# Gender and Ethnic Differences on CPI™ 434 Scales

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This study examines gender and ethnic differences on three classes of CPI scales (folk, special purpose, and vector) using a sample of 570 employed adults. Statistically significant differences were found between the gender and ethnic groups on some of the scales. However, effect sizes show that, with the exception of the Femininity/Masculinity (F/M) scale, these differences are not meaningful; indicating that the CPI instrument functions fairly across gender and three ethnic groups studied, and can be used in combination with other measures as a selection tool.

Personality is typically measured using a self-report questionnaire on which respondents indicate their feelings or behaviors, yielding measurements of traits such as neuroticism, anxiety, extraversion, dominance, assertiveness, sensitivity, conscientiousness, and agreeableness. Feingold (1994) notes that group differences in personality traits were first studied to determine whether different norms were necessary for men and women, and ethnic differences have been studied by many researchers (Nuby & Oxford, 1998; Kaufman, Kaufman, & McLean, 1993).

### Gender differences

Gender differences are commonly found on personality measures. For example, women have tended to score higher than men on measures such as agreeableness, extroversion (Jung, 1995), and dependability (Hough, 1998). Men typically score higher on masculinity scales (Eysenck, Eysenck, & Barrett, 1995), dominance, and influence (Hough, 1998). A meta-analysis of gender differences found that men were more assertive, while women scored higher on measures of extroversion, anxiety, trust, and tender mindedness (Feingold, 1994). On the MBTI® assessment, results show that men prefer Thinking and women prefer Feeling (Hammer & Mitchell, 1996), and slightly more men prefer Introversion, and women Extraversion (Myers, McCaulley, Quenk, & Hammer, 1998).

### Ethnic group differences

Studies on personality differences among ethnic groups show mixed results. Some have found little difference and very similar results across race. For example, a study by Heuchert, Parker, Stumph, and Myburgh (2000) showed that the commonly used five-factor model of personality was very similar across Blacks, Whites, Indians, and mixed race participants in South Africa. Another study found the five factor model to fit equally well for both Black and White job applicants (Collins & Gleaves, 1998). Research done with the MBTI assessment found that Blacks, Whites, and Hispanics tended to score similarly (Kaufman, Kaufman, & McLean, 1993).

Other studies, however, have shown personality differences among racial and ethnic groups. The Heuchert et. al (2000) study found that although the five-factor model fit well across different ethnicities, there were significant differences in some mean scores. For example, Whites scored higher than Blacks on openness to experience. Other researchers have shown that Whites tended to score higher than Asians and Latinos on both agreeableness

and extroversion, while Asians tended to score higher on neuroticism (Jung, 1995). Specific to the CPI 434 instrument, Davis, Hoffman, and Nelson (1990) found Native Americans, especially females, to score significantly lower than Caucasians on a number of CPI 434 scales.

The present study examines gender and ethnic differences on the CPI 434 instrument. The CPI 434 instrument is a personality assessment that is often used as part of a larger battery to successfully recruit, select, and develop employees, managers, and executives. The twenty folk scales, three vector scales, and seven special purpose scales provide information about an individual's personality as if they were being described by someone who knows them well. Such results have been used to accurately predict things like leadership (Blake, Potter, & Slimak, 1993), ratings of employee characteristics (Hoffman & Davis, 1995), career indecision (Newman, Gray, & Fuqua, 1999), and academic achievement (Tang, Deng, & Hu, 2001). In general, personality is known to predict behaviors specific to job performance (Blake, Potter, & Slimak, 1993; Kieffer, Schinka, & Curtiss, 2004; Witt, Burke, Barrick, & Mount, 2002). When used in an employment setting it is important to know whether there may be gender or ethnic differences on the instruments involved because disparities may violate Federal Equal Employment Opportunity Laws (U.S. Equal Employment Opportunity Commission, 2004).

Because the CPI 434 instrument is often used as a part of employment selection programs, differences based on gender or race become vitally important, so as to not create adverse impact. Given the gender differences on personality traits and mixed findings with respect to ethnicity, it is important to determine whether such differences exist with commonly used personality instruments.

