventory (PSI) and the PDI Employment Inventory (PDI). There were several conscientiousness measures: (a) the prudence scale of the Hogan Personality Inventory, (b) 10 items from a number of scales, and (c) scale items that were used in Barrick and Mount (1991) meta-analysis. Murphy and Lee found that scores on both conscientiousness measures were significantly correlated with scores on both integrity tests.

More specifically, one study examined the relationship between EUA white-collar and blue-collar criminals and EUA collar employees (Collins & Schmidt, 1993). That study used several personality measures, an integrity measure and biodata scales. The study included 329 federal prison inmates who had been convicted of EUA-collar crimes and 320 employees in EUA-collar positions. The results indicated that the largest differences between the two groups were performance, socialization, tolerance, responsibility, and extra curricular activities. The author explained that, "The aforementioned personality factors have a common theme that should be termed conscientiousness" (p. 307).

In sum, these studies have consistently posited conscientiousness as a valid predictor of academic performance, job performance, and integrity. Due to these findings, it has been reported that conscientiousness should be used as a nonintellective predictor in educational settings and at work to predict successful performers.

Unfortunately, these studies mainly have been conducted on EUAs. Thus, there have been a disproportionately small number of minorities, in particularly AFAs, participating in these research studies. As a result, there may be some racial bias against certain minority groups. In addition, there may be racial bias against AFAs because the inventories that measure conscientiousness were developed for EUAs. The next sections discuss research on racial bias among AFAs regarding personality measures and academic achievement tests. But first, cultural factors that affect behavior will be examined.

Cultural Differences

Conscientiousness has been a widely studied factor that mainly assessed middle-class European Americans. Because conscientiousness is becoming an important nonintellective measure, it is important to assess the impact conscientiousness and other personality measures constructed based on middle-class EUAs have on AFAs. At this time, there have been no studies that assess racial bias using a "conscientiousness" scale. This section examines the definition(s) of culture, discusses how culture influence's behavior, discusses the impact culture has on testing and considers different methods that have been used to develop tests.

Helms (1992) explained there is no accepted definition of *culture* in American psychology. However, she defined culture as learned or acquired behaviors or traits attributable to the socialization experiences that result from membership within society. More specifically, Frisby (1992) discussed six meanings that have been commonly associated with the word *culture*. First, culture has been referred to as characteristic

patterns of living: customs, traditions, values and attitudes associated with differences in a society's level of technological sophistication. Second, culture has been defined as significant artistic, humanitarian or scientific achievements of members of one's ethnic group, or the peoples of one's ancestral homeland. Third, culture has been defined as a common set of attitudes and beliefs that may guide a person's feelings about issues that affect his or her group. This definition of culture is referred to race consciousness. Fourth, culture has been defined as norms and values in which the child is socialized. Fifth, culture has been defined as differences in racial groups in such characteristics as popular clothing or fashion, music or dance styles, styles of religious worship or speech and language style. Lastly, culture has been defined as people who are ethnically different or "culturally different" from the majority culture. Dana (1990) reported that:

> For most groups, the culture components in their lives is part of consciousness from early childhood, a source of strength and identity, and a context of other persons who have shared a similar past. Values shape affects, cognitions and behaviors into a distinction worldviews that provide a basis for the decisions that structure everyday life (p.8-9).

Because of diverse cultural influences on different ethnic groups, various groups often exhibit different personality characteristics (Sue, 1991). So, when assessing cultural influences on test performance across racial groups requires assessing dimensions, thought to characterize each racial group such as behaviors, beliefs, and values (Helms, 1992). Unfortunately, test material designed and standardized in one culture is often administered in another (Brislin, Lonner, & Throndike, 1973; p. 6). The major problem with this is when tests are designed based on one cultural group, the test

may not have relevance in other cultural groups. Fishman, Deutsch, Kogan, North, and Whiteman (1964) reported that:

> 1. Tests may lack reliable differentiation in the range of minority group scores, which tend to cluster at the lower end of the total range.
> 2. Tests may not predict for the minority children what they predict for the white middle-class child.
> 3. Test results should be interpreted by professionally trained personnel who possess a thorough understanding of the sociocultural background of the group being tested (p. 143).

For many years, it was assumed that responses to instruments, like the Rorschach had the same meaning irrespective of the respondent's ethnic or cultural background (Moreland, 1996). By 1960, several psychologists began to express concern because personality assessment devices were measured from a Eurocentric perspective. The rise in interest regarding personality tests for AFA and EUAs begun as a result of social factors that recognized that all people should be treated fairly. Due to the rise in interest regarding cultural specific tests, criteria were developed that should be used when assessing minorities. In particularly, Sue (1991) explained that several factors that are encouraged to be taken into account when assessing minorities:

1. See if the test or instrument has been standardized and normed on the particular cultural group.
2. If the test has not been standardized and normed on the group, use caution in interpreting the results.
3. Use multiple measure procedures to see if tests provide convergent results.
4. Try to understand the cultural background of the client in order to place test results in proper context.
5. Enlist the aid of consultants who are familiar with the client's background or culture.
6. Use tests that can be linguistically understood by the client.
7. If one is unsure of the validity of the tests for a particular ethnic client, use the findings as a hypothesis for further testing rather than as conclusive evidence.

Methods Used to Study Behavior

There are two methods in cross-cultural psychology, *etic* and *emic*, that have been used to study behavior (Dana, 1988; Lonner, 1979). An *emic* approach was used to study behavior with origins external to one particular culture and an *etic* approach studies behavior within one exclusive culture (Dana, 1988). The *emic* approach was a culture-specific approach that occurs when criteria are used that are related to the internal characteristics of a culture. However, an *etic* approach examines different cultures from the outside. There have been several types of etic approaches: *imposed etic, derived etics* and *pseudo-etic*. Under *imposed-etics*, a construct originating in one culture was assumed to be universal, *whereas derived etics* require that constructs be shared by several cultures as a basis for new constructs with cross-cultural equivalence. The *pseudo-etic* approach has made use of the middle-class European-American as the standard for comparison with other groups. Dana mentioned that most personality instruments and academic achievement measures developed in this country have been used as *pseudo-etic.* Many of the personality instruments translate to other cultures, but not to AFA culture. The next section discusses racial bias using personality measures.

Racial Bias in Personality Assessment Among AFAs

Since standardization of personality inventories has been based on middle-class EUA culture, there is reason to believe that some of the inventories did not successfully predict the performance of AFAs. The literature indicated that most personality inventories were *pseudo-etic*. This research on racial bias using personality measures has

been limited to two personality inventories: the Minnesota Multiphasic Personality Inventory (MMPI) and the California Personality Inventory (CPI). The following section briefly discusses the development of the MMPI and the CPI and reviews research on these instruments.

The Development of the MMPI and the CPI

The MMPI and the CPI have been used in assessing racial differences among minorities, especially among AFAs. The MMPI has been the most widely used clinical personality inventory. It was developed to assist in the psychiatric evaluation of adults (Zalewski & Greene, 1996). The MMPI is a 566-true/false-item test containing thirteen standard validity and clinical scales. The normative group for the development of this scale consisted of 724 16-to 55-year-old EUA men and women in the late 1930s who brought friends or relatives to The University Hospital in Minneapolis. That sample remains the normative sample for the MMPI. More recently, the MMPI-2 was developed (Butcher, 1990). In the MMPI-2, a relatively small number of items in the basic scales that were reworded or omitted (Dahlstrom, 1992). The MMPI-2 provided a larger normative sample with appropriate representation of minority groups, updated and improved items than the MMPI (Butcher, 1990). The MMPI-2 contains 567 true-false items. The subjects of the MMP1-2 were 2,600 subjects from diverse cultural backgrounds.

Unlike the MMPI/MMPI-2, the CPI was designed specifically to measure normal personality characteristics (Gough & Bradely, 1996). The CPI consisted of 462 true-false items to be scored on 20 sub-scales. Those items were derived from 54 studies that were

used or investigated the CPI. Most of the content consisted of typical patterns of behavior, customary feelings, opinions and attitudes about social, ethical, and family matters.

Racial Bias Using the MMPI and the CPI

Since there has been vast literature using these personality inventories, this section is an integrated review of the aforementioned personality inventories. Over the years, some researchers began to find that the MMPI had different implications for EUAs and AFAs (Moreland, 1996). Moreland reported that:

> . . . this research generated a lasting interest in this problem for two reasons. It coincided with the rise of our current instance that all persons be treated fairly without regard for factors such as ethnic and cultural background. Moreover, the MMPI and similar instruments are used routinely to help make important decisions about individuals, such as whether they should be hired for a job (p.52).

Dana (1988) noted that the MMPI has an etic assessment with limitations that increased, as cultural groups become more dissimilar from European-American middle-class behavior and attitudes. Dana also reported that there appeared to be a "troubling" consensus that the MMPI was appropriate for culturally diverse groups despite consistent item response differences and lack of replicated behavior descriptions when the original MMPI norms are used. Helms (1992) explained that it was not reasonable to conclude that existing procedures have demonstrated lack of cultural bias. She explained that:

> Conclusions based on common statistical patterns between racial groups must also be questioned if one takes into account methodological issues such as the following: a) black and white samples are generally drawn from populations that differ markedly in size and diversity of education and occupational experiences (Scott & Shaw, 1985); b) restriction of range issues may occur differently for blacks and whites, particularly if the measures involved are not culturally

> equivalent in actuality. . .c) the influence of differential race related contextual factors (e.g., racial oppression) on criteria is rarely examined, particularly in educational settings; d) the content of tests and criteria are determined by whites and EUA culture; and e) because psychometric and statistical studies are not theory driven, virtually any results one obtains can be interpreted as support for one hypothesis (p. 1090).

There has been massive evidence accumulated, after the 1960s that AFAs have consistently responded differently from EUAs on personality measures (Dana, 1988; Gynther, 1972; Gynther, 1989; Jones, 1978). Unfortunately, this has led to misdiagnosis and to exaggeration or minimization of problems or psychopathology (Bryan, 1989; Gynther, 1989). On the other hand, many other studies have noted that there were no differences in AFA and EUA responses to the aforementioned personality measures (Greene, 1987; Kamp & Hough, 1988; Prichard & Rosenblatt, 1980). Thus, there has been controversial findings regarding the use of personality measures for AFAs. The following reviews are meta-analyses on racial bias and the MMPI.

In 1972, Gynther reviewed all the data available comparing MMPI performance of AFAs and EUAs. That author found distinct differences on the MMPI performance between AFAs and EUAs. AFAs obtained higher scores on scales F (nonconformity), 8 (alienation), and 9 (impulsivity); scales 8 and 9 were members of the psychotic triad. The author made several recommendations regarding those findings. First, the author reported that these differences seemed to reflect differences in values rather than differences in adjustment. Second, the author found that those results might have a negative impact on AFA employees on AFA patients because they would be seen as more dysfunctional than EUA patients. Due to these findings, Gynther recommended the

construction of a MMPI for AFAs. Gynther posited several possibilities that could account for his results:

> a) Blacks are more maladjusted, more disturbed, more inclined to fantasy and daydreaming than whites; b) blacks have different values, interests and expectations than whites reflecting differences in subculture; c) differences are a function of social composition; d) differences in responding are a function of differences in social desirability of the items; and e) key words or phrases may have different connotative meanings to blacks and whites and hence may arouse difference responses (p.390).

In 1980, Prichard and Rosenblatt reviewed the current evidence of racial bias in the MMPI. The authors found 15 published and unpublished reports. The authors suggested the quality and quantity of research on racial bias in the MMPI had been inadequate. They saw that the most popular research strategy for investigating racial bias on the MMPI had been to compare racial subgroups in convenience samples of respondents on the respective test score means. They inferred that those test statistics could obscure any true differences that might exist. Pritchard and Rosenblatt analyzed the 275 comparisons of means by meta-analytic techniques and found that there was little evidence that AFAs scored higher or lower than EUAs. Out of the six published studies, three of the studies found no evidence for racial bias in the MMPI results. The author explained that the other three studies claimed to have found evidence for racial bias in the MMPI but researchers had mis-analyzed their data.

Later, Greene (1987) found similar results. Greene summarized 54 studies, including 81 comparisons of various groups of AFA and EUAs on the MMPI standard validity and clinical scales. That has been the most comprehensive review to date. Greene also subdivided the studies by their similarity: normal, prison, substance abuse,

medical-welfare, or psychiatric samples. The areas that Greene evaluated were: a) basic subject parameters (e.g., age, gender), criteria used to determine ethnic group membership; b) profile validity considerations; c) role of moderator variables; d) appropriate statistical analysis; e) adequate sample size; f) specification of scores analyzed; g) differences of at least five T points between scale scores of ethnic groups; and h) empirical correlates of the obtained differences. Greene found no consistent pattern of differences between the group-related scores of AFAs and EUAs. However, when differences did occur among the normal sample, AFAs scored higher on scales F, 8 (schizophrenia) and 9 (hypomania) than EUAs did. When differences occurred among substance abuse users, EUAs scored higher on the aforementioned scales. However, that sample represented mostly EUAs. Greene reported, "Consequently, it appears inappropriate to conclude that AFAs routinely score higher than EUAs on any of the standard validity or clinical scales in any sample" (p. 499).

