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## Racial and Gender Differences in the Five Factors of Personality within Military Samples

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# **Racial and Gender Differences in the Five Factors of Personality within Military Samples**

## **Abstract**

This project assessed racial and gender differences on responses to the NEO-PI-R, the major instrument for measuring the five factors of personality. Theoretical rationale and empirical research is provided regarding possible personality differences between groups. Members across all branches of the Armed Services completed the NEO-PI-R resulting in a total sample of 472 (293 males, 179 females; 222 African Americans, 250 Whites). Multiple analysis of variance with race and gender as factors and age as a covariate (MANCOVA) demonstrated that African Americans scored higher than Whites on the factor of Agreeableness ( $p < .003$ ) and lower on the factor of Negative Emotionality ( $p < .0001$ ). Females scored higher on Agreeableness ( $p < .0001$ ), Negative Emotionality ( $p < .006$ ), and Openness to Experience ( $p < .0001$ ) than males. A significant interaction effect emerged for Agreeableness ( $p < .03$ ), with White males scoring lower than White females and African-American males and females. Univariate F tests indicated significant racial differences for twelve (out of thirty) of the facet scales and gender differences were significant for ten of the facet scales. Within the context that this research is comparative, not causal, possible interpretations of between-group differences, applicability of the findings to organizational settings, and implications for the universality of the five-factor model are discussed.

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**Opinions expressed in this report are those of the author and should not be construed to represent the official position of DEOMI, the military Services, or the Department of Defense**

# **Racial and Gender Differences in the Five Factors of Personality within Military Samples**

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## **Introduction**

This paper examines the existence of group differences within the five-factor model of personality (FFM) in military samples. Although the FFM has been used within the Department of Defense (DoD) for profiling and training, there is little to no information on whether racial or gender differences emerge within military samples. This is an important consideration for two major reasons. First, there are theoretical reasons to suspect that heritable personality traits may be modified by cultural experiences and hence may not necessarily be generalizable across racial/ethnic or gender groups. Secondly, any group differences would need to be addressed prior to use of the FFM within the DoD in order to avoid uninformed or unfair decision-making processes.

Less is known about actual practical and behavioral manifestations of potential differences in personality between African Americans and Whites. However, Houston (1990) provides one example in his discussion of interpersonalism-collectivism among Western descendants of Africans. Speaking to an issue close to the heart of any college professor, Houston (1990) notes the differential use of time between African American and White faculty for guidance, advisement, and counseling of students. According to Houston (1990), Black faculty, in keeping with collectivist roots, devote considerably more time and effort to Black student mentoring, committee membership, and workshops, often to the detriment of the more individualistically determined activity of research and publication. The result of this is that African-American faculty may be negatively affected by promotion and tenure decisions, which usually subordinate student contact to the goal of individual publication efforts. Houston (1990), through this example, notes that a collectivist orientation is "incompatible and in constant conflict with a society that is focused on individualism." (p. 123). Further, this may be but one example of the manner in which possible differences in personality may serve as a driver for differences in behavior and values that conflict with Eurocentric, mainstream, or majority behaviors and values.

This paper is organized in the following manner. First, a discussion of a rationale for personality differences between African Americans and Whites is presented. This discussion is subdivided into sections examining the lexical approach to personality description and the development of the five-factor NEO Personality Inventory model of personality (NEO-PI; Costa & McCrae, 1985) and use of the FFM in cross-cultural research. Next, an examination of the putative roles of environment and culture in

personality development is presented. Identity development, with a particular emphasis on African-American identity within a racist culture, is then addressed. The discussion concludes with a description of Black Psychology and its possible contribution to personality theory and development. The next section presents a brief outline of empirical findings related to gender differences in personality. Finally, the last section presents selected research conducted with the FFM within the DoD. Hypotheses are presented based upon these discussions.

### **Rationale for personality differences between African-Americans and Whites**

Possible differences in personality between African Americans and Whites may be hypothesized on the basis of linguistic theory and nature of test construction, cross-cultural theories and research, and theories regarding development of racial identity. Further, some empirical studies have examined the issue of racial group differences but has been somewhat contradictory, leading some authors to conclude "Until further research is conducted controlling for these effects [ideal responding, motivation, validity of items, and test format] we believe it is premature to conclude that five factors explain all of personality, for everyone" (Collins & Gleaves, 1998, p. 541). In discussing this issue, it is important to note how the five-factor model of personality was developed, and to also consider the subsequent construction of the NEO-PI-R, the primary instrument for measurement of the five factors.

#### The lexical approach to personality and the NEO-PI-R

The five-factor model of personality (FFM) includes Neuroticism (versus emotional stability), Extraversion (versus introversion), Openness to Experience (versus closed to experience), Agreeableness (versus not agreeable), and Conscientiousness (versus nonconscientiousness). Each factor includes six subscales or facets. Neuroticism includes facets of anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability. Extraversion contains facets of warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions. Openness to experience includes fantasy, aesthetics, feelings, actions, ideas, and values. Agreeableness is composed of trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness. Conscientiousness includes competence, order, dutifulness, achievement-striving, self-discipline, and deliberation.

There is evidence for a hierarchical organization of personality that includes a number of narrow traits (in this case facets) in addition to the broader five factors. This means that traits at the facet level exist as discrete constructs, as opposed to simply comprising the larger and broader factors of personality (Jang, McCrae, Angleitner, Riemann & Livesley, 1998). Therefore, personality description can occur at both factor and trait levels. Along these lines, both the above listed factors and traits have been subject to various designations throughout the rich history of personality research. For example, Agreeableness has been variously known as Conformity (Fiske, 1949), Likeability (Borgatta, 1964; Hogan, 1986), Friendliness (Guilford & Zimmerman, 1949), and Friendly Compliance versus Hostility (Digman & Takemoto-Chock, 1981).

The FFM is derived from earlier studies on the use of adjectives to describe human characteristics and traits. Hence, English language use has dominated the field of trait theory and measurement. In 1936, Gordon Allport and colleagues identified thousands of adjectives in the English language to describe individual differences. The theorizing was that individual differences in personality would be reflected in language. The dimensions in the five-factor model were created from ratings collected in the 1960's across diverse participant samples, adjectives, and rating tasks. Through the use of factor analysis and other statistical procedures, these various adjectives were reduced to traits and further to factors (Norman, 1963; Tupes & Christal, 1961), culminating in the present day FFM.