Method

*Participants*

A sample of employed adults ($N$ = 570) age 20 to 65 who completed the CPI 434 instrument for training purposes was selected from a CPP, Inc. archival database from years 2002-2005. To examine the effects of gender and ethnicity on CPI scale scores while minimizing influence from extraneous variables, the sample was created using participants with similar demographic profiles. The sample contains an equal number of males and females, and an equal number of African Americans, Caucasians, and Latinos/Hispanics (n = 190 each). Due to insufficient numbers, it was not possible to explore differences for Native Americans, Asians or other ethnic groups. Although there are some significant differences in demographic profiles, none were large enough to make the groups not comparable.

Nearly all of the participants said they were satisfied with their current job, and the hierarchical job level distributions (e.g., non-supervisory employee, supervisor, management) were similar between men and women with approximately 42% of each working in management. The highest level of education completed was similar among the ethnic groups with 65% of African Americans, 60% of Caucasians, and 62% of Latinos/Hispanics having a Bachelor's or Master's degree; and by gender with 60% of women and 65% of men obtaining a Bachelor's or Master's degree. Average age of this sample was 37.77 (SD = 9.53), and average ages were similar across gender and ethnicities.

*Measures.* Twenty folk scales, 4 vector scales and 7 special purpose scales of the CPI 434 instrument are examined; these are common classifications of scales on this instrument. The folk scales are the original scales developed for the CPI instrument, and measure concepts related to the processes of interpersonal life (Gough & Bradley, 1996). The folk scales can be factor analytically reduced to four or five factors. The vector scales were developed to represent three of the factors of the CPI instrument (Gough & Bradley, 1996). The vector scales are used in defining the cuboid model of personality structure, which provides a higher order description of an individual's approach to and satisfaction with life. The third category of scales includes the special purpose scales, which have been developed by the CPI instrument's author and other researchers following the development of the 20 folk scales.

Table 1. CPI 434 Standard Scale Score Means and Standard Deviations by Gender

| CPI Scale | Women | | Men | |
|---|---|---|---|---|
| | Mean | SD | Mean | SD |
| Dominance (Do) | 64.78 | 9.07 | 67.31 | 6.63 |
| Capacity for Status (Cs) | 58.21 | 7.72 | 59.73 | 6.09 |
| Sociability (Sy) | 59.13 | 7.48 | 60.28 | 7.51 |
| Social Presence (Sp) | 53.92 | 8.44 | 56.28 | 7.91 |
| Self-acceptance (Sa) | 58.40 | 7.35 | 59.87 | 6.68 |
| Independence (In) | 59.36 | 6.95 | 61.45 | 5.07 |
| Empathy (Em) | 58.85 | 8.16 | 61.55 | 8.46 |
| Responsibility (Re) | 56.73 | 6.91 | 55.84 | 7.11 |
| Socialization (So) | 55.37 | 6.95 | 54.32 | 6.38 |
| Self-control (Sc) | 59.24 | 8.81 | 58.86 | 8.10 |
| Good Impression (Gi) | 63.45 | 10.17 | 64.40 | 9.94 |
| Communality (Cm) | 53.66 | 6.20 | 53.91 | 5.71 |
| Well-being (Wb) | 57.59 | 6.77 | 59.33 | 5.14 |
| Tolerance (To) | 58.67 | 7.70 | 58.12 | 6.96 |
| Achievement via Conformance (Ac) | 60.25 | 6.92 | 60.73 | 6.15 |
| Achievement via Independence (Ai) | 59.43 | 6.47 | 61.32 | 5.99 |
| Intellectual Efficiency (Ie) | 56.72 | 6.78 | 58.46 | 6.04 |
| Psychological Mindedness (Py) | 58.12 | 7.41 | 60.12 | 6.12 |
| Flexibility (Fx) | 50.71 | 9.74 | 52.08 | 9.00 |
| Femininity/Masculinity (F/M) | 51.05 | 6.00 | 41.65 | 6.79 |
| Externality/Internality (v.1) | 41.88 | 8.62 | 39.06 | 7.61 |
| Norm-doubting/Norm-favoring (v.2) | 55.88 | 8.47 | 56.22 | 7.96 |
| Ego-integration (v.3) | 61.99 | 7.68 | 63.11 | 6.96 |
| Management Potential (Mp) | 62.85 | 7.77 | 64.12 | 6.55 |
| Work Orientation (Wo) | 57.95 | 7.49 | 59.68 | 6.73 |
| Creative Temperament (CT) | 53.58 | 8.65 | 55.17 | 8.35 |
| Leadership (Lp) | 62.90 | 6.71 | 64.60 | 5.09 |
| Amicability (Ami) | 57.77 | 8.29 | 58.23 | 7.72 |
| Law Enforcement Orientation (Leo) | 62.34 | 9.63 | 65.20 | 8.35 |
| Tough-mindedness (Tm) | 63.68 | 7.31 | 65.44 | 5.70 |

Note: *N* = 570 (n = 285 each men and women).