Gynther (1989) reviewed six of the eight summaries of AFA and EUA MMPI studies published between 1960 and 1987. Gynther explained that the authors' attitudes toward racial comparison could play an important role in the controversial results. He noted that answers to the racial bias question could be difficult to reach due to the unlikelihood of the findings of unbiased criteria required by research strategy recommended to test the accuracy of inferences about racial subgroups from the MMPI.

More specifically, Kamp and Hough (1988) examined studies that assessed racial differences in temperament among AFAs and EUAs using several personality scales. Overall, the authors found that there was no consistent pattern of AFA-EUA differences

on *dependability* scales from different inventories (i.e., MMPI, CPI, and CPS). These results showed that AFAs scored higher on the MMPI *mania* scale and lower on the CPI *flexibility* scale. High scores on both of these can be interpreted as impulsiveness. Also, the author found that EUAs scored higher on the CPS *social conformity* and on Jones (1978) unconventional morality cluster. The results indicate that EUAs were more *dependable* than AFAs. However, there has been consistent evidence that AFAs have scored higher on *orderliness* than EUAs have. The author concluded "There is no consistent pattern of black-white differences on *dependability* scales from different inventories" (p. 69).

More recently, the MMPI-2 was developed based on a larger number of people from diverse cultural backgrounds. One study administered the MMPI and the MMPI-2 to 237 AFA and EUA undergraduate college students (Goldman, Cooke & Dahlstrom, 1995). That study examined racial differences according to SES on the MMPI and the MMPI-2. There were statistically significant differences between the MMPI and the MMPI-2. The findings showed that the average scores on the MMPI-2 were lower than the original test norms. The largest reduction in mean values was AFA males. The authors explained "The findings in this investigation strongly suggest that the MMPI-2 version of this inventory provide a more equitable basis for evaluating the emotional status and personality characteristics of young black adults than the original version" (p. 299).

Another study that used the MMPI-2 examined racial differences in combat veterans seeking treatment for Post-Traumatic Stress Disorder (PTSD) (Frueh, Smith & Libet, 1996). Subjects were 118 EUA and 88 AFA combat veterans seeking treatment for PSTD. There were no significant differences between AFA and EUA veterans on age, war era, marital status, compensation seeking status or education. Researchers found that eight of the ten clinical scales on the MMPI-2 were elevated above a T score of 65; and five were elevated above a T score of 80, with the highest score falling on scale 8. In addition, AFA veterans showed greater elevation than did EUA veterans on F-K index scales 6, and 8 of the MMPI-2.

A different study investigated the use of MMPI and the Inwald Personality Inventory (IPI) as predictions of job behaviors by racial groups (Knatz, Inwald, Brockwell & Tran, 1992). That study assessed 8,287 male correctional officers (AFA, EAU, and Hispanic). The job behaviors predicted in this study were termination, absence, and lateness. The MMPI correctly classified fewer AFA employees than any other group. However, when discriminant function analyses were applied to the IPI and the MMPI together, no significant bias in prediction accuracy was detected.

Overall, according to the meta-analyses, there have been conflicting findings related to racial bias among the MMPI and the MMPI/2. Unlike the MMPI, most studies using the CPI indicated that there were differences between AFAs and EUAs on several personality constructs. Nevertheless, there have been relatively few studies examining racial differences on the CPI. Most of the studies that have been conducted have become outdated or were dissertation projects.

In a dissertation project, Brown (1974) examined personality characteristics of AFA and EUA students attending a predominantly EUA college and attending a predominantly AFA college. There were 31 AFA students and 32 EUA students from a predominantly EUA university; 4 EUA students and 34 AFA students from an AFA college. This study found that AFA students at the EUA university tended to scored significantly higher on confidence, self-assurance, poise, achievement, intellectual efficiency, flexibility, and interpersonal structuring of values. Also, the AFA students at the EUA college scored significantly lower than the AFA students at the AFA university on the need to be dependent on others, to be submissive and to maintain subordinate roles. There were significant differences between the two AFA groups on dominance, capacity for status, sociability, social presence, self-acceptance, sense of well being, self control, tolerance, achievement via independence, intellectual efficiency, psychological mindedness, flexibility and femininity. At a predominantly EUA university, 3 of the 18 scales showed significant differences between EUA and AFA students: achievement via independence, tolerance and flexibility.

Later, Jones (1978) investigated item differences rather than scale score differences between AFA and EUA college students using subsets of the MMPI and CPI. A group of 361 items was administered, and the students were matched on their SES status; 45% of the items were CPI items. The 179 most discriminating items were cluster analyzed, and 10 clusters were interpreted. Those results showed that AFAs scored higher on social dominance and poise, religious fundamentalism, orderliness, self-criticism, psychological toughness, cynicism, power orientation, and conformity. Thus,

Jones found that out of the 361 items, 109 items discriminated at the .01 level and 84 at the .001 level. That represented 80% of the item pool.

Using the same subjects that Jones (1978) used, Cross and Burger (1982) investigated racial differences in responses to the items of the CPI. Subjects were 748 college students. That study found that 64% of the discriminators reported were also reported by Jones. In Cross and Burger's study, there were statistically significant differences in 34% of the items in each of the 18 scales. Overall, the authors concluded that AFAs tended to be more cynical, less anxious and more compulsive than EUAs. The author explained that:

> . . .differential social conditioning will create differential personality test item responses, perhaps test scores, and personality structure between blacks and whites. . . Additionally, it appears that what is "average" for one segment of the same population may not be "average" for another. Therefore using an assessment device with supposed generalized applicability may not be possible as a consequence of present test development methods and procedures. Secondly, perhaps the underlying assumptions and postulates need to be reviewed and adjusted so as to include more relevant data in the revision and development of objective personality tests as assessment devices (p.167).

Earlier Cross, Barclay and Burger (1978) found statistically significant differences between AFAs and EUA subjects' scores. The authors investigated the effects of race, sex and occupation on college students' responses to the CPI. Findings indicated that AFAs scored significantly lower on: *sense of well being, tolerance, achievement via independence, intellectual efficiency* and *flexibility.* However, they scored high on self-control and good impression.

In sum, the studies on racial bias using the MMPI and the CPI revealed conflicting findings. Most meta-analyses indicated that there were no statistically

significant differences between AFA and EUA scores on the MMPI. However, when differences did occur, AFA behavior was seen as more maladaptive. Nevertheless, one study found that the revised MMPI-2 was a better predictor of AFAs behavior than was the MMPI. More research is needed to specifically investigate racial bias and the MMPI-2. Studies using the CPI were outdated. Nevertheless, most of those studies indicated that there were differences between AFAs and EUAs on certain scales. In particularly, one study addressed a unique issue comparing AFA and EUA students at predominantly AFA and EUA colleges. That study found that there could be differences between the personality scores of AFA students at the AFA and at the EUA colleges. AFAs were found to score lower on personality assessments than their white counterparts. Helms (1992) speculated that AFAs reactions toward tests might be one factor that has caused AFAs to perform more lower on tests. According to Samuda (1998), AFAs have more adverse reactions to tests than EUAs do because of their low probability of success. The next section examines reactions' to testing measures.

Reactions to Test Measures

An individual's reaction to assessments (tests) can strongly influence his or her response on testing measures. Unfortunately, there has been limited research investigating reactions to testing measures (Chan, 1997; Schuler, 1993; Smither et al., 1993). The focus has primarily been on reliability, validity, and utility of employee selection procedures (Gilliand, 1993; Smither et al., 1993). Nevertheless, the 1990s sparked an interest in examining the social side of the selection process (Kudisch et al., 1994). More specifically, Schuler explained that interest had grown in considering the

impact of selection situations on applicants, their well being, decisions and behavior. Smither et al. (1993) reported that job applicants' reactions should be a concern for several reasons.

> First, the effects that applicant reactions have on organizational attractiveness can indirectly influence pursuit or acceptance of job offers and can have other "spillover" effects. Second, applicant reactions may be related to both the likelihood of litigation and how successful a selection procedure can be defended. Third, such reactions may indirectly affect both validity and utility. . . For example, perceived unfairness or low face validity may lower motivation to perform well on a test or other procedures (p. 49-50).

Moreover, Haney (1991) reported that the rise of interest in assessing participants' reactions to testing measurements are based on assumed technical insufficiency of test methodology or adverse impact (Haynes, 1981). This section discusses literature on reactions to testing measures in the workforce and college. In addition, this section reviews several studies regarding AFAs reactions to testing measures.

One study investigated 194 applicants' reactions to assessment devices administered during a corporate restructuring (Kudisch et al., 1994). Applicants were tested on several measures: Watson-Glaser, Manager Profile Record, AccuVision Video, In Basket, Leaderless Group Discussion, One-on-One Simulations, Written Simulations and the California Psychological Inventory. Participants reported that the biodata and the personality instruments were less valid than were the other instruments. Those measures were seen as " more invasive/offensive and less necessary than other devices. . . and more fakeable" (p. 5). In addition to those findings, Kudisch et al. found that applicants

who were hired had overwhelmingly more favorable attitudes toward the application process than did applicants who were not hired did.

Like Kudisch et al. (1994) another study found that applicants who were hired had more positive attitudes toward the selection procedure than did applicants who were not hired (Lounsbury, Borrow & Jensen, 1989). Lounsbury et al. examined applicants' attitudes toward testing. They developed a scale to examine participants' attitudes toward tests. There were four groups who participated in the pre-employment testing: (a) individuals who had taken a pre-employment test but were not given decisions whether they had passed or failed; (b) individuals who had passed the test and hired; (c) individuals who had passed the test but were not yet hired; and d) individuals who failed the test and were not given a job. Overall, they found that the rejected group and the control group had similar scores and that the waiting group and the hired group scores had similar scores. Moreover, they reported that:

> The majority of respondents in this study held negative attitudes concerning the validity of testing, the susceptibility of test performance to mood and daily physical fluctuations, and the relative importance of testing in comparison with previous job experience. But they also appeared to recognize the merits of testing in such areas as uniquely measuring abilities, reducing favoritism, and giving some people who would not otherwise be qualified a chance to get a job (p. 346).

Avery, Strickland, Drauden, and Martin (1990) found different results when comparing incumbents and applicants. They examined the motivational and attitudinal dispositions to pre-employment tests between incumbents and applicants applying for a job. Participants completed the Intuitive Mechanic Tests, the Shop Math Tests, the Tool Use Test, and the Test Attitude Survey. The reaction survey included nine measures:

motivation, lack of concentration, beliefs in tests, comparative anxiety, test ease, external attribution, general need achievement, future effects and preparation. researchers found significant differences on all measures except test ease and belief in test. Applicants scored higher on motivation, comparative anxiety, general need achievement, future effects, and preparation. Incumbents scored higher on lack of concentration and external attribution.

Nevo and Sfez (1985) assessed college students' test behavior, perceived test characteristics and several aspects of the test characteristics. There were 1,385 participants who completed a test reaction measure. Participants completed a reaction measure upon completion of an entrance exam. The results revealed that the face validity of the tests were related to participants' anticipated major. Thus, participants reacted more positively toward what they wanted to major in when they went to college than they did on other areas.

Overall, those studies indicated that participants who were hired had more positive attitudes regarding tests than did participants who were not hired (or were waiting). In addition, those findings showed that there were no differences between incumbents' and applicants' reactions toward tests. However, applicants were more likely to prepare for selection tests than incumbents were.

It has been postulated that AFAs have more negative reactions to testing than do EUAs (Helms, 1992). Helms explained that AFA and EUA examinees had different cultural values, beliefs and experiences. Moreover, they had different beliefs and attitudes about (cognitive) testing. Helms reported that EUA cultural influences on test

taking could be investigated by studying dimensions and values of Eurocentrism. Eurocentrism was defined as, "a perceptual set in which European-American values, customs, traditions and characteristics are used as exclusive standards against which people and events in the world are evaluated and perceived" (p.1094).

Some of the Eurocentric worldviews had detrimental effects on those for whom that perspective was not appropriate (Helms, 1992). Helms reported several problems using Eurocentric tests with AFAs. First, the Eurocentric worldview is dualistic linear or rational thinking (e.g., the mind and the body are separate; answers are either right or wrong; or a person is intellectually inferior or superior). Second, EUA culture is assumed to be superior to certain minority cultures. Third, test usage, criteria, and research design involve quantifying cognitive ability.

On the other hand, the Afrocentric worldview reflected a less likelihood to endorse the belief that test scores reflected a person's intellectual level. According to the Afrocentric worldview, it is believed that a nontrivial part of test performance reflected luck or test-taking conditions. Thus, the Afrocentric worldview expresses different attitudes toward cognitive ability tests than did the Eurocentric worldview. Moreover, Samuda (1998) concluded that test practices had negatively reinforced AFAs. Samuda explained that, "Minority children have long ago learned that their chances of succeeding when competing with Whites are low. As a consequence, their motivation to achieve declines significantly" (p.95).

There have been limited data assessing AFAs reactions and that of other minorities to tests. The following studies examined the literature on AFAs reactions toward tests.