It is interesting to note the relation between the final FFM factors (as derived from language) and basic human processes involving need for interpersonal information. Goldberg (1981) writes that the five factors may correspond to important information we need to know about other individuals. Put in question form, this correspondence may be summarized as follows: "Is this person crazy?" (Neuroticism or emotional stability); "Will this person dominate me?" (Extraversion); "Is this person smart?" (Openness to experience); "Will I like this person?" (Agreeableness); and "Can I trust this person to do a good job?" (Conscientiousness).

Although useful for personality description, the FFM has been criticized for its atheoretical nature. Since it was largely derived through statistical and empirical procedures, it is lacking in a cohesive and underpinning theory (Ozer & Reise, 1994), a situation that is only recently being addressed through research efforts. The atheoretical nature of the FFM is perhaps best exemplified by its lack of explanatory power for the full spectrum of personality, personality disorders, and even psychotic thinking. There are some (e.g. Eysenck, 1992) who believe this ultimately undermines the FFM as a comprehensive theory of personality.

The dependency of the FFM on descriptors grounded in the English language has led some to speculate on the generalizability of this model across different cultures and ethnic/racial groups. Further, the construction of the NEO-PI-R springs directly from the same English lexical tradition. Hence, the question concerns whether there are disparate findings across different groups and nationalities in use of the model. At issue is the universality of the FFM and its measurement across different racial or ethnic groups.

The primary instrument for measuring the five factors (the NEO-PI-R), is known to be valid and reliable (Costa & McCrae, 1991). However, the NEO-PI-R is an imposed-etic instrument, or an instrument developed in one culture and used in another. Sue (1983; 1991) notes the conceptual and construct validity challenges associated with this issue and other authors agree. In contrast to the etic approach, the emic approach is culture-specific and uses criteria germane to the inner characteristics of the culture. The impact of this issue vis-à-vis test construction lies in the influence of etic versus emic interpretation of items, or culturally specific responses to questionnaire items. It would also be expected that subtle nuances related to language might be manifest in such culturally specific responses. The originators of the present day NEO-PI-R (Costa &

McCrae, 1991) note in their test manual that research is still needed to establish whether samples from populations different from the original normative sample will respond in a significantly different manner.

Due to the different cultural experiences likely encountered by African Americans, and due to possible lexical differences between this group and Whites, it is likely there may be differences between Blacks and Whites on the five factors as measured by the NEO-PI-R. There are theoretical and practical arguments to this effect. Jenkins, (1982) argued that Black English is a language distinct from that spoken by other Americans. Further, some have argued for curriculum changes in the California school system because of language differences (Williams, 1997).

One of the more prolific writers on Black English is Smitherman (1977), cited in Houston (1991), who defined Black language as "Euro-American speech with an Afro-American meaning, nuance, tone and gesture" (p. 2). Smitherman and others have described the effects of slavery on the development of an undercover code veiled in language in order to confound oppressors such as overseers. Due to this cultural heritage, Houston (1991) notes that the language of the "Black speaker is part African, part English, and part furtiveness."

Although there is a relatively small number of empirical studies of African Americans in general (Graham, 1992), this writer was unable to locate any that used the NEO-PI-R to examine potential differences in personality (related in part to theorized language use reflected in the NEO-PI-R items) between African Americans and White Americans.

#### The FFM and cross-cultural research

There is a large amount of evidence that the FFM is applicable to other cultures. However, it is noteworthy that there are several studies that contest the presence of five factors within English-speaking participant samples (e.g. Guilford, 1975; Tellegen, 1985); thus, there continues to be some debate regarding how many factors appropriately describe human personality. Nevertheless, with respect to culturally different participant samples, John (1990) concluded there was evidence for some or all of the factors in non-Western languages.

McCrae and Costa (1997) examined personality traits in English-speaking populations. Using six translations of the NEO-PI-R, these authors compared the American factor structure with those from six other cultures. Similar structures in personality were found for German, Portugese, Hebrew, Chinese, Korean, and Japanese samples (N=7,134). McCrae and Costa (1997) noted the similarity in personality across language families; however, "this is hardly an exhaustive sampling of language families (*languages indigenous to the Americas and sub-Saharan Africa are notable omissions*)" (emphasis added) (p. 514). The authors also noted the absence of indigenous or emic measures of personality in their study, leaving open the possibility for culturally unique factors of personality that could not be fully assessed by the NEO-PI-R. Finally, the

FFM is viewed as a “solid beginning for understanding personality everywhere.” (p. 515), and that the structure of personality may perhaps be universal.

However, some researchers have found more or less than five factors when using culturally different participant samples. For example, Church, Katigbak, & Reyes, (1998) extracted and replicated seven personality factors within samples of Filipino college students. These authors found a Negative-Valence dimension through use of positive and negative-evaluation terms, and identified a multidimensional term (Temperamentalness and Self-assurance) that was moderately correlated with Neuroticism. This study essentially replicated a previous study (Church, Reyes, Kitigbak & Grimm, 1997) in terms of the need for seven factors to resemble all of the big five personality factors within Filipino samples. Although outside the scope of the present paper, the Negative-Valence dimension found in these studies is suggestive of the presence of negative affectivity as a possible response bias or as a substantive effect (Watson & Clark, 1984, 1992).

Five factors clearly emerge in German samples (Ostendorf, 1990), but only four of the five factors are recovered in analysis of Hungarian adjectives (De Raad & Szirmak, 1994). Few studies, however, have examined the FFM within African-American samples.

Day and Bedeian (1995) tested the FFM for African Americans ( $N = 171$ ) through structural equation modeling and were only able to clearly identify Agreeableness, Extraversion, and Conscientiousness. These authors were not able to extract the Big Five factor of Neuroticism. This suggests that the personality structure of African Americans may be different from that of Whites.

Collins and Gleaves (1998) did not find mean differences between African Americans and Whites on the Agreeableness and Conscientiousness latent constructs, which was inconsistent with the earlier findings of Day and Bedeian (1995). However, Collins and Gleaves used the 80 item Bipolar Adjective Checklist (McCrae & Costa, 1985) as a personality measure whereas Day and Bedeian (1995) used scores computed from the Adjective Check List, which consists of 300 English-language adjectives (Gough & Heilbrun, 1965). These different methods of measuring personality could have resulted in these disparate findings.