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*Analyses.* The three classes of CPI scales were analyzed separately in this study for several reasons. First, the folk scales can be reduced to four or five main factors (Gough & Bradley, 1996), which contain the content for the vector scales. Many of the scales have overlapping item content. For example, all but one of the items on the vector 1 scale are also on at least one of the folk or special purpose scales. Also, the scales were developed and are organized separately on the CPI Profile.

Following the multivariate approach used elsewhere (Timbrook & Graham, 1994; Davis, Hoffman & Nelson, 1990), three multivariate analyses of variance (MANOVAs), were computed, comparing gender and ethnicity for each of the three classifications of scales – folk, vector, and special purpose. Significant multivariate differences were followed up with univariate analyses of variance (ANOVAs), allowing the examination of each CPI scale for gender and ethnic group differences. Means and standard deviations for the CPI scales by gender and ethnicity are presented in Tables 1 and 2.

Results

*Folk Scales.* For the folk scales, the main effects for gender (Wilks' $\Lambda$ = .604 at $F(20, 545)$ = 17.865, $p < .05$, $\eta^2$ = .396), and ethnicity (Wilks' $\Lambda$ = .791 at $F(40, 1090)$ = 3.395, $p < .05$, $\eta^2$ = .111) were significant. The interaction of gender and ethnicity was not significant (Wilks' $\Lambda$ = .937 at $F(40, 1090)$ = .895, $p > .05$, $\eta^2$ = .032).

The follow-up univariate analyses of variance (ANOVAs) showed statistically significant differences between men and women on the following scales: Dominance, Capacity for Status, Social Presence, Self-acceptance, Independence, Empathy, Well-being, Achievement via

Independence, Intellectual Efficiency, Psychological Mindedness, and Femininity/Masculinity. Men scored higher on all of these scales with the exception of F/M. Statistically significant differences were also found between the three ethnic groups on the Social Presence, Self-control, Good Impression, Communality, Tolerance, Achievement via Conformance, Achievement via Independence, Intellectual Efficiency, and Femininity/Masculinity scales. However, "statistical testing cannot evaluate result importance" (Vacha-Haase & Thompson, 2004, p.473). For this we must look to effect sizes to judge the practical significance of results (Kirk, 1996). All of these differences are small, partial $\eta^2$ = .02, according to Cohen (1992). The one scale that had a difference with a large effect size (partial $\eta^2 \geq .35$) was between men and women on the Femininity/Masculinity scale. Differences between men and women on this scale are expected. See Table 3 for ANOVA summaries for all analyses.

Post hoc analyses based on ethnicity were used to determine precisely how the ethnic groups differ. Tukey's HSD and LSD tests both showed that Caucasians scored higher than African Americans and Latinos/Hispanics on Social Presence, Communality, and Tolerance; African Americans and Latinos/Hispanics scored higher than Caucasians on Good Impression; Caucasians scored higher than Latinos/Hispanics on Achievement via Independence; Caucasians scored higher than African Americans on Intellectual Efficiency; and African Americans scored higher than Caucasians on Self-control, Achievement via Conformance, and Femininity/Masculinity. LSD alone showed that Latinos/Hispanics scored higher than Caucasians on Self-control, Achievement via Conformance, and Femininity/Masculinity; while Caucasians scored higher than Latinos/Hispanics on Intellectual Efficiency (see Table 5).

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*Special Purpose Scales.* There were significant main effects for gender (Wilks' $\Lambda$ = .930 at $F(7, 558) = 6.044$, $p < .05$, $\eta^2$ = .070), and ethnicity (Wilks' $\Lambda$ = .921 at $F(14, 1116) = 3.365$, $p < .05$, $\eta^2 = .041$) for the set of special purpose scales. However, the interaction was not significant (Wilks' $\Lambda$ = .979 at $F(14, 1116) = .840$, $p > .05$, $\eta^2 = .010$).