Avery et al. (1990) found that AFAs had more negative reactions toward tests than did EAUs. Those researchers looked at the motivational and attitudinal dispositions to pre-employment tests between workforce incumbents and applicants. Participants completed: the Intuitive Mechanic Tests, the Shop Math Tests, the Tool Use Test, and the Test Attitude Survey (TAS). The reaction survey included nine measures: motivation, lack of concentration, beliefs in tests, comparative anxiety, test ease, external attribution, general need achievement, future effects and preparation. EUAs had more positive scores on the TAS motivation factor and expressed stronger sentiment that the test would have a future effect than did AFAs. AFAs expressed significantly higher scores on preparation, although EUAs scored higher on the three employment tests. Nevertheless, taking into consideration correlations between the test scores and ethnicity (holding motivation constant), there were no differences between the two groups on the aforementioned factors.

More recently, Chan, Schmitt, DeShon, Clause and Delbridge (1997) found similar results. They investigated AFA and EUA students' reactions to a cognitive ability test. There were 180 participants. Participants completed a cognitive ability test battery, a face validity perception measure, and a test-taking motivation reaction instrument. The test-taking reaction instrument was derived from the Test Attitude Survey. Subjects were asked to rate the items as to the relationship between the test and a managerial job in a

high tech community. Chan et al. found that AFAs reported lower face validity and lower test taking motivation than EUAs did, and they scored lower on the cognitive ability tests. African-American participants perceived the cognitive ability test to be less valid than the EUA students did. However, Chan et al. did not find any difference in the predictive validity perceptions on the personality inventory between the AFA and EUA students.

Chan (1997) also examined the impact of the NEO-PI and a cognitive ability test on 113 AFA students and 128 EUA students. He found that the AFA participants perceived the cognitive ability test to be less valid than the EUA students did. However, he did not find any difference in the predictive validity perceptions on the personality inventory for AFA or the EUA students.

Overall, findings indicated that subjects who were not hired for a job had more negative attitudes toward testing than did participants who were hired (and participants who were waiting and that applicants had similar attitudes toward testing than incumbents did. In addition to those findings, AFAs had lower face validity scores than EUAs, but the groups were similar on the perceived predictive validity measure. It has been proposed that negative feelings toward tests could result from a lack of motivation (Avery et al., 1990; Chan, 1997; Samuda, 1998). Nevertheless, Chan et al. (1997) and Avery et al. (1990) found that those negative attitudes affect applicants' performance on test.

Summary

The purpose of the literature review was to examine the relevance of conscientiousness tests for AFAs. Because of the limited data examining racial bias on the construct conscientiousness, the review examined racial bias among AFAs on personality assessments. In addition, the review examined data on participants' reactions to conscientiousness measures. The information was gathered to provide insight on the effectiveness of pseudo-etic tests for AFAs. This section discusses general conclusions from the review and recommendations.

The review of literature identified several important issues to be addressed to fill important gaps in the research on racial bias using personality assessments. First, there is a need for more research that examines racial bias using the construct conscientiousness and other personality measures. Previous research that examined racial bias using personality measures generally used two personality inventories: the MMPI and the CPI. The data on racial bias using those personality measures used a pseudo-etic approach to studying differences between AFA and EUA students. Consequently, the studies were based and validated on EAUs. Moreover, anything that was different from EAU normality was considered to be 'deficient'. Future research should be refocused to develop culturally specific measures for examining the impact on minority groups. Also, the research should help to determine the participants' cultural integration (i.e., how bonded subjects are to their culture) because some AFAs may be integrated into another cultural group (e.g., some AFAs may perform better on tests based on EUAs than other AFAs because they are integrated in EUA culture). Before the construct

conscientiousness and other personality factors can be accepted as important predictors of success for AFAs, the relevance must be examined for AFAs and for other minority groups.

Second, more research is needed to examine AFAs reactions toward testing measures. Research to date generally has examined EUAs reactions toward testing measures in the workplace and at school. More research is needed to specifically examine AFAs reactions toward emic and etic assessments.

Third, more research is needed to examine the theoretical methods used to study the impact of tests on minorities. Previous research assumed there were no differences on testing measures between AFAs and EUAs (Gottsfredson, 1988; Schmidt, 1988). Researchers have assumed that differences on test measures were attributable to individual differences. Thus, cultural differences were not considered to be major factors that influence performance of different cultural groups.

Rationale and Hypotheses of Phase Two

Phase Two was designed to measure the differences between AFA and EUA students' responses on culturally specific conscientiousness measures. Information was sought from AFA students and EUA students at four colleges in the southeast. The hypotheses were separately analyzed by gender and by ethnicity. The following hypotheses were evaluated.

1. On *Factor G*, AFA students will display lower scores than EUA students will.
2. On *competence*, AFA students will display higher scores than EUA students will.
3. On *rule following*, AFA students will display higher scores than EUA students will.

4. On the *face validity scale*, AFA students will display more negative reactions toward *factor G* than EUA students will.
5. On the *perceived predictive validity* scale, AFA students will display more negative reactions toward *Factor G* than EUA students will.
6. On the *face validity scale*, AFA students will display more positive reactions toward the *AFACS* than EUA students will.
7. On the *perceived predictive validity scale*, AFA students will display more positive reactions toward the *African-American Conscientiousness Scale (AFACS*) than EUA students will.

Secondary Hypotheses

Secondary hypotheses were proposed to investigate whether the AFACS better predicts performance for AFAs than EUAs.

1. The correlation between *competence* and *grade point average* will be significantly higher for AFAs than for EUAs.
2. The correlation between *rule following* and *grade point average* will be significantly higher for AFAs than for EUAs.
3. The correlation between *Factor G* and *grade point average* will be significantly higher for EUAs than for AFAs.

CHAPTER III: Methodology

Methods

Participants

The sample selected for this study was comprised of undergraduate students at four colleges in the southeast (see Figures 1-3). Two were predominantly AFA colleges and two were predominantly EUA colleges. The total sample included 406 participants of whom 192 were AFA students. One hundred thirty-four (69.80%) AFA students attended Clark Atlanta University (CAU), 19 (9.9%) attended The University of Tennessee, Knoxville (UTK), 31 (16.1%) attended Knoxville College, and 8 (4.2%) attended The University of Tennessee, Chattanooga (UTC). The total sample consisted of 214 EUA students. One hundred ninety-seven (92.1%) EUA students attended UTK, and 17 (7.9%) attended UTC. One hundred twenty-seven (31.3%) of the subjects were male; 279 (68.7%) were female. Other demographics may be found in the results chapter.

Instruments

The measures used in this study were (see Appendix C):

1. Demographic Information
2. 16 PF/*Factor G*
3. African American Conscientiousness Sale (AFACS)
4. Reaction Measures: *Face Validity,* and *Perceived Predictive Validity.*

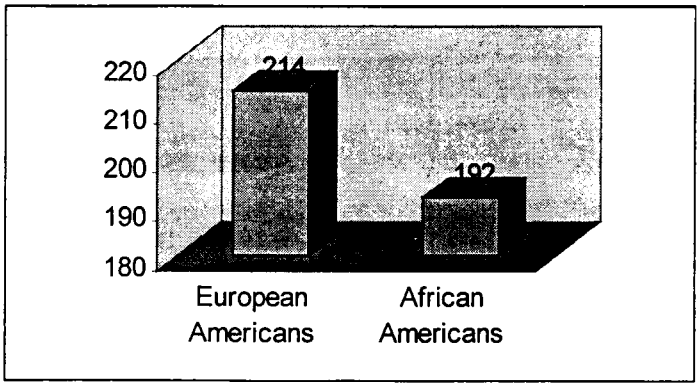


Figure 1: Participants' by Ethnicity

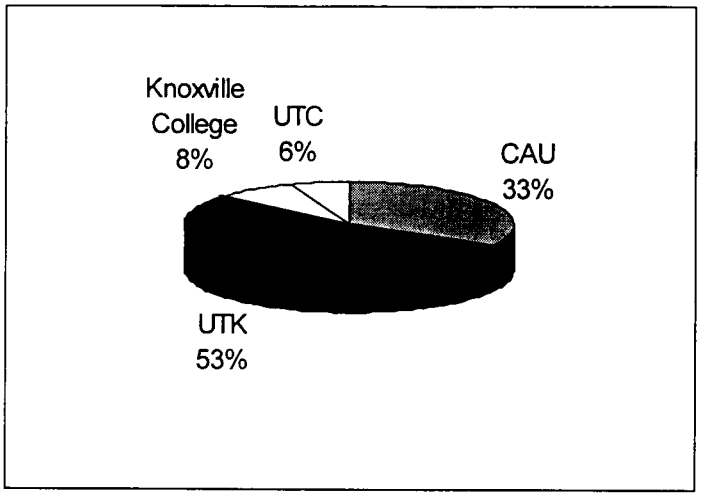


Figure 2: Participants' by College

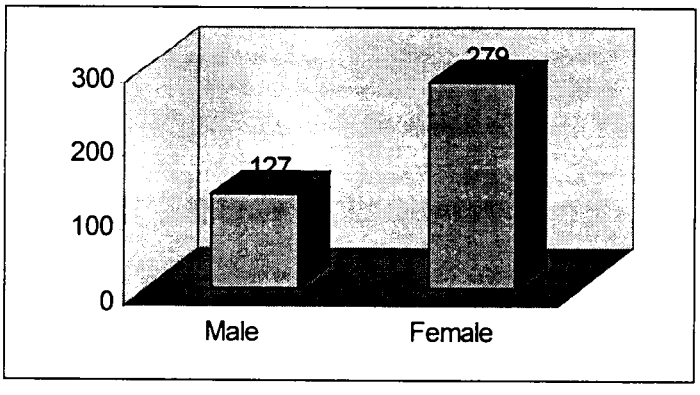


Figure 3: Participants' by Gender

1. *Demographic Information.* The demographic information section asked questions regarding the participants educational and personal background.

2. *16 PF/Factor G.* The 16PF is a well-established scale that examines 16 traits of human behavior (Gough & Bradley, 1996). This study used *Factor G* to measure the construct *conscientiousness.* There are 11 items in this scale. Coefficient alpha for *Factor G* in this study was .60.

3. *AFA Conscientiousness Scale.* This scale was developed specifically to measure conscientiousness for AFA students to determine whether or not there were differences in AFA and EUA students' conscientiousness scores. There are 21 items on this scale. This scale is structured on a five-point Likert-type scale ranging from five, strongly agree to one, strongly disagree. There were two facets within this scale: competence and rule following. Coefficient alpha for competence in this study was .77 and coefficient alpha for rule following in this study was .75.

4. *Reaction Measures.* Two reaction measures were used in this study. First, a *face validity* scale developed by Smither et al. (1993). This scale measured the extent to which the perceived content of the test was related to the job requirements. This measure was slightly revised by this author to meet the needs of the current study. There were five questions for which applicants responded on a 5-point Likert-type rating scale ranging from 5, strongly agree to 1, strongly disagree. The scale was used to measure participants' reactions to *Factor G* and this scale was used to measure participants' reactions to the AFACS. The coefficient alpha for the scale used to measure participants'

reactions to *Factor G* was .75. Coefficient alpha for the scale used to measure participants' reactions to the AFACS was .78.

A measure of *perceived predictive validity*, also developed by Smither et. al. (1993), was used in this study. This scale measures the extent to which examinees perceived their performance on the test predicted future performance on the job. There were five questions to which applicants responded on a 5-point Likert-type rating scale ranging from 5, strongly agree to 1, strongly disagree. This scale was used to measure participants' reactions to *Factor G* and this scale was used to measure participants' reactions to the AFACS. Coefficient alpha for the scale used to measure participants' reactions to *Factor G* was .83. Coefficient alpha for the scale used to measure participants' reactions to the AFACS was .89.

Procedure

All subjects were solicited from undergraduate psychology classes at the four colleges. Subjects completed questionnaire packages that included: (a) the five instruments (mentioned earlier); (b) a letter from the investigator describing the nature and purpose of the study; and (c) the name and number of the research advisor if there were any questions regarding the questionnaire (the questionnaire is in Appendix C).

The students were solicited in two ways. 1. Instructors in general psychology courses invited participants to participate in a research project for extra credit. Students who were interested in the assignment went to a specific place at a designated time to pick up the questionnaire packages. Upon completion, subjects returned the questionnaire packages to a graduate student. 2. Students were given information about

the nature of the study in a general psychology class and were asked for their voluntary participation in the project. Each participant was given a questionnaire package. Upon completion, participants returned the questionnaire packages to the instructor.

Analyses

The results were analyzed using the following statistical procedures: 1. Descriptive statistical data (i.e., means, frequency counts, standard deviations and ranges) was computed on all variables; 2. Correlations were computed comparing conscientiousness to all of the independent variables in the study; and 3. The main hypotheses were tested with One-Way Analysis of Variance (ANOVA) (Norusis, 1993).

CHAPTER IV: Results

Introduction

The results were analyzed using the following statistical procedures: descriptive statistical data (i.e., means, frequency counts, standard deviations and ranges) were computed on all study variables (i.e., AFACS, *Factor G*, the two reaction scales); correlations were computed among study variables; and the main hypotheses were tested using One-Way Analysis of Variance (ANOVA) (Norusis, 1993). The data were analyzed using SPSS Statistical Program (Norusis, 1993). This chapter reviews summary descriptives for the total sample and the subgroups on all of the study variables.