It is important to note that both of these latter studies examined latent personality structure through use of a structural equation modeling paradigm while the present study examined mean score differences. That is, similar personality structure (i.e. similarity in responses to the NEO-PI-R across groups) between African Americans and Whites is assumed in the present study and the primary focus is on differences between factor and facet scales. Given the development and validation effort by Costa and McCrae regarding the NEO-PI-R, this is a reasonable assumption. Further, both of these studies used a different measure of personality than the present study, which relied upon the NEO-PI-R as a measurement instrument. Because of this, findings from the present



study are not entirely comparable to the Day and Bedeian (1995) and Collins and Gleaves (1998) studies.

Another line of research pertaining to Black/White mean differences on the five factors concerns that of response styles. McIntyre (1997) examined differences in response style between African American, Asian or Pacific Islander, Hispanic, American Indian or Alaskan Native, and White categories within a randomly drawn sample of 5,526 military personnel. On an attitude survey using a Likert scale format, he found that the White group demonstrated the highest mean number of extreme responses and lowest mean number of midpoint responses. African American and Asian-Pacific Islander groups showed the highest mean number of midpoint responses and the lowest mean number of extreme responses. Tendencies to select midpoint responses are consistent with Agreeableness characteristics; hence, this research suggests that African-Americans may be higher on this factor than Whites.

Along similar lines, Bachman and O'Malley (1984) demonstrated that African Americans tended to use the positive end of Likert scale items more than Whites. Hence, the African-American group exhibited an acquiescence response set or a greater tendency to endorse items as "agree" on a scale that ranges from "disagree to agree." This tendency has also been demonstrated with Japanese and Chinese cultures when compared with Canadian and United States samples. Chen, Lee, and Stevenson (1995) showed that Japanese and Chinese respondents were more likely to use scale midpoints while Canadians and the United States sample were significantly more likely to use scale extreme points. These authors concluded that differences in response style were related to a collectivistic perspective characterizing East Asian samples compared to the individualistic perspective found in Western cultures. Put another way, cultural influences may be manifest in responses to the NEO-PI-R. Indeed, McCrae & Costa (1997), the major five factor theorists, have suggested that group differences could suggest culturally unique factors of personality beyond the five factors.

In summary, although there is evidence for the universality of the FFM, there is also some evidence that personality structure may differ between African Americans and Whites. Further, the situation is made more complex due to differing ways of measuring personality, at times related to the relative cost associated with use of the NEO-PI-R. The present study will use the NEO-PI-R, which is the most comprehensive instrument for measuring the FFM factors, in an examination of Black/White and gender differences.

#### Personality, environment, culture, and racial identity

The FFM has been subject to several valid and potentially serious criticisms (Hough & Schneider, 1996). As noted earlier, the five factors may not be universal descriptors of personality and may not apply across racial or cultural groups. This criticism moves beyond the debate of whether personality is genetically versus environmentally determined. Instead, it addresses the question of the extent to which personality and environment and culture influence traits. The degree of influence may be manifest in group differences in responses to measures of the FFM.

## **What of the role of the environment and culture in personality formation?**

Estimates of the respective contributions of the environment to trait formation range from 20 to 60% (Plomin, Chipuer, & Loehin, 1990). Hence, most researchers agree there is substantial contribution of both the biological and environmental domains to personality traits. Perhaps the most appropriate theory for viewing the issue of personality *qua* environment is that of reciprocal determinism (Bandura, 1986). Briefly, this theory outlines the bi-directional interactive importance of the person, their behavior, and the environment. Reciprocal determinism springs from the social learning approach that stresses the importance of cognitive processes involved in acquisition and maintenance of patterns of behavior and, thus, personality. In this framework, an individual's personality and behavior serves to both shape and be shaped by their environment, or culture.

The contribution of the environment to personality traits depends upon which environmental influence is considered. Behavior geneticists divide environmental influences into 1) common familial environment that is experienced by all children in a family, and 2) unshared environment, which is experienced uniquely by each individual. Examples of common familial environment include household income and parental education levels. Twin studies have demonstrated the contribution of common familial environment to personality to be relatively small. That is, for most personality traits, identical twins reared together are no more similar than identical twins reared apart. Hence, the portion of personality that is not genetically determined must be attributed mostly to the unshared environment, or the uniquely perceived experience of each individual (Bouchard & McGue, 1990).

With respect to genetic contribution to personality, heritability studies show that most personality traits are influenced by genetic factors (Loehlin, 1992), and relative contributions of genetics and environment have been examined. Research from the area of behavioral genetics has examined the respective contributions of genetic and environmental influences on Neuroticism (N) and Extraversion (E). Pedersen, Plomin, McClearn, and Friberg, (1988), through research conducted in the Swedish Adoption/Twin Study of Aging (SATSA), estimated that 31% of the variance in N and 41% of the variance in E is due to genetic differences between individuals. Common familial environment accounted for 10% and 7% of the variance in N and E, respectively. Therefore, unshared environmental influences accounted for the largest portion of the variance for both N and E.

Bergeman, Chipuer, Plomin, Pedersen, McClearn, Nesselroade, Costa, and McCrae (1993) also used the SATSA sample of twins to establish the contributions of genetics and environment to Openness to Experience (O), Conscientiousness (Co), and Agreeableness (A). These authors found modest estimates of shared rearing environment for O and C (6% and 11%, respectively). In contrast, shared rearing environment accounted for 21% of the variance in Agreeableness. Overall, the effects of unshared environment were large and accounted for 54% to 67% of the variance. Genetic influences accounted for 40%, 12%, and 29% of the variance in Openness to Experience,

Agreeableness, and Conscientiousness, respectively. Hence, O and C showed moderately high heritability and little indication of effects of shared rearing environment. There was no evidence of a significant genetic effect on A, and support was found for the relatively greater importance of shared rearing environmental influence for this factor of personality. Table One summarizes the relation between genetic, shared, and unshared environmental influences.