Table 2. CPI 434 Standard Scale Score Means and Standard Deviations by Ethnicity

| CPI Scale | African American | | Caucasian | | Latino/Hispanic | |
|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD |
| Dominance (Do) | 66.92 | 7.70 | 65.67 | 8.53 | 65.55 | 7.82 |
| Capacity for Status (Cs) | 58.82 | 7.04 | 59.35 | 6.50 | 58.75 | 7.41 |
| Sociability (Sy) | 59.43 | 7.86 | 60.16 | 7.53 | 59.53 | 7.13 |
| Social Presence (Sp) | 54.04 | 7.92 | 56.64 | 8.14 | 54.62 | 8.51 |
| Self-acceptance (Sa) | 58.76 | 6.58 | 59.92 | 7.13 | 58.73 | 7.39 |
| Independence (In) | 60.46 | 6.16 | 60.51 | 6.28 | 60.24 | 6.08 |
| Empathy (Em) | 60.38 | 9.05 | 60.97 | 8.43 | 59.24 | 7.65 |
| Responsibility (Re) | 56.68 | 6.80 | 55.59 | 7.47 | 56.58 | 6.75 |
| Socialization (So) | 54.55 | 6.39 | 55.29 | 6.90 | 54.70 | 6.77 |
| Self-control (Sc) | 60.24 | 7.90 | 57.54 | 8.39 | 59.37 | 8.87 |
| Good Impression (Gi) | 65.05 | 9.68 | 61.40 | 9.67 | 65.32 | 10.37 |
| Communality (Cm) | 53.27 | 6.23 | 55.08 | 4.78 | 53.01 | 6.53 |
| Well-being (Wb) | 58.10 | 6.26 | 59.04 | 5.32 | 58.24 | 6.55 |
| Tolerance (To) | 57.73 | 7.70 | 59.64 | 6.45 | 57.80 | 7.67 |
| Achievement via Conformance (Ac) | 61.56 | 6.31 | 59.18 | 6.81 | 60.73 | 6.31 |
| Achievement via Independence (Ai) | 60.45 | 6.16 | 61.31 | 6.24 | 59.37 | 6.39 |
| Intellectual Efficiency (Ie) | 56.85 | 6.35 | 58.69 | 6.35 | 57.21 | 6.59 |
| Psychological Mindedness (Py) | 58.94 | 6.74 | 59.46 | 6.92 | 58.98 | 6.96 |
| Flexibility (Fx) | 52.20 | 9.29 | 51.88 | 9.58 | 50.10 | 9.23 |
| Femininity/Masculinity (F/M) | 47.29 | 7.28 | 45.18 | 8.73 | 46.57 | 7.66 |
| Externality/Internality (v.1) | 40.57 | 7.76 | 40.12 | 8.89 | 40.72 | 8.07 |
| Norm-doubting/Norm-favoring (v.2) | 56.27 | 8.23 | 55.52 | 8.85 | 56.34 | 7.55 |
| Ego-integration (v.3) | 62.15 | 7.11 | 62.96 | 6.62 | 62.55 | 8.23 |
| Management Potential (Mp) | 63.58 | 7.56 | 64.25 | 6.49 | 62.61 | 7.46 |
| Work Orientation (Wo) | 58.32 | 7.13 | 59.27 | 6.37 | 58.86 | 7.92 |
| Creative Temperament (CT) | 55.07 | 8.23 | 54.95 | 9.08 | 53.11 | 8.15 |
| Leadership (Lp) | 64.07 | 5.93 | 63.79 | 6.25 | 63.39 | 5.86 |
| Amicability (Ami) | 57.46 | 8.27 | 58.73 | 7.11 | 57.82 | 8.56 |
| Law Enforcement Orientation (Leo) | 64.29 | 9.07 | 62.94 | 9.33 | 64.09 | 8.94 |
| Tough-mindedness (Tm) | 65.60 | 6.50 | 63.71 | 6.29 | 64.37 | 6.91 |

Note: $N$ = 570 (n = 190 each African Americans, Caucasians, and Latinos/Hispanics).

ANOVAs were used to determine specifically which special purpose scales have differences between gender and ethnic groups. There are statistically significant differences between men and women on the Management Potential, Work Orientation, Creative Temperament, Leadership, Law Enforcement Orientation, and Tough-Mindedness scales (see Table 3). Specifically, men averaged higher scores than women on all of these scales (see Table 1), with the largest difference on Law Enforcement Orientation (men M = 65.20, SD = 8.35; women M = 62.34, SD = 9.63).