Summary Descriptives for the Total Sample and the Subgroups

This section discusses descriptive statistics for the total sample and for the two subgroups on: (a) AFACS (*competence* and *rule following*), (b) *Factor G*, and (c) the two reaction measures (*face validity* and *perceived predictive validity*). The results presented in Table 4 show the descriptive statistics for the total sample (see Appendix D for Estimated Margin of Means on each study variable by ethnicity and gender). The results presented in Table 5 show the summary of descriptive statistics for AFAs and EUAs on the study variables.

On the variable of *competence,* the mean score of students was 4.20 for AFA students to 3.85 for EUA students. On the variable *rule following*, the mean score was 2.92 for AFA students to 2.90 for EUA students. On the variable *Factor G*, the mean score was 2.34 for AFA students to 2.27 for EUA students.

Table 4:

Summary of Descriptive Statistics for the Total Sample on the Study Variables

	Competence	Rule following	Factor G	Face validity: Reaction Scale 1	Perceived predictive validity: Reaction 1	Face validity: Reaction Scale 2	Perceived predictive validity: Reaction 2
Mean	4.02	2.91	2.30	3.56	2.67	3.68	2.76
Number	406	406	406	406	406	406	406
Std. Deviation	.479	.52	.32	.65	.76	.61	.79
Minimum	2.20	1.30	1.36	1.20	1.00	1.80	1.00
Maximum	5.00	4.70	3.00	5.00	4.60	5.00	5.00

Table 5:

Summary of Descriptive Statistics by African-American and European-American Groups on the Study Variables

		Competence	Rule following	Factor G	Face validity: Reaction 1	Perceived predictive validity: Reaction 1	Face validity: Reaction 2	Perceived predictive validity: Reaction 2
African-American	**Mean**	4.20	2.92	2.34	3.52	2.63	3.63	2.78
	N	192	192	192	192	192	192	192
	SD	.43	.54	.29	.70	.76	.65	.84
	Minimum	3.00	1.30	1.36	1.80	1.00	2.00	1.00
	Maximum	5.00	4.50	3.00	5.00	4.60	5.00	5.00
European-American	**Mean**	3.85	2.90	2.27	3.60	2.70	3.72	2.76
	N	214	214	214	214	214	214	214
	Std. Deviation	.46	.51	.34	.60	.76	.61	.74
	Minimum	2.20	1.80	1.36	1.20	1.00	1.80	1.00
	Maximum	4.90	4.70	2.91	5.00	4.20	5.00	4.40

On the variable *face validity* measuring students' reactions to *Factor G*, the mean scores was 3.52 for AFA students to 3.60 for EUA students. Similarly, on the variable *face validity* measuring students' reactions to the *AFACS*, the mean scores was 3.63 for AFA students to 3.73 for EUA students.

On the variable *perceived predictive validity* measuring students' reactions to *Factor G*, the mean scores was 2.63 for AFA students to 2.70 for EUA students. On the variable *perceived predictive validity* measuring students' reactions to the *AFACS*, the mean scores was 2.78 for AFA students to 2.76 for EUA students.

Evaluation of the Hypotheses

Hypothesis 1: On *Factor G* AFA students will display lower scores than EUA students will.

The results indicated that there were statistically significant differences, $F(1, 406) = 5.568$, $p < .05$, between AFA and EUA student on *Factor G* (see Table 6). The mean score for AFA students was 2.34, and the mean score for EUA students was 2.27. However, the hypothesis was not supported because AFA females had higher scores than did EUA participants. The results also indicated that there were statistically significant differences, $F(1, 279) = 3.902$, $p < .05$, between AFA and EUA females on *Factor G*. The mean score for AFA females was 2.37, and the mean score for EUA females was 2.30. Therefore, the hypothesis was not rejected. There were no statistically significant differences on this measure $F(1, 127) = 2.100$, $p < .05$ between AFA and EUA men on *Factor G*. The mean score for AFA males was 2.29, and the mean score for EUA males were 2.22. Therefore, the hypothesis was rejected. The results suggested that AFA

Table 6:

One-Way Analysis of Variance Results for *Factor G*

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	2.34	.29	214	2.27	.34	5.568**
Males	63	2.29	.25	64	2.22	.32	2.100
Females	129	2.37	.30	150	2.30	.34	3.902*

* $p < .05$
** $p < .01$

females were more conscientious than EUA females on this pseudo-etic personality measure, *Factor G.*

Hypothesis 2: On *competence* AFA students will display higher scores than EUA students will.

The results indicated that there were statistically significant differences, $F(1, 406) = 60.838$, $p < .05$, between AFA and EUA student on *competence* (see Table 7). The mean score for the AFA students was 4.20, and the mean score for EUA students was 3.85. Therefore, the hypothesis was not rejected. There were also statistically significant differences, $F(1, 127) = 20.478$, $p < .05$, for AFA and EUA males on *competence*. The mean score for AFA males was 4.17, and the mean score for EUA males was 3.79. Therefore, the hypothesis was not rejected. There were statistically significant differences, $F(1, 279) = 40.985$, $p < .05$ for AFA and EUA females on *competence*. The mean score for AFA females was 4.21, and the mean score for EUA females was 3.88. Therefore, the hypothesis was not rejected. The results supported the hypothesis that

Table 7:

One-Way Analysis of Variance Results for *Competence*

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	4.20	.43	214	3.85	.46	60.838**
Males	63	4.17	.47	64	3.79	.47	20.478**
Females	129	4.21	.41	150	3.88	.46	40.985**

**$p < .01$

AFA students displayed higher scores on the emic personality measure *competence* than EUA students did.

Hypothesis 3: On *rule following* AFA students will display higher scores than EUA students will.

The results indicated that there were no statistically significant differences, F (1, 406) = .184, $p < .05$, between AFA and EUA student on *rule following (see* Table 8). The mean score for the AFA students was 2.92, and the mean score for EUA students was 2.90. Therefore, the hypothesis was rejected. There were also no statistically significant differences, F (1, 127) = 2.315, $p < .05$ for AFA and EUA males on *rule following*. The mean score for AFA males was 3.09, and the mean score for EUA males was 2.96. Therefore, the hypothesis was rejected. There were no statistically significant differences, F (1, 279) = .288, $p < .05$, for AFA and EUA females on *rule following*. The mean score for AFA females was 2.84, and the mean score for EUA females was 2.86. Therefore, the hypothesis was rejected. These results did not support the hypothesis.

Table 8:

One-Way Analysis of Variance Results for *Rule following*

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	2.92	.54	214	2.90	.51	.184
Males	63	3.09	.45	64	2.96	.51	2.315
Females	129	2.84	.55	150	2.86	.51	.288

Instead, the findings suggested that AFA students and EUA students had similar attitudes regarding the emic personality measure *following rule.*

Hypothesis 4: On the *face validity scale* AFA students will display more negative reactions toward *Factor G* than EUA students will.

The results indicated that there were no statistically significant differences, $F(1, 406) = 1.426$, $p < .05$, between AFA and EUA student on *the face validity scale measuring participants reactions on Factor G* (see Table 9). The mean score for the AFA students was 3.52, and the mean score for EUA students was 3.60. Therefore, the hypothesis was rejected. However, the results indicated that there were statistically significant differences, $F(1, 127) = 5.640$, $p < .05$, between AFA and EUA males on the *face validity scale*. The mean score for AFA males was 3.32, and the mean score EUA males was 3.60. Therefore, the hypothesis was not rejected. There were no statistically significant differences, $F(1, 279) = .100$, $p < .05$ for AFA and EUA females on the *face validity scale*. The mean score for AFA females was 3.62, and the mean score for EUA females was 3.60. Therefore, the hypothesis was rejected. The results did not support

Table 9:

One-Way Analysis of Variance Results for the *Face validity* Scale measuring reactions to *Factor G*

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	3.52	.70	214	3.60	.60	1.426
Males	63	3.32	.70	64	3.60	.65	5.640*
Females	129	3.62	.69	150	3.60	.58	.100

* $p < .05$

the hypothesis but rather suggested that AFA males are more likely to have negative attitudes on the *face validity scale measuring Factor G*, a pseudo-etic personality measure, than were all other groups.

Hypothesis 5: On the *perceived predictive validity* scale AFA students will display more negative reactions toward *Factor G* than EUA students.

The results suggested that there were no statistically significant differences, $F(1, 406) = .845$, $p < .05$, between AFA and EUA student on the *perceived predictive validity scale measuring participants reactions on Factor G* (see Table 10). The mean score for AFA students was 2.63, and the mean score for EUA students was 2.70. Therefore, the hypothesis was rejected. However, the results suggested that there were statistically significant differences, $F(1, 127) = 4.535$, $p < .05$, between AFA and EUA males on the *perceived predictive validity scale*. The mean score for AFA males was 2.49, and the mean score for EUA males was 2.80. Therefore, the hypothesis was not rejected. The

Table 10:

One-Way Analysis of Variance Results for the Perceived Predictive Scale (regarding *Factor G*)

	Ethnic Group						
	African-American			European-American			
	Number	**Mean**	**SD**	**Number**	**Mean**	**SD**	**F**
Overall	192	2.63	.76	214	2.70	.76	.845
Males	63	2.49	.79	64	2.80	.82	4.535*
Females	129	2.70	.74	150	2.66	.73	.205

* $p < .05$

results also demonstrate that there were no statistically significant differences, F (1, 279) = .205, $p < .05$ for AFA and EUA females on the *perceived predictive validity scale regarding Factor G*. The mean score for AFA females was 2.70, and the mean score for EUA females was 2.66. Therefore, the hypothesis was rejected. These results indicated that AFA males had more negative reactions on the *perceived predictive validity scale measuring Factor G,* a pseudo-etic personality measure, than did all other groups.

Hypothesis 6: On the *face validity scale* AFA students will display more positive reactions toward the *AFACS* than EUA students.

The results indicated that there were no statistically significant differences, F (1, 406) = 2.533, $p < .05$, between AFA and EUA student on *the face validity scale measuring reactions toward the AFACS* (see Table 11). The mean score for the AFA students was 3.63, and the mean score for EUA students was 3.73. Thus, the hypothesis was rejected. The results suggested that there were statistically significant differences, F (1, 127) = 11.050, $p < .05$, between AFA and EUA males on the *face validity scale*. The

Table 11:

One-Way Analysis of Variance Results for the *Face validity* Scale (regarding the AFACS)

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	3.63	.65	214	3.73	.57	2.533
Males	63	3.38	.66	64	3.76	.63	11.050**
Females	129	3.75	.62	150	3.71	.55	.309

** $p < .01$

mean score for AFA males was 3.38, and the mean score for EUA males was 3.76. Therefore, the hypothesis was not rejected. The results also suggested that there were no statistically significant differences, F (1, 279) = .309, p< .05 for AFA and EUA females on the *face validity scale*. The mean score for AFA females was 3.75, and the mean score for EUA females was 3.71. Contrary to the hypothesis, results indicated that AFA males had more negative attitudes on the *face validity scale measuring reactions toward the AFACS,* an emic personality scale, than did all other groups.

Hypothesis 7: On the *perceived predictive validity scale* AFA students will display more positive reactions toward the *AFACS* than EUA students.

The results indicated that there were no statistically significant differences, F (1, 406) =.040, p< .05, between AFA and EUA student on the *perceived predictive validity scale measuring participants reactions on the AFACS* (see Table 12). The mean score for AFA students was 2.78, and the mean score for EUA students was 2.76. Therefore, the hypothesis was rejected. The results suggested that there were no statistically

Table 12:

One-Way Analysis of Variance Results for *Perceived predictive validity* (measuring reactions to the AFACS)

	Ethnic Group						
	African-American			European-American			
	Number	Mean	SD	Number	Mean	SD	F
Overall	192	2.78	.84	214	2.76	.74	.040
Males	63	2.59	.80	64	2.79	.77	2.039
Females	129	2.86	.85	150	2.74	.73	1.572

significant differences, $F(1, 127) = 2.039$, $p < .05$, between AFA and EUA males on the *perceived predictive validity scale*. The mean score for AFA males was 2.59, and the mean score for EUA males was 2.79. Therefore, the hypothesis was rejected. The results also suggested that there were no statistically significant differences, $F(1, 279) = 1.572$, for AFA and EUA females on the *perceived predictive validity scale*. The mean score for AFA females was 2.86, and the mean score for EUA females was 2.74. Therefore, the hypothesis was rejected. Again, contrary to my hypothesis, there was no significant difference between AFA and EUA students on the measure of *perceived predictive validity scale for the AFACS,* an emic personality measure.

Secondary Hypotheses

Secondary hypotheses were proposed to examine correlations between the conscientiousness study variables and participants' grade point average by ethnicity (see Table 13). In addition, Fisher's *Z* tests were computed to determine the differences

Table 13:

Correlations for GPA by ethnicity

	Ethnic Group				
	European-American		African-American		
	Correlation	Fisher's *z*	Correlation	Fisher's *z*	*Z*
Factor G	-.03 (.711)	.03	-.07 (.324)	.07	.57
Competence	.02 (.812)	.02	.11 (.156)	.11	1.29
Rule following	-.01 (.947)	.01	-.01 (.851)	.01	.00

Note: Z refers to the z test for comparing two correlation coefficients (Guilford & Fruchter, 1973).

between the correlations for AFAs and EUAs. Overall, the correlations indicated that there were no significant relationships between GPA and *Factor G, competence*, and *rule following* for AFA and EUA students.