Table One

Estimated percent of environmental and genetic variance for each factor

	Unshared environmental influences	Shared environmental influences	Genetic Influences
Neuroticism *	59%	10%	31%
Extraversion *	52%	7%	41%
Openness **	54%	6%	40%
Agreeableness **	67%	21%	12%
Conscientious **	40%	11%	29%

\* Pedersen, Plomin, McClearn, & Friberg, (1988)

\*\*Bergeman, Chipuer, Plomin, Pedersen, McClearn, Nesselroade, Costa, & McCrae (1993)

Unshared environment, and its effect on personality, may be conceptualized as the unique experiences of an individual within their culture. Unshared environmental influences account for the largest amount of variance in N, E, O, and C. However, shared environmental influences account for more variance than genetic or unshared influences in the factor of Agreeableness relative to the other four factors. Hence, it is reasonable to assume this factor may be impacted more than the other four factors by the unique cultural experiences and subsequent development of identity found among African Americans.

Identity development within a racist culture

Unique experiences of an individual within their culture (expressed as shared and unshared environmental influences) include the notion of identity development within the culture. For African Americans, this includes development within a racist and often hostile dominant culture. Early writers noted that minority groups share similar patterns of adjustment to oppressive cultures and theorists have identified stage models of identity development and adjustment for African Americans (e.g. Cross, 1971; 1995; Jackson, 1975). For example, Jackson, (1975) was one of the early writers who believed that a Black person's identity is strongly influenced by their experience of oppression and racism. Jackson's four-stage identity theory entails a progression from a valuation of dominant culture to an appreciation of one's own cultural identity with recognition of society's faults.

Later writers such as Sue and Sue (1981; 1990) have proposed the Racial/Cultural Identity Development Model (R/CID), which includes five stages of identity development. Importantly, this latter stage model has an overriding theme of describing how oppressed people come to understand themselves in terms of their own culture, the dominant culture, and the oppressive relationship between these two cultures.

The R/CID model may also be applied to White identity development. Sue and Sue (1981; 1990) note that Whites are as much "victims" of societal forces as their minority counterparts. Hence, Whites are often socialized into racist attitudes and beliefs, and these beliefs are reinforced by the fact they are the beneficiaries of the dominant-subordinant relationship often evident in our society (Sue & Sue, 1981; 1990).

Writers in both Black and White identity development share some basic assumptions. First, racism is a basic part of life in America and permeates our lives and institutions. Secondly, socialization of Whites into American society results in their acquisition of biases, stereotypes, and racist attitudes, beliefs, and behaviors of the society. Finally, the end result of these two premises means that all Whites are racist whether they are aware or unaware of it. Note that there is more than one definition of "racist"; however, a major distinction is made between overt and subtle racism. The assumptions underlying many Black identity theories are likely addressing subtle racism or what is variously described as aversive racism (Gaetner & Dovidio, 1986), symbolic racism (Sears, 1988), or modern racism (McConahay, 1986).

Unique experiences of an individual within their culture (both shared and unshared environmental influence) also includes cultural history and its effect on personality development. Hence, both cultural history and Black identity development are superimposed on the heritable aspects of personality. Earlier writers alluded to this through notions such as "Double-Consciousness" (DuBois, 1903) and triple quandary (Boykin, 1985). Dubois noted the dilemmas inherent in double consciousness, or that "one ever feels his twoness-An American, a Negro." One primary dilemma involves the potential conflict between these two identities and the strength and resources needed to somehow reconcile this conflict.

Later writers such as Boykin (1985) alluded to similar difficulties. The idea of a Triple Quandary refers to complexities inherent in being a Black American. In Boykin's model, Black Americans live as Americans and pursue mainstream goals. They are also associated with minority status and are connected to other groups who must confront racism and face political and economic disadvantages. Finally, there is a Black cultural legacy that includes an African ethos and a distinct history of oppression, slavery, segregation, and unfairness. Notably, this latter feature of the triple quandary also addresses the centuries of forced coping and adaptation to a hostile majority culture.

Along these lines, later researchers argue that the African-American personality structure should not be viewed as simply a variant of the White personality structure (Gaines, 1995; Gaines & Reed, 1995). Gaines (1995) further notes that personality and its development is different for African Americans who live in a prejudicial environment

and who must adapt strategies for negotiating this environment. Hence, personality of African Americans is "molded, determined, and shaped by a dominant and generally aversive cultural influence" (Mosby, 1972, p. 125) and important sociocultural aspects that underlie differences between the oppressed and oppressor (Mosby, p. 125) must be addressed.

Perhaps even more critical is the notion that African Americans are exposed to both their culture of origin and that of the second (majority) culture. This process is described by LaFromboise, Coleman, and Gerton (1993) who note that "An individual's personal and cultural identities are primarily developed through the early biosocial learning experiences that an individual has within his or her culture of origin. These identities will also be influenced by the nature and amount of contact the person has with the second culture" (p. 408). Because of this, both culture of origin and majority culture are likely to be important contributors to the African-American personality structure and this dimension represents an important divergence from the development of Whites or the majority culture.

Although most authors generally agree that African Americans must formulate their identity within a dominant and racist culture, there is less consensus on how African-American culture differs from that of Whites and on what personality differences may be expected as a result of that cultural influence. However, multicultural writers have provided important frameworks for viewing African-American culture and some descriptive research exists on potential differences between this group and White Americans.

### Afrocentricity

Ahia (1997) provides a brief discussion of Afrocentricity and argues that psychosocial development among people of African descent is related to their level of awareness of and degree of responsiveness to Afrocentricity. Ahia (1997) describes tendencies, behaviors, philosophies, and ideas that are common to an African-oriented (Afro-centric) worldview. These tendencies include a field-sensitive perception of reality, people and event orientation to time, spirituality, cooperative interdependence and sense of community, extended families, and holism. Ahia (1997) writes, "Americans of African descent have developed a worldview grounded in many of the African-oriented philosophical concepts". (p.76). Along similar lines, Azibo (1984), as cited in Houston (1991), described the black personality as "characterized by rich spirituality, a black world-view (or philosophy), a commitment to black causes, and an overall drive to improve black life." (p. 119).

The cooperative interdependence and sense of community discussed by several writers is a dimension that can generally be subsumed under the cultural variable of individualism-collectivism. This is a widely researched variable and refers to societal norms pertaining to valuation of level of individual autonomy versus collective efforts. Extensive evidence indicates that significant differences exist in basic psychological processes between the cultural contexts of collectivism and individualism (Kagitcibasi &

Berry, 1989). Hence, African Americans may be expected to differ on this dimension when compared to their White counterparts and these differences may be manifest in different personality structures and specifically in the factor of Agreeableness.