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Significant differences between the three ethnic groups in question exist for the Creative Temperament and Tough-Mindedness scales. LSD and Tukey HSD Post hoc analyses were used to examine how the ethnic groups differ. Tukey's HSD showed no differences at the p < .05 level on the Creative Temperament scale. LSD post hoc analyses on this scale found significant differences, such that both African Americans (M = 55.07, SD = 8.23) and Caucasians (M = 54.95, SD = 9.08) averaged higher scores than Latinos/Hispanics (M = 53.11, SD = 8.15). Both LSD and Tukey's HSB showed that African Americans (M = 65.60, SD = 6.50) averaged higher scores than Caucasians (M = 63.71, SD = 6.29) on the Tough-Mindedness scale (see Table 4). All of these differences on the special purpose scales are small based on Cohen's criterion for effect sizes.

*Vector Scales.* Only gender had a significant main effect for the three vector scales (Wilks' $\Lambda$ = .966 at F(3, 562) = 6.584, p <.05, $\eta^2$ = .034). The main effect for ethnicity was not significant (Wilks' $\Lambda$ = .994 at F(6, 1124) = .568, p >.05, $\eta^2$ = .003); nor was the interaction (Wilks' $\Lambda$ = .985 at F(6, 1124) = 1.404, p >.05, $\eta^2$ = .007). ANOVAs showed a significant difference between men and women on Externality/Internality (see Table 3), with women (M = 41.88, SD = 8.62) scoring higher than men (M = 39.06, SD = 7.61), although the effect size shows that this difference is small.

## Discussion

While no single personality inventory should be used as the sole basis for selection or other employment decisions, this study shows that scales from the CPI 434 instrument can be used, without concern for adverse impact in terms of gender or ethnicity, as a component of a selection process. Some significant differences were found by gender or ethnicity. However, the effect sizes for all but one of this study's significant differences are small, and therefore not practically meaningful, according to Cohen (1992). The Femininity/Masculinity scale was the exception, with a large effect size (partial $\eta^2$ ≥ .35) for the difference between genders. This scale was constructed to characterize respondents as having culturally universal characteristics of 'feminine' or 'masculine'. To the extent that men and women adopt the cultural gender roles into their personalities, regardless of the method of adaptation, differences on this scale would be expected. Failure to show gender differences across cultures would call the validity of this scale into question (Gough & Bradley, 1996).

Due to insufficient numbers of additional ethnic groups, the current study was limited to examining differences between only three ethnicities. Future studies focused on ethnic differences on the CPI 434 instrument should include more ethnic groups, such as Asians and Native Americans, especially given past findings of differences between Caucasians and Native Americans (Davis, Hoffman, & Nelson, 1990). However, it is noteworthy that the three largest ethnic groups in the United States were included.

This study is also limited by the fact that there is some variance in extraneous demographic variables that may affect the gender and ethnic differences. Ideally, future research should seek to limit this by more closely approximating demographic distributions across groups or including covariates in the analyses. That said, this study shows that the CPI instrument is a valid tool for many different groups, and is a valuable contribution to the literature on gender and ethnic differences.