Fisher's Z tests were computed to determine whether or not the correlations for AFAs and EUAs were significantly different from each other on the variables *Factor G, competence,* and *rule following*. For *Factor G*, there were no statistically significant differences, $z = .57$, $p < .05$, between the corresponding correlations for AFA and EUA students. For the variable *competence*, there were also no statistically significant differences, $z = 1.29$, $p < .05$ between the correlations for EUA and AFA students. In addition, for the variable *rule following*, there were no statistically significant differences, $z = .00$, $p < .05$ between the correlations for AFA and EUA students. Overall, the results from the secondary hypotheses disconfirm the hypotheses. There was no observed differential pattern of correlations between conscientiousness and GPA as a function of AFA vs. EUA.

CHAPTER V:

Discussion

The primary purpose of this study was to examine differences between AFA and EUA students on two culturally specific conscientiousness measures: the African American Conscientiousness Scale (AFACS) and *Factor G* from the Sixteen-Personality Factor Scale (16PF). This study also examines the correlation between students' grade point average and the conscientiousness measures (*Factor G*, *competence*, *rule following*). This chapter discusses the findings for each hypothesis, directions for future research, and limitations of the study.

Analysis of Hypotheses

The results of this study presented a mixed pattern of support for the predictions of the study. After extensive research on racial bias using personality assessments, this researcher designed the AFACS specifically for AFAs with the intent to reveal differences between AFA and EUA students on the *competence* and the *rule following* factors. The results indicated that there were statistically significant differences on the *competence* factor. However, there were no significant differences on the *rule following* factor. In addition, contrary to my hypothesis, AFA females had higher conscientiousness scores (on *Factor G*) than EUA students. This section discusses findings on *competence*, *rule following*, *Factor G*, and the reaction measures.

Analysis of the data provided support for the hypothesis that AFA students would report higher *competence* scores than would EUA students. The culturally specific *competence* measure appeared to have a significant differential impact on participants' responses as a function of ethnicity. This result was consistent with several other lines of

research and theorizing. By way of example, Dana (1990) proposed that culturally based personality measures had an impact on participants' responses because from early childhood, culture shaped the individual's behavior toward a distinct worldview that provides a basis for decision making. As a result of diverse cultural influences on ethnic groups, different cultural groups often exhibited unique personality characteristics. Cross and Burger (1982) explained that:

> . . .differential social conditioning will create differential personality test item responses, perhaps test scores, and personality structure between blacks and whites. . . Additionally, it appears that what is "average" for one segment of the same population may not be "average" for another. Therefore, using an assessment device with supposed generalized applicability may not be possible as a consequence of present test development methods and procedures (p.167).

Consequently, members of specific cultural groups could respond differently on test items because key words or phrases could have different connotative meanings for AFAs than for EUAs. Hence, those words or phrases may arouse different responses (Gynther, 1972). Previous studies have confirmed the findings that cultural groups could respond differently on culturally specific measures. In a similar vein, Blalock (1998) found that on the pseudo-etic conscientiousness facets in the NEO-PI, there were significantly different scores for AFA than for EUA students on the variables *competence* and achievement striving. African-American students scored significantly lower on those measures than EUA students. These findings are also consistent with Cross et al (1978), who found that EUA students scored significantly higher than AFA students did on the personality measures of achievement via independence, and intellectual efficiency on the CPI. In addition, Brown (1974) found that EUAs scored higher than AFAs did on achievement via independence using the CPI. According to these findings, one could

infer that there were racial differences on *competence*. These results are consistent with the proposition that culturally based personality measures have an impact on participants' responses (Dana, 1989; Gynther, 1972; Helms, 1992). So when assessing cultural influences on test performance across racial groups, it is important to assess dimensions thought to characterize each racial group such as behaviors, beliefs, and values.

Although there were statistically significant differences on the *competence* measure between AFA and EUA students, there were no significant differences on the *rule following* measure, despite the fact that this study's conscientiousness measure was developed specifically from an AFA perspective. A possible explanation is based on the content of the *rule following* scale. Specifically, the items in this scale may tap into a common framework of meaning that is similar for AFAs and EUAs. That common framework may include the same government and laws, personal dependability in general situations, shared societal norms, and other social-cultural processes that are shared by AFAs and EUAs. Rather than tapping into meanings that were more specifically relevant to AFAs, the *rule following* items may have tapped into common attitudes about following rules in the workplace, related values, and authority figures.

It must be acknowledged that the present results for the *rule following* factor are consistent with several studies, which showed no differences between AFAs and EUAs using the CPI and the MMPI. Prichard and Rosenblatt (1980) reviewed then current evidence of racial bias in the MMPI. They found that out of six published studies, three found no evidence for racial bias in the MMPI results. Later, using a larger number of studies, Greene (1987) found similar results on 54 studies. Greene found no consistent pattern of differences between the group-related scores of AFAs and EUAs. In addition

to those findings, Kamp and Hough (1988) examined racial differences from different inventories (i.e., MMPI, CPI, and CPS). They concluded "There is no consistent pattern of black-white differences on *dependability* scales from different inventories" (p. 69).

Although there were no differences on the *rule following* factor by ethnicity, there were differences on *Factor G*, but not in the expected direction. African-American females had higher scores than EUA females. This result was not anticipated and invites speculation about possible reasons. One explanation for this finding could be that the items in *Factor G* reflected a strong moralistic notion of *rule following* and "right versus wrong". For example, one of the *Factor G* items deal with strictly following moral standards. Another item mentioned doing things that are "right and proper"; while another item mentions "ministers" who tried to stop people from doing what they wanted to do. The moralistic sense of rules and *rule following* behavior could actually be more characteristic of many AFA female students in this study's sample who attended smaller AFA colleges, located in the South, from areas which have traditionally been regarded as "Bible Belt" regions of the United States. It could be that these colleges are more rule-oriented and subject to more potent norms than the larger EUA colleges, which could be more liberal with less powerful norms for rule compliance. It has been widely speculated that AFA females have traditionally been more likely to be involved in religious activities (Staples, 1994). Hence, they are more likely to be encouraged to "follow moral guidelines". As a result, they are more "conscientious". As Staples observed:

> Most Black church congregations are disproportionately female. The reasons for this are readily apparent. Church values and norms are those of female-centered kin networks. Church values are familistic values and their norms emphasize the preservation of the home and family. The church ritualizes these familistic values and kinship relationships (p. 198).

It should also be noted that, although AFA females scored significantly higher on *Factor G* than EUA females, the statistical difference was of small magnitude. Female AFAs and EUAs, for example, differed by only .07 on *Factor G*, which is a very small difference for an 11-item scale (composed of the total score of 11 items). It was unclear whether this is a difference that has any practical significance.

These findings indicated that AFA females were more conscientious than EUA females. As a result, the hypothesis that EUAs would score higher than AFAs on conscientiousness measures was rejected in this study. It should be noted however that the present study was based on college students only. Resource Associates (1998) found different results using working adults. Resource Associates found that EUA working adults were more conscientious than AFA working adults. In addition, their conscientiousness scale correlated highly with *Factor G*. The difference between the present study and the Resources Associates study could be that there could be differences in college students' and working adults' level of conscientiousness. Consequently, AFA female college students (particularly AFA females) may be more conscientiousness than AFA adults are.

Overall, the present study found that there were both similar and unique patterns as functions of ethnicity (i.e., AFAs and EUAs) on the conscientiousness construct. Since there were differences between AFA and EUA students on the variables *competence* (emic) and *Factor G* (pseudo-etic), and there were similarities on *rule following* (emic), it would be interesting to continue to develop emic assessments to determine differences and similarities on related personality constructs. In one sense, the

current results suggested promising avenues for future research on the development of emic assessments. In another sense, however, the current findings were discouraging for researchers who might hope to identify common personality construct relations across ethnic or racial groups.

It is important to note that emic measures have often times been criticized in the literature for their relevance to minority groups. For example, some researchers have proposed that there were common personality themes between groups (Schmidt, 1988) that were not a result of cultural factors, but of individual differences in performance (Gottsfredson, 1988). Gottsfredson explained that:

> . . . testing is the wrong focus of debate regarding fairness in employment. We do not have a testing problem so much as we have a social problem brought on by real differences in the job-related capabilities that the test measures. As has oft been noted, the vulnerability of tests is due less to their limitations for measuring important differences than it is to their very success in doing so (p. 294).

This perspective assumed that all cultural groups share global behavioral patterns (Samuda, 1998). It did not take into consideration language barriers, perceptions of test items, etc. As a result, many studies are being conducted that do not assess how cultural group status impacts minority group members performance. Nevertheless, the emic measures in this study provided evidence that cultural factors may impact performance on some personality variables differentially for AFAs and EUAs. Additional emic measures would be needed to assess performance vis-a-vis similarities and differences on other personality constructs.

One important aspect of developing emic assessments is to examine participants' motivational level (Padilla & Medina, 1996). Since motivational factors are an important component in developing emic measures, it is important to determine

participants' reactions to the testing measure because studies have consistently shown that motivation level influences how a person performs on a test (Avery et al, 1990; Chan et al., 1997). Helms (1992) reported that AFA and EUA examinees had different cultural values, beliefs, and experiences. Consequently, AFAs seemed to be more likely to have negative reactions about their test taking experiences.

In the present study there were no overall differences between AFAs and EUAs on the *face validity* scales and the *perceived predictive validity* scales. However, there were gender differences between AFA and EUA males on the (a) *face validity* scale measuring the AFACS; (b) the *face validity* scale measuring *Factor G*; and (c) the *perceived predictive validity* scale measuring *Factor G*. African-American males had less favorable test reactions than did EUA males. As a result of these findings, this researcher proposes several factors that may attribute to AFA males having more negative reactions toward tests. First, AFAs males may behave in terms of the Afrocentric worldview theory proposed by Helms (1992). That is, AFA males may be less likely to endorse the belief that test scores reflect a person's intellectual level. According to the Afrocentric worldview, it is believed that a nontrivial part of test performance reflects luck or test-taking conditions. Thus, the Afrocentric worldview expresses different attitudes toward cognitive ability tests than does the Eurocentric worldview. Second, it is proposed that AFA males, when compared to EUA males are more likely to express more stereotypical responses (Cross, et al, 1978). They explain that this can be interpreted as the black males attempt to cope with a nonsupportive threatening environment. Since the present study shows that AFA males had less favorable test reactions, negative outcomes were likely to occur such as (a) high adverse

impact, (b) the loss of qualified AFA male applicants, and (c) decreased diversity of the workforce (Chan, 1997) when AFA males apply for jobs.

There has been limited research examining racial differences between AFAs and EUAs on the *face validity* scale and the *perceived predictive validity* scale. The extant research conflicts with the findings from the present study. By way of example, Chan et al. (1997) found that AFAs reported lower *face validity* scores than EUAs did on cognitive ability tests. In addition, Avery et al. (1990) found that AFAs had more negative reactions toward selection tests than EAU students did. However, it is important to note that Chan (1997) and Avery et al (1990) did not examine gender effect; and that may have contributed to their overall findings.

The findings regarding the *perceived predictive validity* scale were similar to Chan's (1997) findings. He did not find any difference in the predictive validity perceptions on the personality inventory between AFA and EUA students. The present study found that there were no differences between AFA and EUAs on this scale except that AFA males had more negative reactions than did EUA males on the *perceived predictive validity* scale measuring *Factor G*. Chan explained that predictive validity perceptions could have effects on an individual's attractiveness to an organization and acceptance of job offers. Chan explained that:

> Lower *perceived predictive validity* could lead to decreased organizational attractiveness and lower probability of job pursuit-acceptance, which would eventually increase adverse impact in hiring over and above adverse impact due to Black-White differences in test performance. (317-318)

The present results implied that AFA males may be less likely to be attracted to jobs or less likely accept jobs as a result of their negative reaction toward tests.

Overall, the results from the reactions literature revealed that AFA females and EUAs display more favorable reactions toward the conscientiousness measures regardless of whether the measure was etic or emic. On the other hand, AFA males have less favorable test reactions, than did any other groups, regardless of etic or emic. The current study's measures did not appear to have a differential impact by EUA/AFA on participants' perceptions of the relationship between the personality construct and job performance (*face validity*); and the relationship between their test performance and future performance on the job (*perceived predictive validity*).

Directions for Future Research

Future research could try to explain why there have been EUA-AFA differences on some conscientiousness constructs, but not on others. There may be a more common underlying variable, such as perceived legitimacy of rules, conformity, or loyalty, which might shed light on such differential patterns. Future research also could examine how other personality constructs developed from an emic perspective have been distributed by ethnic group.