Nobles (1991) made the observation that the slavery experienced by American Blacks served to preserve many of these philosophical concepts in that enforced isolation of Blacks allowed them to retain their heritage. Further, upon abolition of slavery, subsequent policies of racial segregation preserved the African influence (Turner, 1958), as cited in Jones (1991). Nobles (1991) has also delineated aspects of African philosophy that have relevance for African Americans. He includes the notions of unity, kinship, and death and immortality as important philosophical aspects of the African American experience. Nobles (1991) was an early advocate of a separate discipline of Black psychology leading Jones (1991) to conclude that Nobles' work represents "promise as a cornerstone in the development of a distinctive Black psychology." (p. 32)

### Black Psychology

The discipline of Black Psychology is necessary to account for the multidimensional complexities of Black life in America (Jones, 1991). With regard to personality, an essential underlying premise is that "one cannot understand the personality of Africans or their descendants anywhere in the world without a knowledge of the basic sources from which the personality derives." (Houston, 1990, p. 119). Further, "human beings of African origin, as a group, have experienced and still are experiencing a common core of stimuli that differ qualitatively and quantitatively from those of other peoples of the world." (Houston, 1990, p. 23). Hence, Black Psychology would be rooted in African philosophies and traditions identified by authors such as Ahia (1997) and Azibo (1984). For Black Americans, these philosophies and traditions preexisted the experience of slavery; however, it may well be that these factors allowed for survivability of slavery.

Black psychology includes a focus on the Black personality (Jones, 1991). Jones (1991) notes that "Black personality, then, is inevitably, but not exclusively, that composite individual adaptation to racism." (p. 310). Hence, the issue of Black personality has typically been viewed from the "adaptation-to-racism" perspective (Jones, 1991, p. 310). Jones notes the progression of thinking from viewing Black personality as including internalized low self-esteem secondary to racism to newer perspectives that take into account the diversity of adaptations to racism and subsequent adaptive strengths. Jones (1991) concludes his chapter with a pointed discussion regarding the lack of empirical research into the Black personality construct.

Is it possible that different cultural experiences and identity development germane to African Americans are reflected in the FFM? Of the five factors, it would appear that Agreeableness would be significantly higher for African Americans than for Whites. The present study will examine this question.

## Gender Differences in Personality

There is a lot more empirical information regarding gender differences in personality than on racial differences. Therefore, this section will rely less upon theoretical reasons for possible differences and briefly summarize some of the empirically demonstrated differences.

Neuroticism is perhaps the most consistent of the factors with respect to gender differences and women tend to score higher than men do. This finding has been replicated by Hojat, Glaser, Xu, Veloski, & Christian, (1999) in their sample of 1,157 medical students. Martin & Kirkcaldy (1998) and Heaven & Shochet (1995) also found higher Neuroticism for females than males in their samples of college students. In a cross-cultural study of Neuroticism, Lynn & Martin (1997) obtained higher means for women than for men on this factor across 37 nations.

Extraversion is more of a mixed picture. Hojat, Glaser, Xu, Veloski, & Christian, (1999) did not find gender differences on Extraversion. Jung (1995) found that females scored higher than males on Extraversion in a cross-cultural sample composed of European American, Asian American, and Latino American college students. However, Lynn & Martin (1997) found that men obtained higher means than women on Extraversion across 30 countries. In a sample of United States Air Force pilots, King, McGlohn, & Retzlaff (1997) found that female pilots were higher on Extraversion than male pilots.

In a paper describing four meta-analyses (Feingold, 1994), no significant gender differences were noted in activity or ideas, which are facets of Openness to Experience. King, McGlohn and Retzlaff (1997) found that female Air Force pilots were lower on Openness than a comparison group of college students. In contrast, Johnson & McIntyre (1998) found higher Openness for females than males in their sample of trainees at the Defense Equal Opportunity Management Institute (DEOMI) who were also members of the Armed Services.

For Agreeableness, Jung (1995) found that females scored higher than males. McGlohn, & Retzlaff (1997) found that female pilots were higher on Agreeableness than male pilots. Similarly, Johnson & McIntyre (1998) found significantly higher Agreeableness scores for females than males. Finally, Bergeman, et al., (1993) found that females scored significantly higher than males on this factor.

For Conscientiousness, King, McGlohn, and Retzlaff (1997) found that female pilots were higher on this factor than male pilots. However, Feingold (1994) did not find gender differences in orderliness, a facet of Conscientiousness.

In addition to the above studies, a meta-analytic approach examined gender differences in personality from 1940 through 1992 (Feingold, 1994). Females were found to be higher in Extraversion than males. Further, females were higher in trust and

tender-mindedness (which are both facets of Agreeableness) and higher in anxiety (a facet of Neuroticism). No gender related differences were found in traits found in Openness to Experience (ideas) or Conscientiousness (orderliness). This study found that these gender differences were generally constant across nations, levels of education, age, and years of data collection.

This brief review of empirical findings related to gender differences in personality indicates the probability that females will score higher than males on the FFM factors of Neuroticism, Agreeableness, and Extraversion. Due to mixed findings, it is uncertain whether females and males would be significantly different on the factors of Openness to Experience or Conscientiousness.

### **FFM Research in the DoD**

As noted earlier, personality differences between Blacks and Whites or gender groups can have a significant impact on use of the FFM in DoD. At the very least, such differences need to be acknowledged and caution exercised when using the FFM and its measurement instrument (the NEO-PI-R). This is particularly applicable when personality is a factor in decisions involving selection, training, and profiling of military archetypes (c.f. Bolton & Stanley, 1999).

Within the DoD, several projects have used the FFM to examine various issues. For example, Braun, Prusaczyk, Goforth, and Pratt (1994) reported on personality profiles of U.S. Navy SEAL trainees in an effort to improve selection and training. These authors generated a personality description of the average U.S. Navy SEAL and also noted differences between commissioned officers and enlisted SEALs. Specifically, commissioned officers were significantly higher on Extraversion and Conscientiousness than the enlisted personnel. Hence, the officers were more outgoing, other-oriented, and interpersonally warm than enlisted personnel, and they also were generally optimistic and active. Higher levels of Conscientiousness would be manifest in tendencies to be achievement oriented, competent, reliable, cautious, and well organized.