Table 3. ANOVA Summary Table

| CPI Scale | | df | Mean Square | F | Sig. | Partial η² |
|---|---|---|---|---|---|---|
| *Folk Scales* | | | | | | |
| Dominance (Do) | Main effect ethnicity | 2 | 108.764 | 1.731 | .178 | .006 |
| | Main effect gender | 1 | 911.625 | 14.511 | .000 | .025 |
| | Interaction | 2 | 89.438 | 1.424 | .242 | .005 |
| | Error | 564 | 62.823 | | | |
| Capacity for Status (Cs) | Main effect ethnicity | 2 | 20.565 | .426 | .654 | .002 |
| | Main effect gender | 1 | 331.912 | 6.867 | .009 | .012 |
| | Interaction | 2 | 73.512 | 1.521 | .219 | .005 |
| | Error | 564 | 48.331 | | | |
| Sociability (Sy) | Main effect ethnicity | 2 | 29.669 | .527 | .591 | .002 |
| | Main effect gender | 1 | 185.909 | 3.301 | .070 | .006 |
| | Interaction | 2 | 33.990 | .604 | .547 | .002 |
| | Error | 564 | 56.314 | | | |
| Social Presence (Sp) | Main effect ethnicity | 2 | 354.648 | 5.377 | .005 | .019 |
| | Main effect gender | 1 | 798.841 | 12.111 | .001 | .021 |
| | Interaction | 2 | 24.780 | .376 | .687 | .001 |
| | Error | 564 | 65.962 | | | |
| Self-acceptance (Sa) | Main effect ethnicity | 2 | 88.027 | 1.789 | .168 | .006 |
| | Main effect gender | 1 | 308.264 | 6.264 | .013 | .011 |
| | Interaction | 2 | 30.867 | .627 | .534 | .002 |
| | Error | 564 | 49.210 | | | |
| Independence (In) | Main effect ethnicity | 2 | 3.896 | .105 | .900 | .000 |
| | Main effect gender | 1 | 622.040 | 16.764 | .000 | .029 |
| | Interaction | 2 | 33.428 | .901 | .407 | .003 |
| | Error | 564 | 37.105 | | | |
| Empathy (Em) | Main effect ethnicity | 2 | 146.162 | 2.122 | .121 | .007 |
| | Main effect gender | 1 | 1037.754 | 15.065 | .000 | .026 |
| | Interaction | 2 | 32.772 | .476 | .622 | .002 |
| | Error | 564 | 68.887 | | | |
| Responsibility (Re) | Main effect ethnicity | 2 | 69.411 | 1.412 | .245 | .005 |
| | Main effect gender | 1 | 110.592 | 2.249 | .134 | .004 |
| | Interaction | 2 | 19.580 | .398 | .672 | .001 |
| | Error | 564 | 49.174 | | | |
| Socialization (So) | Main effect ethnicity | 2 | 29.404 | .657 | .519 | .002 |
| | Main effect gender | 1 | 156.831 | 3.505 | .062 | .006 |
| | Interaction | 2 | 3.041 | .068 | .934 | .000 |
| | Error | 564 | 44.739 | | | |
| Self-control (Sc) | Main effect ethnicity | 2 | 359.492 | 5.093 | .006 | .018 |
| | Main effect gender | 1 | 20.015 | .284 | .595 | .001 |
| | Interaction | 2 | 63.796 | .904 | .406 | .003 |
| | Error | 564 | 70.590 | | | |
| Good Impression (Gi) | Main effect ethnicity | 2 | 908.585 | 9.222 | .000 | .032 |
| | Main effect gender | 1 | 126.193 | 1.281 | .258 | .002 |
| | Interaction | 2 | 11.072 | .112 | .894 | .000 |
| | Error | 564 | 98.524 | | | |
| Communality (Cm) | Main effect ethnicity | 2 | 242.211 | 6.945 | .001 | .024 |
| | Main effect gender | 1 | 8.258 | .237 | .627 | .000 |
| | Interaction | 2 | 11.711 | .336 | .715 | .001 |
| | Error | 564 | 34.874 | | | |