Research could also be directed to the question of whether such findings generalize beyond college students to working adults. Future research could address joint gender and ethnic differences, which the current study suggested could lead to more differentiated results, particularly for AFA females. Also, this research could examine how AFA and EUA differ on the AFACS according to their socio-economic backgrounds.

The criterion-related validity (Tett et al, 1991) of *competence* could be further explored to determine the relationship between *competence* and performance for AFAs.

It would be interesting to examine *competence* in an actual work setting to determine the relationship between *competence* and job performance.

For both the *rule following* and the *competence* measures developed for this study, the construct validity could be more thoroughly investigated. For example, these measures could be studied in relation to cognate and divergent measures on other personality inventories such as the NEO-PI (Costa & McCrae, 1985) and the CPI (Gough & Bradley, 1996).

Since participants had negative reactions on the *perceived predictive validity* scales, more research is needed to examine why this is so. In addition, since AFA males seemed more likely to have negative reactions to etic and emic tests, research is needed to explore the underlying bases of their reactions. Such research also should examine the impact that subjects' reactions could have on obtaining employment.

Finally, contrary to previous findings, the secondary hypotheses in the current study indicated that there was no differential relationship between AFA and EUAs on academic performance and conscientiousness. Since the grade point averages were self-reported, it would be important to investigate students' actual grades (from the registrar) in relation to *rule following* and *competence*.

Limitations

There were several limitations in this study. First, students were taken from a small subset of colleges in the southeastern United States. Having a more diverse group of students from schools throughout the country would have increased the generalizability of these findings and it could have changed the results themselves.

Second, none of the college samples were randomly selected. Students were solicited primarily from undergraduate psychology and sociology courses, and selection of participants was on a voluntary basis primarily from academic classes. A random sample of students from the colleges would have provided more representative data from each institution and also would have increased the generalizability of findings.

Third, in this study, the EUAs attended large colleges whereas the AFAs attended smaller colleges. The AFA colleges were smaller and not representative of AFA colleges in general. The sample of EUA colleges was limited in terms of representing EUA students because they were large and located only in the southeast.

Fourth, there was a disproportionately small ratio of male (both AFA and EUA) to female subjects. A larger number of males in study might have provided more representative results.

Fifth, some students who participated in this study received extra credit for completing the survey. This was a limitation because certain students may have been influenced to participate in the study due to the extra credit.

Sixth, students' GPAs were self-reported. Therefore, the obtained data are of questionable validity with respect to actual GPA. Students' grades obtained from the registrars office would have provided more accurate data. Therefore, the results concerning GPA should be generalized with great care.

Summary

This study was designed to determine whether or not there were differences between AFA and EUA students on two culturally specific conscientiousness measures: *Factor G* and the AFACS. Overall, the study found that there were both differences and

similarities between AFA and EUA on the conscientiousness construct. More specifically, this study found that there were no significant differences on the *rule following* (emic) factor but that there were significant differences on *competence* (emic) factor, and *Factor G* (etic). Thus, the emic measures were only partially successful in differentiating AFAs and EUAs.

The findings regarding the reaction measures were also mixed in terms of ethnic differences. There were no differences between AFA females and EUAs' reactions on the emic and etic assessments. Thus, they displayed similar reactions regarding tests regardless of etic-emic perspective. However, AFA males had more negative reactions toward all of the aforementioned conscientiousness measures than did any other group except on the *perceived predictive validity* scale. It is proposed that for AFA males, the elevated feelings of distrust in American society may contribute to their negative reactions to tests.

Overall, perhaps the primary conclusion of this study was that different patterns of results emerged depending on which variable was examined. In this regard, the current study was similar to studies of ethnic differences on the MMPI, on which the differences varied by subscale, including lie scale, schizophrenia, and hypomania (Greene, 1987; Gynther, 1972; Kamp & Hough 1988). The study of AFA and EUA differences is complex and can not be generalized across constructs. Hopefully, future research will clarify the generalizations which can be made regarding such differences.

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APPENDICES

Appendix A: Contributors to the factor Conscientiousness

Contributors to the Factor Conscientiousness

Webb (1915): Will

Tendency not to abandon tasks from mere tangibility
Tendency not to abandon tasks in face of obstacles
Kindness on principle
Trustworthiness
Conscientiousness
Readiness to become angry
Eagerness for admiration
Bodily activity in pursuit of pleasure

Cattell (1989): Superego Strength

Perserving, determined vs. quitting, fickle
Responsible vs. frivolous, immature
Insistently ordered vs. relaxed, indolent
Conscientious vs. unscrupulous
Attentive to people vs. neglectful of social chores
Emotionally stable vs. changeable

Fiske (1949): Conformity

Readiness to cooperate
Serious
Trustful
Good Natured
Easy-going
Conscientious
Submissive
Silent
Silent overt interest in women
Predictable

Tupes & Christal (1961): Dependability

Relaxed, Indolent vs. insistently orderly
Responsible vs. frivolous
Conscientious vs. unscrupulous
Perserving vs. quitting
Conventional vs. unconventional

Norman (1963): Conscientious	
	Fussy, tidy vs. careless
	Responsible vs. undependable
	Scrupulous vs. unscrupulous
	Perserving vs. quitting
Borgatta (1976): Responsibility/Task Interest	
	Orderly
	Responsible
	Conscientiousness
	Mature
Smith (1967): Strength of Character	
	Quitting
	Inquisitive
	Prone to daydream
	Insistently ordered
	Self-reliant
	Socially mature
	Resourceful
	Languid
	Responsible
Howarth (1976): Superego	
	Frivolous vs. responsible
	Unconventional vs. conventional
	Conscientious vs. somewhat unscrupulous
	Perserving, determined vs. quitting, fickle
	Insistently orderly vs. relaxed, indolent
Lorr & Manning (1978): Controlled-Spontaneous	
	Orderly
	Persistent
	Conscientious
	Persevering
Digman & Takemoto-Chock (1981): Will	Will to Achieve
	Responsible
	Persevering
	Planful
	Careful
	Neat

Botwin & Buss (1989): Conscientious

Responsible
Conscientious

Digman (1989): Will

Persistence
Planful
Responsible
Neat
Orderly
Careful
Lackadaisical (negative direction)
Careless (negative direction)
Irresponsible (negative direction)
Quitting (negative direction)

Appendix B: African American Conscientiousness Scale (Pilot)

Conscientiousness Scale

The enclosed scale is a part of a pilot test to determine the relevance of the items for a conscientiousness scale. If you have any questions, please contact Prof. John Lounsbury (423) 974-3423 [Address: Department of Psychology, Univ. of Tennessee, Knoxville, TN, 37909-0900]. Your responses will remain anonymous. You are under no obligation whatsoever to answer any question you do not wish to answer.

Demographic Information

a. **Gender**
☐ Male
☐ Female

b. **Age**
☐ under 18
☐ 18
☐ 19
☐ 20
☐ 21
☐ 22
☐ 23 and over

	Strongly Disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly Agree 5
1. I always conform to professional standards.	☐	☐	☐	☐	☐
2. Being free to do what I want is extremely important to me.	☐	☐	☐	☐	☐
3. I have a strong desire to be successful.	☐	☐	☐	☐	☐
4. In order to succeed, I focus on striving for excellence no matter what the barriers.	☐	☐	☐	☐	☐
5. Because of my cultural status, I know it is important for me to be fully prepared at my workplace.	☐	☐	☐	☐	☐
6. I continually strive toward my goals regardless of barriers.	☐	☐	☐	☐	☐
7. I respect rules only if they are legitimate.	☐	☐	☐	☐	☐
8. I keep my belongings clean and neat at all times.	☐	☐	☐	☐	☐
9. I never challenge the status quo even when I think there is a need to.	☐	☐	☐	☐	☐
10. It is o.k. to break rules if there is a good reason for it.	☐	☐	☐	☐	☐
11. I am always persistent in "getting the job done".	☐	☐	☐	☐	☐
12. I respect authority only when it is necessary.	☐	☐	☐	☐	☐
13. I try to obey all rules, which are legitimate to my cultural norms.	☐	☐	☐	☐	☐
14. I think it is O.K. to disregard a rule if another culture group that is different from my own cultural group has imposed it on me.	☐	☐	☐	☐	☐
15. I never fail to follow through on my commitments.	☐	☐	☐	☐	☐
16. I think that being able to do what I want is more important than respect for rules.	☐	☐	☐	☐	☐

	Strongly Disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly Agree 5
17. If a person is clever enough to get around the rules then he or she should do it if there is an important reason for it.	☐	☐	☐	☐	☐
18. Following a lot of rules can prove to be disturbing.	☐	☐	☐	☐	☐
19. I will always follow through on any commitment I make to my friends.	☐	☐	☐	☐	☐
20. I believe a person should work to abolish any law that they think is harmful to his/her ethnic group.	☐	☐	☐	☐	☐
21. I admire a person who has strict moral standards.	☐	☐	☐	☐	☐
22. In some instances, I will not respect an authority figure if I feel that the person has different values than mine.	☐	☐	☐	☐	☐
23. I respect rules only if they are worthwhile or legitimate to my cultural norms.	☐	☐	☐	☐	☐
24. I always strive for excellence despite barriers.	☐	☐	☐	☐	☐
25. I strive to achieve all I can despite setbacks.	☐	☐	☐	☐	☐
26. I strive to live up to moral values and principles promoted by leaders I respect.	☐	☐	☐	☐	☐
27. I do not conform to professional standards if it risks jeopardizing my culture.	☐	☐	☐	☐	☐
28. I follow most laws and regulations.	☐	☐	☐	☐	☐
29. In predominantly white environments, I have to work harder than the next person to get ahead in the workplace.	☐	☐	☐	☐	☐
30. Sometimes, I do not work hard enough to get ahead.	☐	☐	☐	☐	☐
31. I respect people in authority only if I think they respect me.	☐	☐	☐	☐	☐
32. I prefer a workplace without a lot of rules and regulations.	☐	☐	☐	☐	☐
33. I always have to stay on target in my workplace because there are people who want to see me fail.	☐	☐	☐	☐	☐

Appendix C: Conscientiousness Survey

Consent Form

You are invited to participate in a research study. The purpose of this study is to assess participants' potential work related behaviors on two related scales. The information in the study records will be kept confidential. Data will be stored securely and will be made available only to persons conducting the study unless you specifically give permission in writing to do otherwise. No reference will be made in oral or written reports which could link you to the study.

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study,) you may contact John Lounsbury, at 423-588-8252. If you have questions about your rights as a participant, contact the Compliance Section of the Office of Research at (423) 974-3466.

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at anytime without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed, your data will be returned to you or destroyed.

CONSENT

I have read the above information and agree to participate in this study. I have received a copy of this form.

Participant's name (print) _____

Participant's signature _____

Date _____

African-American Conscientiousness Scale

		Strongly Disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly Agree 5
1	I respect authority only when it is necessary.	☐	☐	☐	☐	☐
2	I think it is O.K. to disregard a rule if another culture group that is different from my own cultural group has imposed on me.	☐	☐	☐	☐	☐
3	I always strive for excellence despite barriers.	☐	☐	☐	☐	☐
4	I continually strive toward my goals regardless of barriers.	☐	☐	☐	☐	☐
5	I admire a person who has strict moral standards.	☐	☐	☐	☐	☐
6	Following a lot of rules can prove to be disturbing.	☐	☐	☐	☐	☐
7	I prefer a workplace without a lot of rules and regulations.	☐	☐	☐	☐	☐
8	I strive to achieve all I can despite setbacks.	☐	☐	☐	☐	☐
9	I have a strong desire to be successful.	☐	☐	☐	☐	☐
10	If a person breaks a rule in the workplace, then that person should "pay the price".	☐	☐	☐	☐	☐
11	If a person is clever enough to get around the rules then he or she should do it if there is an important reason for it.	☐	☐	☐	☐	☐
12	It is O.K. to break rules if there is a good reason for it.	☐	☐	☐	☐	☐
13	I strive to live up to moral values and principles promoted by leaders I respect.	☐	☐	☐	☐	☐
14	I always have to stay on target because there are people who want to see me fail.	☐	☐	☐	☐	☐
15	I never break rules, even if there is a good reason.	☐	☐	☐	☐	☐
16	In some instances, I will not respect an authority figure if I feel that the person has different values than mine.	☐	☐	☐	☐	☐
17	I do not conform to professional standards if it risks jeopardizing my culture.	☐	☐	☐	☐	☐
18	In order to succeed, I focus on striving for excellence no matter what the barriers.	☐	☐	☐	☐	☐
19	I am always persistent in getting the job done.	☐	☐	☐	☐	☐
20	I respect mostly all authority figures, even if their values are completely different from my values.	☐	☐	☐	☐	☐
21	I respect rules only if they are worthwhile or legitimate to my cultural norms.	☐	☐	☐	☐	☐
22	I respect rules only if they are legitimate.	☐	☐	☐	☐	☐
23	I keep my belongings clean and neat at all times.	☐	☐	☐	☐	☐
24	Because of my cultural status, I know it is important for me to be fully prepared at my workplace.	☐	☐	☐	☐	☐

Reaction Scale

Please read the following items carefully and check the one answer that best corresponds to your agreement or disagreement using the following scale.