Callister, King, Retzlaff, and Marsh (1997) examined U.S. Air Force student pilot scores on the five factors versus general population norms. Both men and women student pilots were higher in Extraversion and lower in Agreeableness than adult norms drawn from the general population. For women pilots, higher Openness to Experience relative to adult norms was found. However, these found differences do not appear to be statistically significant. On a facet-level analysis, assertiveness, activity, and excitement-seeking (associated with Extraversion) were higher than the general population for both men and women student pilots. Both male and female pilots were lower on Agreeableness facets of compliance and tender-mindedness. Finally, women student pilots were lower than the general population on the facet of Straightforwardness.

Johnson and McIntyre (1998) examined the concept of "emergent leaders" and their FFM profiles. In their analysis of learning teams at the Defense Equal Opportunity Management Institute (DEOMI), these authors compared facilitator-identified indigenous



group leader characteristics with the general population. Using a criterion of one-half standard deviation from published norms it was found that emergent leaders were higher than the general population on Openness to Experience and Conscientiousness and lower on Agreeableness.

Johnson and McIntyre (1998) also examined the personality profiles of the overall class of DEOMI trainees. Although this military sample did not differ significantly from published norms drawn from the general population, there were significant gender differences. Specifically, women displayed greater tendencies towards Agreeableness and Openness to Experience than men. No racial differences were found on the five factors in this sample.

Foushee and Helmreich (1988) used adjectives and descriptive personality terms to describe characteristics of flight crew leaders. These authors found that crews with captains described as warm, friendly, self-confident, and stable made fewer errors than crews with egotistical, hostile, and passive-aggressive captains. Although this study did not use the FFM, the warmth, friendliness, and self-confidence is characteristic of extroversion, and the stable dimension is associated with Neuroticism, or low reactivity.

As can be seen from the above brief review of the use of the FFM in the DoD, the model is being applied from a variety of perspectives. Further, it is noteworthy that other organizations are increasingly using the FFM as one dimension of personnel selection (Schmit & Ryan, 1993). Although the present paper addressed a highly select sample, that of military personnel, any findings may be applicable to other organizations. This is particularly significant inasmuch as organizations are increasingly focused on a diverse workforce and group differences manifest in selection, training, or descriptive efforts can result in inadvertently biased errors or uninformed decision-making.

For example, if African Americans are generally higher than Whites on Agreeableness, and if Agreeableness is not a valued attribute for purposes of selection, than they may not be selected for certain positions. Of course, this has the potential for unfair and inaccurate use of the FFM in certain contexts. This would also pertain to any gender differences on Agreeableness. Along these lines, Day and Bedeian (1995) documented that a similar level of Agreeableness among staff is related to better job performance ratings. Further, "being substantially different in terms of Agreeableness might result in less liking or higher negative affect on the part of a supervisor/rater." (Day & Bedeian, 1995, p. 67). Gender or racial differences in Agreeableness could thus have potentially serious consequences for an individual.

### **Rationale for the Study and Hypotheses**

The lexical approach to personality and its measurement, theories on African-American identity development and Black Psychology, multicultural aspects regarding a racist and dominant majority culture, and some empirical research indicate the possibility of a personality structure that varies as a result of race and gender. Based upon the above theorizing and empirical findings, it is hypothesized that African Americans would score

significantly higher on the dimension of Agreeableness than whites. It is uncertain whether Extraversion, Conscientiousness, Neuroticism, or Openness to Experience would differ between African Americans and Whites; hence, this part of the study was exploratory.

For gender, it was expected that Agreeableness, Neuroticism, and Extraversion would be higher for females than males. There is less theoretical reason and fewer empirical studies on gender differences in Openness to Experience and Conscientiousness. Therefore, predictions are not made. Interactions between race and gender will be examined

The FFM is a very broad personality approach, and it is of particular interest to assess the facets of each factor to establish whether Black/White or gender differences are present at this level of analysis. Hence, each facet will be subject to analysis.

## **Method**

### Participants

Participants included 472 (293 males, 179 females) active duty enlisted and officer personnel across all branches of the military. There were 222 African Americans and 250 Whites. Although the entire dataset included members of other racial/ethnic groups, these individuals were not included in the analyses due to their relatively small sample size. Participants completed the NEO-PI-R as part of their training with the Defense Equal Opportunity Institute (DEOMI) for the position of Equal Opportunity Advisor. Due to some missing data for the facet scales, the number of individuals in the factor versus the facet analysis is different.

### Procedure

The NEO-PI-R was administered and scored according to standard procedures. This resulted in scores for each of the five factors and their facets, yielding 35 dependent measures of personality.

## Results

### The Five Factors

A two by two factorial multivariate analysis of covariance (MANCOVA), with race and gender as factors and age as a covariate indicated significant differences between groups on the five factors ( $N = 472$ ). Race (Wilks' Lambda = .96) and gender (Wilks' Lambda = .90) had significant effects ( $F(1, 4) = 3.68, p < .003$ ;  $F(1, 4) = 9.35, p < .0001$ , respectively) on the five factors. There was also a significant interaction effect between race and gender (Wilks' Lambda = .97;  $F(1, 4) = 2.36, p < .03$ ). The overall multivariate effect for age was not significant (Wilks' Lambda = .98;  $F(1, 4) = 1.71, p < .12$ ). However, age had a significant effect on Agreeableness ( $F(1, 472) = 4.84, p < .02$ ) resulting in use of age as a covariate.

Subsequent univariate analyses indicate a main effect for race on Agreeableness ( $F(1, 471) = 5.32, p < .02$ ) and Neuroticism ( $F(1, 471) = 7.63, p < .006$ ). African-Americans were significantly higher ( $M = 48.74, SD = 9.14$ ) than Whites ( $M = 45.52, SD = 11$ ) on Agreeableness and significantly lower on Neuroticism ( $M = 48.55, SD = 9.40$ ) than Whites ( $M = 50.36, SD = 9.77$ ).