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| CPI Scale | | df | Mean Square | F | Sig. | Partial $\eta^2$ |
|---|---|---|---|---|---|---|
| Well-being (Wb) | Main effect ethnicity | 2 | 48.493 | 1.339 | .263 | .005 |
| | Main effect gender | 1 | 432.967 | 11.953 | .001 | .021 |
| | Interaction | 2 | .718 | .020 | .980 | .000 |
| | Error | 564 | 36.222 | | | |
| Tolerance (To) | Main effect ethnicity | 2 | 221.277 | 4.159 | .016 | .015 |
| | Main effect gender | 1 | 42.930 | .807 | .369 | .001 |
| | Interaction | 2 | 70.700 | 1.329 | .266 | .005 |
| | Error | 564 | 53.208 | | | |
| Achievement via Conformance (Ac) | Main effect ethnicity | 2 | 277.021 | 6.575 | .002 | .023 |
| | Main effect gender | 1 | 33.161 | .787 | .375 | .001 |
| | Interaction | 2 | 9.038 | .215 | .807 | .001 |
| | Error | 564 | 42.130 | | | |
| Achievement via Independence (Ai) | Main effect ethnicity | 2 | 179.950 | 4.700 | .009 | .016 |
| | Main effect gender | 1 | 508.015 | 13.267 | .000 | .023 |
| | Interaction | 2 | 72.069 | 1.882 | .153 | .007 |
| | Error | 564 | 38.290 | | | |
| Intellectual Efficiency (Ie) | Main effect ethnicity | 2 | 181.369 | 4.439 | .012 | .015 |
| | Main effect gender | 1 | 431.109 | 10.553 | .001 | .018 |
| | Interaction | 2 | .687 | .017 | .983 | .000 |
| | Error | 564 | 40.854 | | | |
| Psychological Mindedness (Py) | Main effect ethnicity | 2 | 15.895 | .343 | .710 | .001 |
| | Main effect gender | 1 | 568.104 | 12.246 | .001 | .021 |
| | Interaction | 2 | 29.520 | .636 | .530 | .002 |
| | Error | 564 | 46.391 | | | |
| Flexibility (Fx) | Main effect ethnicity | 2 | 243.247 | 2.785 | .063 | .010 |
| | Main effect gender | 1 | 269.892 | 3.090 | .079 | .005 |
| | Interaction | 2 | 106.160 | 1.215 | .297 | .004 |
| | Error | 564 | 87.350 | | | |
| Femininity/Masculinity (F/M) | Main effect ethnicity | 2 | 218.254 | 5.420 | .005 | .019 |
| | Main effect gender | 1 | 12568.751 | 312.129 | .000 | .356 |
| | Interaction | 2 | 97.224 | 2.414 | .090 | .008 |
| | Error | 564 | 40.268 | | | |
| *Special Purpose Scales* | | | | | | |
| Management Potential (Mp) | Main effect ethnicity | 2 | 129.999 | 2.528 | .081 | .009 |
| | Main effect gender | 1 | 229.376 | 4.460 | .035 | .008 |
| | Interaction | 2 | 29.703 | .578 | .562 | .002 |
| | Error | 564 | 51.429 | | | |
| Work Orientation (Wo) | Main effect ethnicity | 2 | 42.314 | .832 | .435 | .003 |
| | Main effect gender | 1 | 424.040 | 8.343 | .004 | .015 |
| | Interaction | 2 | 12.556 | .247 | .781 | .001 |
| | Error | 564 | 50.829 | | | |
| Creative Temperament (CT) | Main effect ethnicity | 2 | 229.037 | 3.198 | .042 | .011 |
| | Main effect gender | 1 | 360.560 | 5.035 | .025 | .009 |
| | Interaction | 2 | 102.170 | 1.427 | .241 | .005 |
| | Error | 564 | 71.608 | | | |
| Leadership (Lp) | Main effect ethnicity | 2 | 22.265 | .625 | .536 | .002 |
| | Main effect gender | 1 | 412.224 | 11.572 | .001 | .020 |
| | Interaction | 2 | .860 | .024 | .976 | .000 |
| | Error | 564 | 35.624 | | | |

| CPI Scale | | df | Mean Square | F | Sig. | Partial $\eta^2$ |
|---|---|---|---|---|---|---|
| Amicability (Ami) | Main effect ethnicity | 2 | 81.262 | 1.267 | .283 | .004 |
| | Main effect gender | 1 | 30.057 | .469 | .494 | .001 |
| | Interaction | 2 | 64.902 | 1.012 | .364 | .004 |
| | Error | 564 | 64.145 | | | |
| Law Enforcement Orientation (Leo) | Main effect ethnicity | 2 | 101.132 | 1.246 | .288 | .004 |
| | Main effect gender | 1 | 1171.545 | 14.432 | .000 | .025 |
| | Interaction | 2 | 74.849 | .922 | .398 | .003 |
| | Error | 564 | 81.177 | | | |
| Tough-mindedness (Tm) | Main effect ethnicity | 2 | 174.348 | 4.101 | .017 | .014 |
| | Main effect gender | 1 | 440.561 | 10.364 | .001 | .018 |
| | Interaction | 2 | 30.300 | .713 | .491 | .003 |
| | Error | 564 | 42.509 | | | |
| *Vector Scales* | | | | | | |
| Externality/Internality (v.1) | Main effect ethnicity | 2 | 18.507 | .281 | .755 | .001 |
| | Main effect gender | 1 | 1138.444 | 17.276 | .000 | .030 |
| | Interaction | 2 | 159.134 | 2.415 | .090 | .008 |
| | Error | 564 | 65.897 | | | |
| Norm-doubting/Norm-favoring (v.2) | Main effect ethnicity | 2 | 39.192 | .577 | .562 | .002 |
| | Main effect gender | 1 | 16.358 | .241 | .624 | .000 |
| | Interaction | 2 | 1.413 | .021 | .979 | .000 |
| | Error | 564 | 67.962 | | | |
| Ego-integration (v.3) | Main effect ethnicity | 2 | 30.549 | .569 | .567 | .002 |
| | Main effect gender | 1 | 180.428 | 3.359 | .067 | .006 |
| | Interaction | 2 | 84.762 | 1.578 | .207 | .006 |
| | Error | 564 | 53.721 | | | |