		Strongly Disagree 1	Disagree 2	Neither agree or disagree 3	Agree 4	Strongly Agree 5
1	I did not understand what the previous scale had to do with job performance.	☐	☐	☐	☐	☐
2	I could not see any relationship between the previous scale and what is required on a job.	☐	☐	☐	☐	☐
3	It would be obvious to anyone that the previous scale is related to job performance.	☐	☐	☐	☐	☐
4	The actual content of the previous scale was clearly related to job performance.	☐	☐	☐	☐	☐
5	There was no real connection between the previous scale and job performance.	☐	☐	☐	☐	☐
6	Doing poorly on the previous scale clearly indicates that you can't perform effectively in the workforce.	☐	☐	☐	☐	☐
7	I am confident that the previous scale can predict how well an applicant will perform on the job.	☐	☐	☐	☐	☐
8	My performance on the previous scale was a good indicator of my ability to perform at work.	☐	☐	☐	☐	☐
9	Applicants who perform well on this type of scale are more likely to perform well on the job in comparison to applicants who perform poorly.	☐	☐	☐	☐	☐
10	The employer can tell a lot about the applicants' ability to do the job from the results of the previous scale.	☐	☐	☐	☐	☐

* Note: Face Validity Scale items 1-5; Perceived Predictive Validity Scale items 6-10

Demographic Information

1. **What is your racial or ethnic identification?**
   1 ☐ African American/Black
   2 ☐ Asian/Pacific Islander
   3 ☐ Hispanic/Latino
   4 ☐ Native American
   5 ☐ White/European American
   6 ☐ Other _____

2. **Name of School** _____

3. **Age**
   1 ☐ **below 18**
   2 ☐ **18-21**
   3 ☐ **22-25**
   4 ☐ **25-30**
   5 ☐ **30 and over**

4. **Gender** 1 ☐ Male 2 ☐ Female

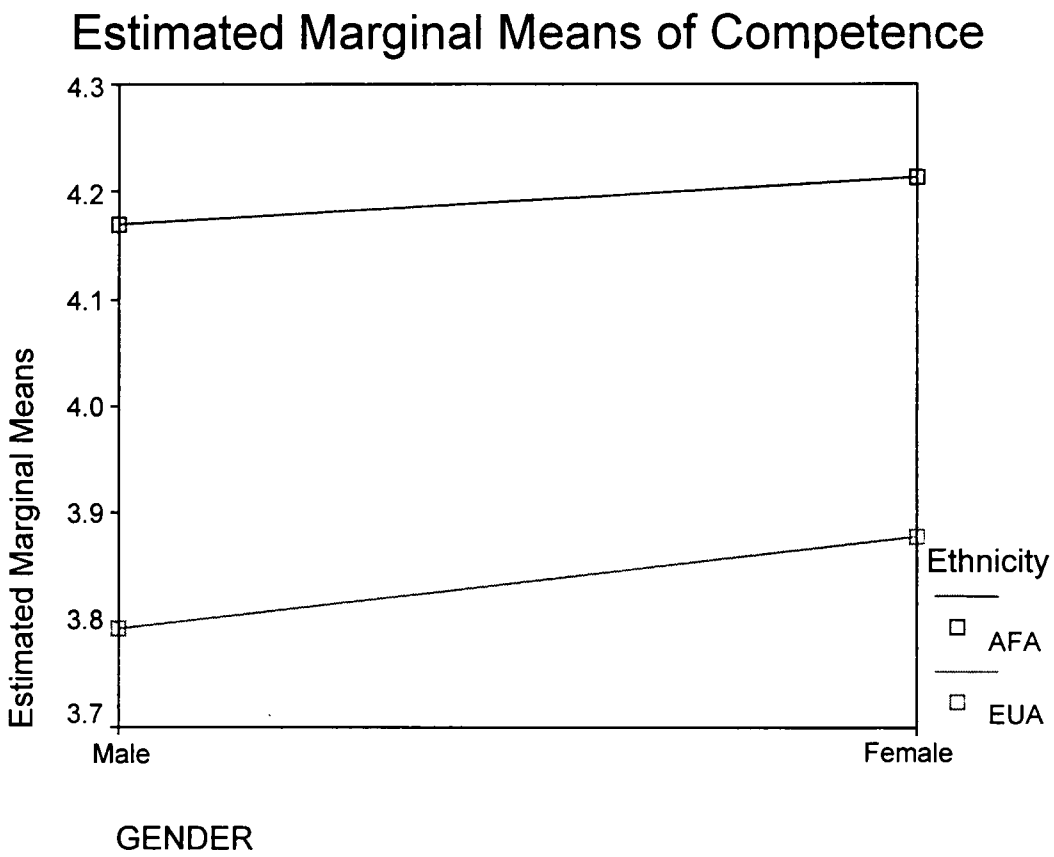
5. **What is your classification in college?**
   1 ☐ Freshman 2 ☐ Sophomore 3 ☐ Junior 4 ☐ Senior

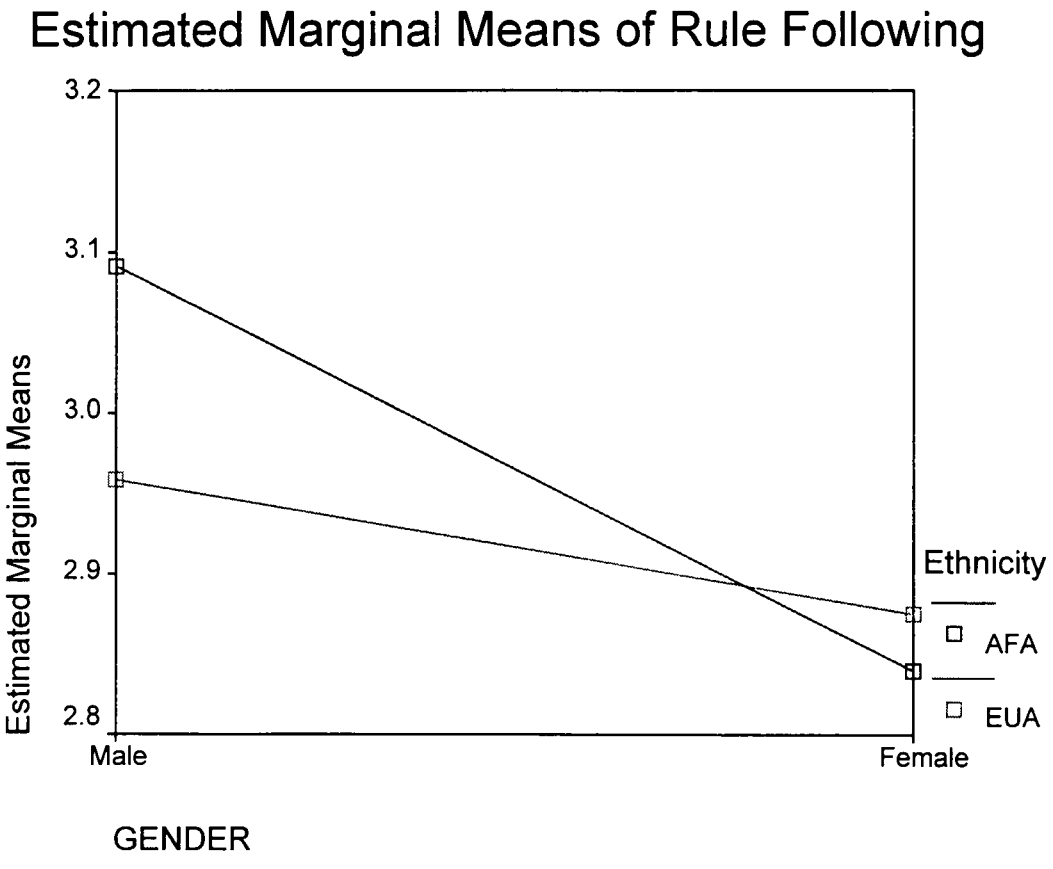
6. **Please check each activity listed below which applies to you:**
   1 ☐ On academic scholarship
   2 ☐ On athletic scholarship
   3 ☐ Participate in hobby group/club
   4 ☐ Participate in political organization
   5 ☐ Member, Scholastic/academic honor society
   6 ☐ Participate in environmental organization
   7 ☐ Participate in ROTC/military organization
   8 ☐ Participate in ethnic organization
   9 ☐ Participate in cultural organization
   10 ☐ Belong to a fraternity or sorority
   11 ☐ Academic probation

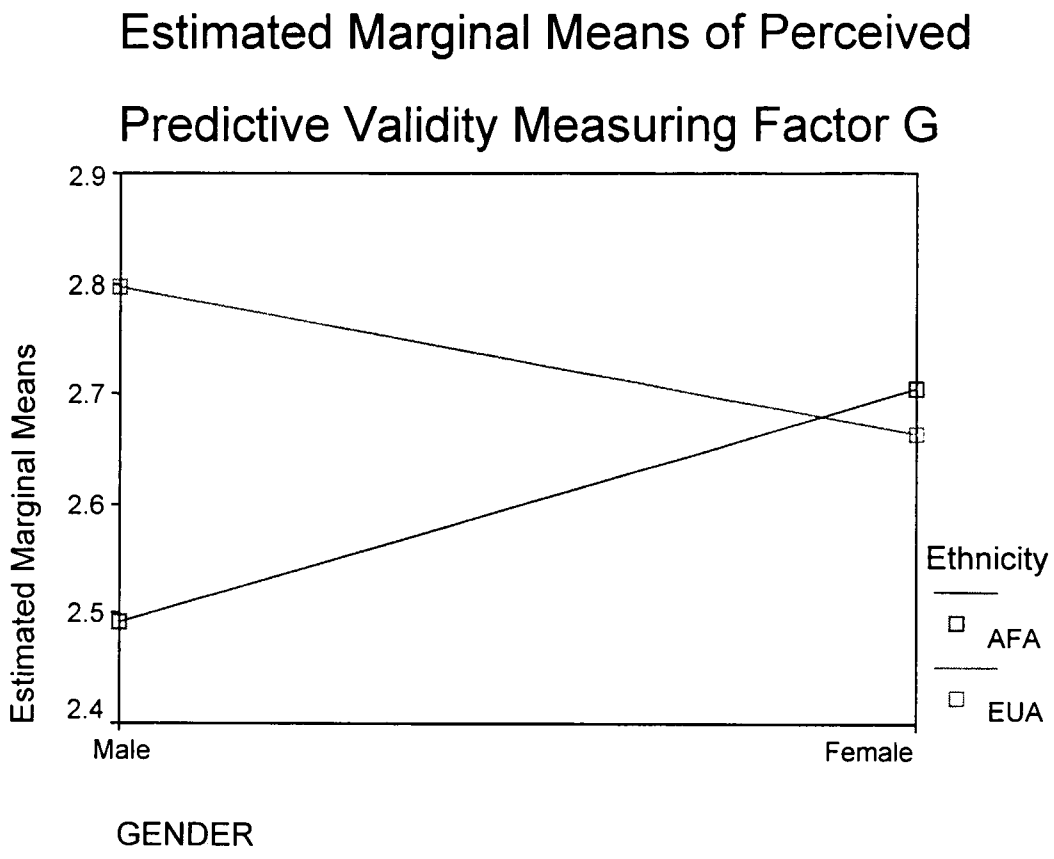
7. **What is your Grade Point Average?**
   1 ☐ **2.0 or below**
   2 ☐ **2.1 to 2.4**
   3 ☐ **2.5 to 3.0**
   4 ☐ **3.1 to 3.4**
   5 ☐ **3.5 to 3.9**
   6 ☐ **4.0**