There was a main effect for gender on Agreeableness ( $F(1, 471) = 13.35, p < .0001$ ), Neuroticism ( $F(1, 471) = 7.72, p < .006$ ), and Openness to Experience ( $F(1, 471) = 24.24, p < .0001$ ). Males scored significantly lower on Agreeableness ( $M = 45.52, SD = 10.84$ ) and Neuroticism ( $M = 48.77, SD = 9.03$ ) than females ( $M = 49.51, SD = 8.81$ ); ( $M = 50.71, SD = 10.46$ ). Females were significantly higher on Openness to Experience ( $M = 53.96, SD = 9.61$ ) than males ( $M = 49.46, SD = 10.46$ ). A significant interaction between race and gender was observed for Agreeableness ( $F(1, 471) = 5.28, p < .02$ ). White males were lower ( $M = 43.95, SD = 11.16$ ) than White females ( $M = 49.81, SD = 9.45$ ), African-American males ( $M = 48.13, SD = 9.80$ ), or African-American females ( $M = 49.34, SD = 8.44$ ).

### Facets

Since 90 cases were missing the facet scores, the analysis of facets had fewer participants than for the factor scores. The total number of participants was 382. Age was significant for facets of Compassion ( $F(1, 381) = 4.07, p < .04$ ), Assertiveness ( $F(1, 381) = 5.48, p < .02$ ), and Excitement-seeking ( $F(1, 381) = 4.82, p < .02$ ). Thus, age was covaried out of subsequent analyses.

The MANCOVA for the facets with race and gender as factors and age as a covariate was significant for race (Wilks' Lambda = .68;  $F(1, 381) = 5.23, p < .0001$ ) and gender (Wilks' Lambda = .69;  $F(1, 381) = 5.20, p < .0001$ ). At the facet level, there was no interaction between race and gender (Wilks' Lambda = .91;  $F(1, 381) = 1.15, p < .27$ ). Race was significant for twelve of the facet scales and gender was significant for ten of the facets.

Univariate F tests for race for each facet may be found in Table Two. Table Three contains the univariate F tests for gender for each facet.

Table Two

## Analysis of Variance for FFM Facets by Race (African-American and White)

Facet	Df	F	African American	
(N = 171)				
Means (SD)	White			
(N = 211)				
Means (SD)				
N1Worry	1	2.83	48.88 (8.69)	50.07 (9.68)
N2Anger	1	4.51*	48.65 (9.85)	50.76 (10.96)
N3Discouragement	1	6.74**	46.85 (9.62)	49.52 (9.59)
N4Self-Consciousness	1	7.73**	48.02 (9.81)	51.14 (10.26)
N5Impulsiveness	1	7.88**	46.85 (9.77)	49.66 (10.05)
N6Vulnerability	1	.98	43.69 (10.01)	44.06 (9.63)
E1Warmth	1	.44	50.76 (9.21)	48.83 (11.01)
E2Gregariousness	1	.24	49.72 (10.18)	48.36 (11.58)
E3Assertiveness	1	.27	57.08 (9.24)	56.36 (9.54)
E4Activity	1	8.64**	52.51 (9.16)	54.79 (9.93)
E5Excitement	1	4.89*	52.61 (9.50)	54.52 (9.24)
E6Positive Emotions	1	.11	53.03 (9.79)	51.25 (10.77)
O1Fantasy	1	11.12**	49.88 (10.08)	52.72 (10.32)
O2Aesthetics	1	1.57	51.68 (9.96)	48.54 (11.37)
O3Feelings	1	5.83*	50.48 (9.61)	51.46 (11.39)
O4Action	1	.26	51.19 (11.00)	50.44 (11.95)
O5Ideas	1	.59	50.72 (8.79)	50.80 (11.37)
O6Values	1	.88	50.64 (7.87)	50.42 (9.85)
A1Trust	1	6.91**	46.05 (9.46)	48.86 (11.61)
A2Straightforwardness	1	.04	49.15 (9.90)	48.51 (10.87)
A3Altruism	1	4.30*	53.62 (10.44)	50.61 (11.23)
A4Compliance	1	2.09	48.00 (10.78)	45.82 (10.88)
A5Modesty	1	1.56	50.10 (9.56)	48.35 (10.58)
A6Tenderness	1	35.76***	55.70 (8.98)	48.90 (10.26)
C1Competence	1	.008	54.12 (10.50)	54.14 (10.43)
C2Order	1	.34	52.14 (9.69)	51.19 (11.83)
C3Duty	1	2.37	50.95 (9.73)	52.59 (10.27)
C4Achievement-striving	1	.66	56.89 (11.18)	55.55 (10.42)
C5Self-discipline	1	.82	52.73 (10.85)	51.37 (10.30)
C6Deliberation	1	9.99**	54.42 (10.00)	50.67 (11.38)

\*  $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .0001$ .

Table Three

Analysis of Variance for FFM Facets by Gender

Facet	Df	F	Males (N = 241 ) Means (SD)	Females (N = 141) Means (SD)
N1Worry	1	12.54***	48.40 (8.83)	51.48 (9.66)
N2Anger	1	4.21*	49.16 (10.71)	50.94 (10.12)
N3Discouragement	1	.001	48.55 (9.15)	47.93 (10.56)
N4Self-Consciousness	1	.04	49.93 (9.56)	49.43 (11.15)
N5Impulsiveness	1	.51	48.35 (10.03)	48.48 (10.00)
N6Vulnerability	1	4.89*	43.11 (8.96)	45.25 (10.98)
E1Warmth	1	7.60**	48.46 (10.47)	51.80 (9.61)
E2Gregariousness	1	1.22	48.38 (10.51)	49.96 (11.71)
E3Assertiveness	1	.12	56.72 (8.55)	56.62 (10.74)
E4Activity	1	3.15	53.30 (9.44)	54.56 (9.98)
E5Excitement	1	6.50	54.70 (9.50)	51.90 (8.97)
E6Positive Emotions	1	15.68***	50.36 (10.57)	54.93 (9.36)
O1Fantasy	1	4.92*	50.82 (9.73)	52.53 (11.16)
O2Aesthetics	1	23.76***	47.75 (10.64)	53.70 (10.21)
O3Feelings	1	27.92***	49.05 (10.67)	54.39 (9.70)
O4Action	1	16.75***	48.93 (11.21)	53.93 (11.41)
O5Ideas	1	.59	50.44 (10.93)	51.31 (9.08)
O6Values	1	2.62	49.93 (9.23)	51.52 (8.55)
A1Trust	1	2.04	47.27 (11.47)	48.16 (9.48)
A2Straightforwardness	1	3.66	47.98 (10.45)	50.18 (10.32)
A3Altruism	1	2.51	51.04 (11.19)	53.52 (10.45)
A4Compliance	1	3.34	45.90 (11.26)	48.35 (10.05)
A5Modesty	1	3.58	48.26 (10.18)	50.61 (10.00)
A6Tenderness	1	.009	51.42 (10.90)	52.83 (9.07)
C1Competence	1	.004	54.16 (9.88)	54.08 (11.39)
C2Order	1	2.29	52.15 (11.05)	50.69 (10.68)
C3Duty	1	1.21	52.41 (9.80)	50.91 (10.43)
C4Achievement- striving	1	1.29	55.55 (10.55)	57.17 (11.10)
C5Self-discipline	1	.12	51.71 (9.97)	52.43 (11.51)
C6Deliberation	1	.51	51.75 (11.04)	53.37 (10.69)