Table 4. Significant Tukey HSD Post Hoc Analyses of the Folk and Special Purpose Scales

| CPI Scale | | African American (J) | | | Caucasian (J) | | | Latino/Hispanic (J) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean Difference (I-J) | Std. Error | Sig. | Mean Difference (I-J) | Std. Error | Sig. | Mean Difference (I-J) | Std. Error | Sig. |
| Social Presence (Sp) | African American (I) | | | | -2.6045* | .8333 | .005 | -.5865 | .8333 | .761 |
| | Caucasian (I) | 2.6045* | .8333 | .005 | | | | 2.0180* | .8333 | .042 |
| | Latino/Hispanic (I) | .5865 | .8333 | .761 | -2.0180* | .8333 | .042 | | | |
| Self-control (Sc) | African American (I) | | | | 2.6942* | .8620 | .005 | .8652 | .8620 | .575 |
| | Caucasian (I) | -2.6942* | .8620 | .005 | | | | -1.8290 | .8620 | .086 |
| | Latino/Hispanic (I) | -.8652 | .8620 | .575 | 1.8290 | .8620 | .086 | | | |
| Good Impression (Gi) | African American (I) | | | | 3.6465* | 1.018 | .001 | -.2681 | 1.018 | .963 |
| | Caucasian (I) | -3.6465* | 1.018 | .001 | | | | -3.9145* | 1.018 | .000 |
| | Latino/Hispanic (I) | .2681 | 1.018 | .963 | 3.9145* | 1.018 | .000 | | | |
| Communality (Cm) | African American (I) | | | | -1.8122* | .6059 | .008 | .2607 | .6059 | .903 |
| | Caucasian (I) | 1.8122* | .6059 | .008 | | | | 2.0729* | .6059 | .002 |
| | Latino/Hispanic (I) | -.2607 | .6059 | .903 | -2.0729* | .6059 | .002 | | | |
| Tolerance (To) | African American (I) | | | | -1.9029* | .7484 | .030 | -.0693 | .7484 | .995 |
| | Caucasian (I) | 1.9029* | .7484 | .030 | | | | 1.8336* | .7484 | .039 |
| | Latino/Hispanic (I) | .0693 | .7484 | .995 | -1.8336* | .7484 | .039 | | | |
| Achievement via Conformance (Ac) | African American (I) | | | | 2.3807* | .6659 | .001 | .8391 | .6659 | .418 |
| | Caucasian (I) | -2.3807* | .6659 | .001 | | | | -1.5416 | .6659 | .055 |
| | Latino/Hispanic (I) | -.8391 | .6659 | .418 | 1.5416 | .6659 | .055 | | | |
| Achievement via Independence (Ai) | African American (I) | | | | -.8569 | .6349 | .368 | 1.0850 | .6349 | .203 |
| | Caucasian (I) | .8569 | .6349 | .368 | | | | 1.9419* | .6349 | .007 |
| | Latino/Hispanic (I) | -1.0850 | .6349 | .203 | 1.9419* | .6349 | .007 | | | |
| Intellectual Efficiency (Ie) | African American (I) | | | | -1.8425* | .6558 | .014 | -.3577 | .6558 | .849 |
| | Caucasian (I) | 1.8425* | .6558 | .014 | | | | 1.4848 | .6558 | .062 |
| | Latino/Hispanic (I) | .3577 | .6558 | .849 | -1.4848 | .6558 | .062 | | | |
| Femininity/ Masculinity (F/M) | African American (I) | | | | 2.1095* | .6511 | .004 | .7249 | .6511 | .506 |
| | Caucasian (I) | -2.1095* | .6511 | .004 | | | | -1.3845 | .6511 | .085 |
| | Latino/Hispanic (I) | -.7249 | .6511 | .506 | 1.3845 | .6511 | .085 | | | |
| Tough-Mindedness (Tm) | African American (I) | | | | 1.8874* | .6689 | .014 | 1.2286 | .6689 | .159 |
| | Caucasian (I) | -1.8874* | .6689 | .014 | | | | -.6588 | .6689 | .587 |
| | Latino/Hispanic (I) | -1.2286 | .6689 | .159 | .6588 | .6689 | .587 | | | |

Note: * The mean difference is significant at the .05 level.

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