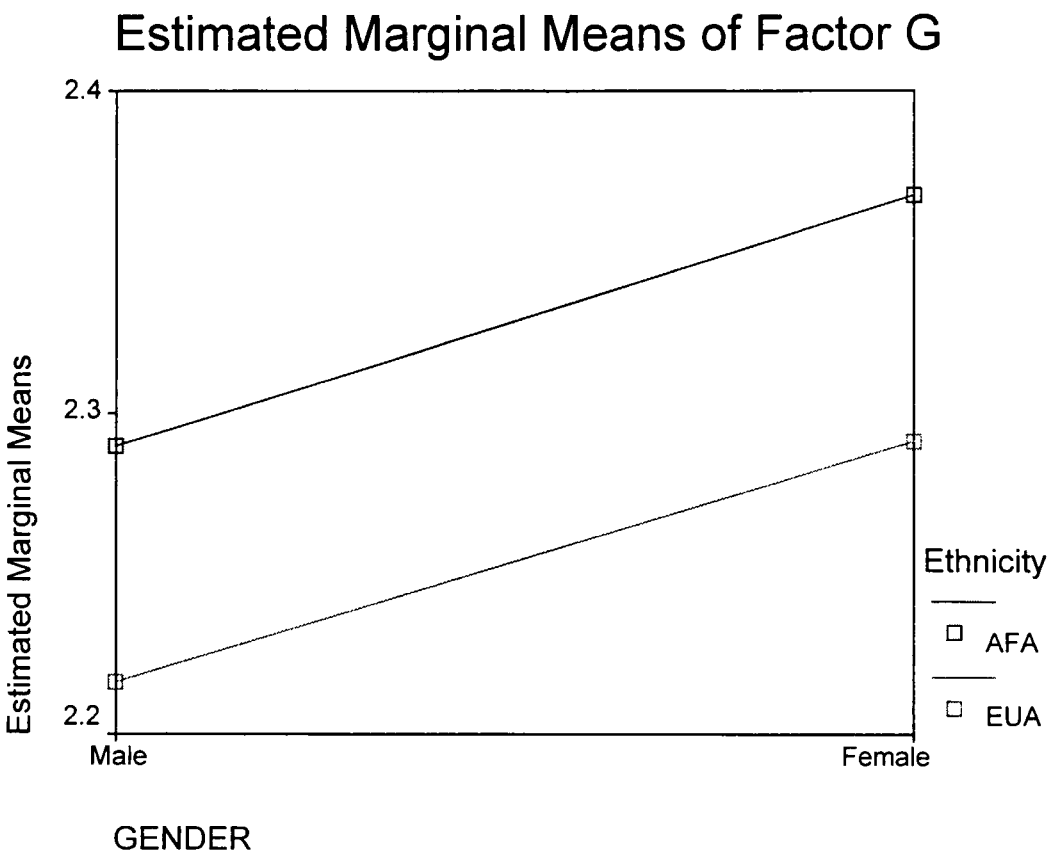
8. **Which of the following comes closest to describing your major field of study (or your expected major)?**
   1 ☐ Agriculture
   2 ☐ Arts (art, music, theater, etc.)
   3 ☐ Biological Sciences (biology, botany, biochemistry, zoology, etc.)
   4 ☐ Business
   5 ☐ Computer Science
   6 ☐ Education
   7 ☐ Engineering
   8 ☐ Foreign Languages
   9 ☐ Area Studies (Latin American Studies, Asian Studies, African Studies, etc.)
   10 ☐ Health related fields (nursing, physical therapy, health technology, etc.)
   11 ☐ Humanities (literature, history, philosophy, religion, etc.)
   12 ☐ Physical Sciences (physics, chemistry, mathematics, astronomy, earth science, etc.)
   13 ☐ Social Sciences (economics, political science, psychology, sociology, etc.)
   14 ☐ Interdepartmental majors (international relations, ecology, women's studies, etc.)
   15 ☐ Other: _____
   16 ☐ Undecided

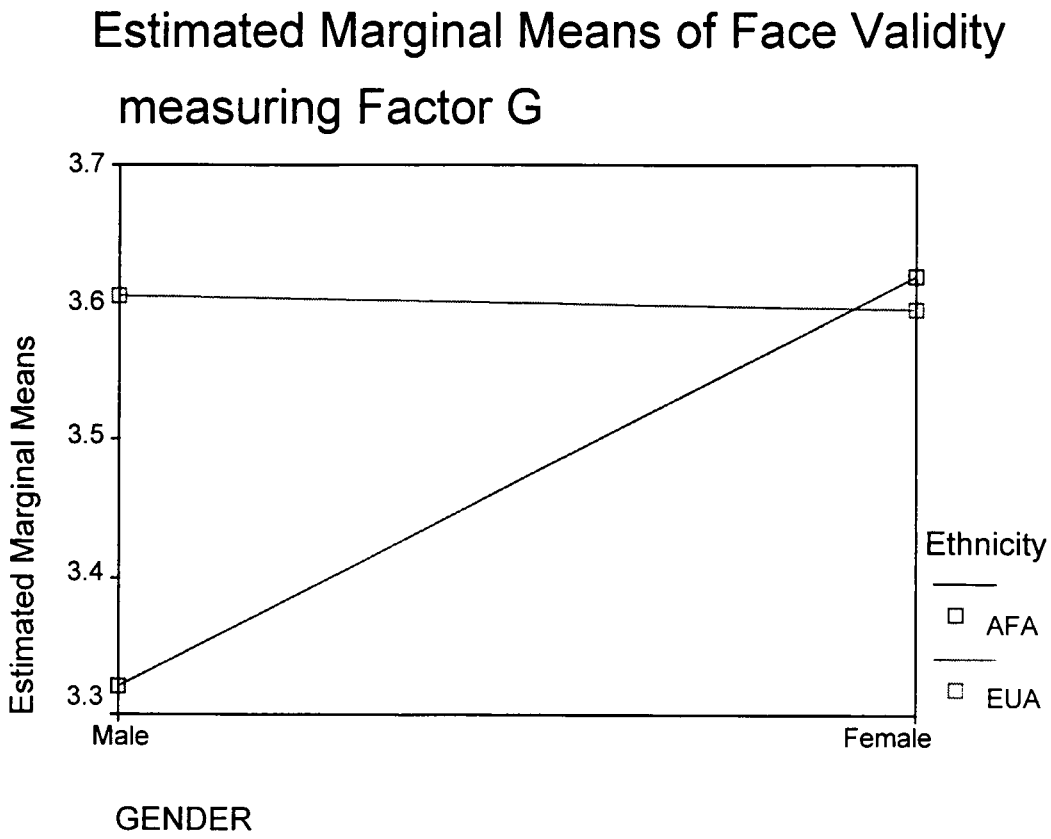
Appendix D: Means on each study variable

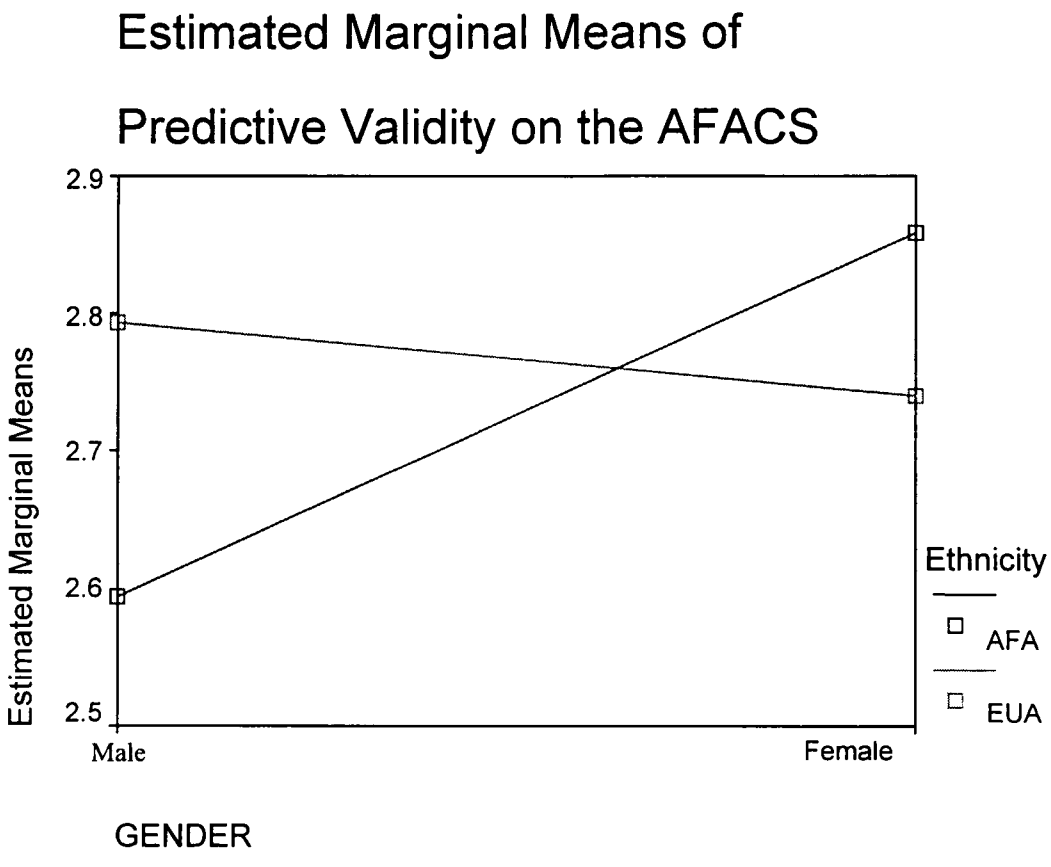


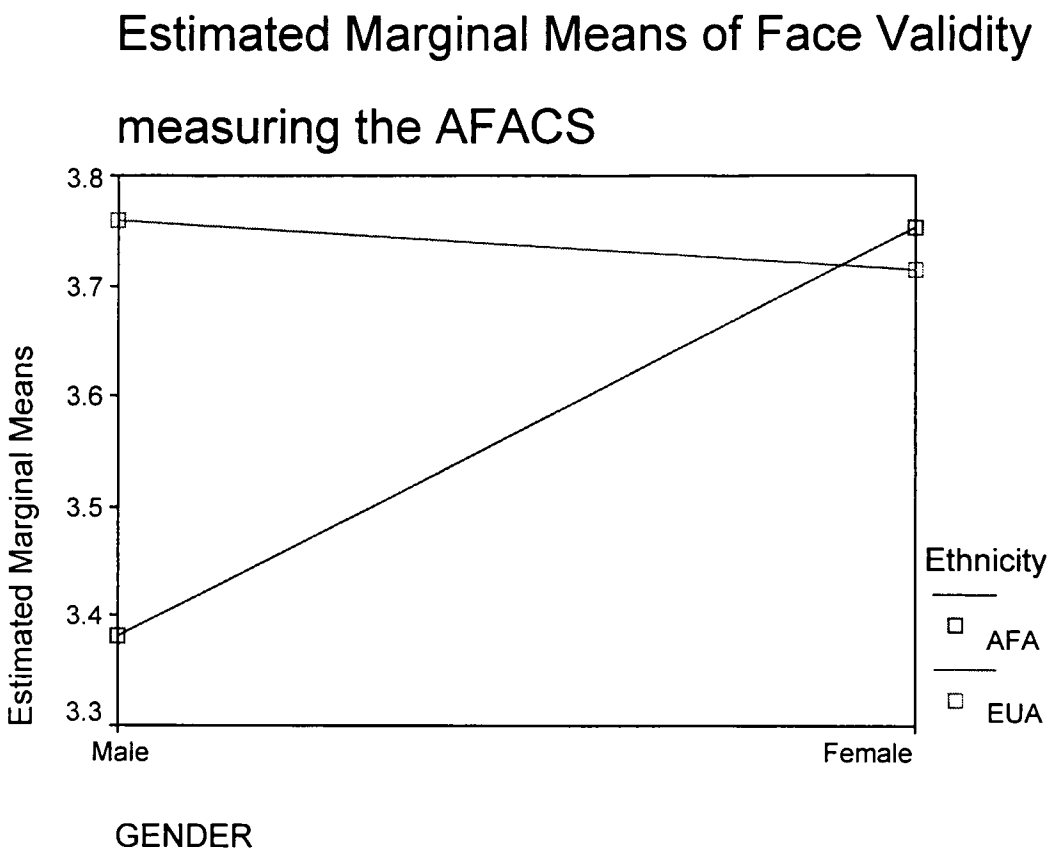

Estimated Marginal Means of Rule Following
3.2
3.1
3.0
2.9
2.8
Estimated Marginal Means
Male
Female
GENDER
Ethnicity
AFA
EUA


Estimated Marginal Means of Perceived Predictive Validity Measuring Factor G
Estimated Marginal Means
2.9
2.8
2.7
2.6
2.5
2.4
Male
Female
GENDER
Ethnicity
AFA
EUA


Estimated Marginal Means of Factor G
2.4
2.3
2.2
Estimated Marginal Means
Male
Female
GENDER
Ethnicity
AFA
EUA


Estimated Marginal Means of Face Validity measuring Factor G
Estimated Marginal Means
3.7
3.6
3.5
3.4
3.3
Male
Female
GENDER
Ethnicity
AFA
EUA


Estimated Marginal Means of
Predictive Validity on the AFACS
Estimated Marginal Means
2.9
2.8
2.7
2.6
2.5
Male
Female
GENDER
Ethnicity
AFA
EUA


Estimated Marginal Means of Face Validity measuring the AFACS
Estimated Marginal Means
3.8
3.7
3.6
3.5
3.4
3.3
Male
Female
GENDER
Ethnicity
AFA
EUA

VITA

Jessica Maria Blalock was born in Atlanta, Georgia on May 16, 1972. She attended elementary school and high school in Atlanta, GA. She graduated from Clark Atlanta University in 1990 with a major in psychology. While attending Clark Atlanta University, she was on the Deans List and she was a McNair Scholar at Georgia State University.

In August 1994, Ms. Blalock entered the graduate program in Experimental Psychology at the University of Tennessee. During her tenure there, she obtained extensive experience in the area of Applied Psychology. She worked at Andersen Worldwide, as an Evaluator in the Performance Consulting Department. Through the guidance of an Industrial/ Organizational Psychologist, this internship gave her an opportunity to develop an item-writing analysis workshop and she helped evaluate participants' reactions to different training seminars. She worked at Knoxville Utilities Board (KUB) in the Human Resources Department. At KUB, she helped develop selection materials and she evaluated applicants' performance on selection tests. She also worked at Tennessee Valley Authority in Corporate Development. In this department, she helped in piloting a 360-Degree Feedback Program. She was awarded the Doctor of Philosophy degree with a major in Experimental Psychology in May 1999.