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .0001$ **Discussion**

There are two important caveats in discussing the findings from this study. First, although many of the findings were statistically significant, it is not clear whether such significance translates into everyday behavior or interaction. Certainly, these group differences must not be applied on an individual level. Secondly, this sample was composed of a select group of individuals in the military and there is always the possibility that it is not representative of racial and gender groups found in the general population. Although some would argue that military samples are appropriately

representative, there are likely important differences between this sample and samples of non-military individuals. That said, it is important to bear in mind that the group comparisons used in this study were within-military sample group comparisons; hence the differences represent valid personality differences within this particular sample.

With the above caveats in mind, results indicate a significant interaction between race and gender for the factor of Agreeableness. Although White females and African Americans are close to average on this factor, White males are significantly lower in general. Hence, White males are generally less trusting, straightforward, altruistic, compliant, modest and tender-minded than these other groups. However, on a facet level analysis, this interaction between race and gender disappears. Univariate analyses indicate that African Americans are significantly less trusting and significantly more altruistic and tender-minded than Whites. Further, there is no significant difference between women and men on Agreeableness facets, although three of the six facets approached significance ( $p < .056$ ;  $p < .068$ ;  $p < .059$ ).

Writers in Black Psychology have emphasized the cultural impact of slavery and its consequences and note the role of oppression in behavioral and personality expression. It is possible that greater Agreeableness had a survival value and hence was reinforced through slavery and the ensuing period of segregation and subjugation of American Blacks. Higher Agreeableness may also be emblematic of the ancestral threads of kinship, communality, and collectivism so many authors have described. Regardless of the etiology of the higher levels of Agreeableness found in the present study, it is worth reemphasizing that an organization using the FFM in personnel decisions should establish whether such differences emerge within its own applicant pool and seek measures to address them if they are present.

With respect to retention and other organizational variables such as job satisfaction, the dynamic or interactional role of agreeable tendencies within personnel is yet to be established. However, Day and Bedeian (1995) have noted the potential importance of similar levels of Agreeableness among staff, and the possible implications of Agreeableness similarity for performance evaluations. The notion that dissimilarities in Agreeableness may result in lower performance evaluations has not been empirically tested; however, support for this idea would have important implications for fairness and reduction of potential bias between racial or gender groups.

The finding that African Americans are lower on Neuroticism than Whites indicates lower than average levels of worry, anger, discouragement, and self-consciousness. This finding is intriguing since Day & Bedeian (1995) did not even extract Neuroticism as a factor in their sample of African Americans. Additionally, this finding is counterintuitive for those writers who perceived that a Black response to oppression and subsequent personality development is necessarily negative (e. g. Kardiner & Ovesey, 1951; Thomas & Sillen, 1972). Finally, although not examined in the present study, the reported higher levels of spirituality and church involvement (Nobles, 1980; White, 1980), as cited in Jones (1991), within most Black communities may counter aspects of Negative Emotionality such as discouragement, worry, and anger.

In addition to factor differences on Agreeableness and Neuroticism, there were differences between African-Americans and Whites in certain facets subsumed under the factors of Extraversion, Openness, and Conscientiousness. African Americans were lower than Whites on activity, excitement-seeking, and impulsivity. They were also lower on fantasy and feelings. Finally, African Americans were significantly higher on the Conscientiousness facet of deliberation, indicating tendencies to think carefully before acting. Taken together, these findings suggest a theme of greater behavioral conservatism and pragmatism as a characteristic of African Americans when compared to Whites in this sample.

Results also indicate that men and women differ in terms of the five factors and their facets. In general, women were higher than men on the factors of Agreeableness, Neuroticism, and Openness to Experience. These higher scores on Agreeableness and Openness to Experience are consistent with the findings of Johnson and McIntyre (1998), who analyzed a subsample of the present sample. As noted earlier, the interaction between gender and race likely accounts for the variance in Agreeableness in that White males were significantly lower on this factor. Although three facets of this factor approached significance, there was no overall significant difference between men and women on the facets of Agreeableness.

For Neuroticism, results indicate that both men and women in this sample scored slightly below the average. However, women relative to men reported greater levels of worry, anger, and vulnerability. Lower than the general population, the extent to which this represents greater tendencies to acknowledge negative affect on the part of women compared to men is unclear. It is also unclear whether this indicates that women are differentially susceptible to stresses inherent in the military climate or culture. Since the present research is comparative, not causal, such findings would require replication and questions of etiology for any differences would need to be addressed in future studies.

Openness to Experience was significantly higher for women than for men and women were also higher on the Extraversion facets of positive emotions and warmth. Women reported higher levels of experience of feelings, diverse behaviors, fantasy activity, and appreciation for arts. These findings are consistent with much of the literature examining gender differences for these two variables; hence, this study represents a replication and extension of this literature.

Differences between racial and gender groups found in this study supplements other research that has questioned the universality of the FFM. The present study suggests that there may be differences in personality structure between the examined groups. Hence, the structural equation modeling paradigm may be the appropriate direction to pursue in the future. Two studies that have used this approach (Day & Bedeian, 1995; Collins & Gleaves, 1998) were not consistent in their findings regarding latent structure and the existence of racial differences. An important next step would be to subject the present dataset to structural equation modeling to establish differences, if any, between racial or gender groups.

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