

Big Five Personality Traits and Gender Difference

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Abstract

The present study is the result of a scientific research in which the relationship between two important variables, namely Gender Differences in big five Personality Traits are determined in the research framework. Many statisticians have incorporated the five-factor model and the NEO Personality Inventory, both describing various aspects of personality including the five domains of personality – neuroticism, extraversion, openness, agreeableness, and conscientiousness – into determining whether there is gender difference in big five personality traits. In this study, about 150 undergraduate medical students, were asked to rate various aspects of their personality by using personality inventory questionnaire of Buchanan (2001) based on Five-Factor Modality (FFM). Then we calculated the gender difference for five personalities. In our study the Women were higher on Neuroticism ($p < .001$, $d = .54$) as compare to men and no significant gender difference has typically been found in Extraversion, Openness, Agreeableness, and Conscientiousness, ($P < .05$) at the Big Five trait level. So it is concluded that there is gender difference in big five personality traits. However, the study showed weakness such as small sample sizes, unequal sample size and we have not considered the sub-facets of big five personalities. More accurate studies should be performed in the future to confirm or reject the results of this study.

Keywords: Personality Traits; Gender; Five-Factor Modality (FFM); Neuroticism.

Introduction

This paper studied the Gender differences in the big five personality traits.

Numerous research studies are performed with relation to the Gender differences based on the big five personality traits.

The study of personality is particularly useful in attempting to examine psychological differences between genders

Traits are the consistent patterns of thoughts, feelings, motives, and behaviors that a person exhibits across situations [1].

Gender differences in personality traits are often characterized in terms of which gender has higher scores on that trait, on average. For example, women are often found to be more agreeable than men [2,3].

The five-factor model and the NEO Personality Inventory -The five-factor model consists of five personality domains – Neuroticism, Extraversion,

Openness, Agreeableness, and Conscientiousness, often referred to as N, E, O, A, and C – and has become the most widely accepted model for personality [4,5].

Gender differences have been documented for a number of personality traits. Most meta-analyses and reviews examine gender differences in self-reports of personality on questionnaires that measure the Big Five, [2,3,6].

Women score higher on the Five Factor Model (FFM) traits of Neuroticism and Agreeableness [2] gender differences on Extraversion (encompassing gregariousness, excitement seeking, and positive affect) and Openness to Experience (encompassing interest in novel people, ideas, and aesthetics) have been either inconsistent or of negligible magnitude in large, statistically well-powered samples [1]. Neuroticism and Agreeableness are genetically based, species-invariant, and the result of adaptation to selection pressures which vary across men and women [7]. Budaev (1999) suggested an evolutionary hypothesis that Neuroticism and Agreeableness

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together represent a single dimension with low Neuroticism and low Agreeableness at one end and high Neuroticism and high Agreeableness at the other. His data suggested men and women fall at opposite ends of this dimension. Costa and colleagues concluded that gender differences on Neuroticism and Agreeableness stemmed from stable evolutionary and biological bases, but Social Role Theory [8], which articulates socialization processes leading to different roles and behaviors for men and women, also held potential usefulness for understanding gender differences in Neuroticism and Agreeableness [3, 9].

The goal of investigating gender differences in personality, therefore, is to find out the differences among general patterns of behavior in men and women on average, Gender differences in personality are often examined in terms of the Big Five [9] or by systematic sampling from the space defined by pairs of Big Five factors [11].

Biological and evolutionary approaches posit that gender differences are due to men and women's dimorphic ally evolved concerns with respect to reproductive issues, parental investment in offspring [12,7] According to these theories, women should be more concerned with successfully raising children and should therefore be more cautious, agreeable, nurturing, and emotionally involved. Men, on the other hand, should be more concerned with obtaining viable mating opportunities and should therefore exhibit more Assertiveness, risk-taking, and aggression. Other theories suggest that gender norms are shaped by socio-cultural influences, such that women and men are expected to serve different roles in society and are therefore socialized to behave differently from one another [13]., recent studies have shown that gender differences in personality tend to be larger in more developed, Western cultures with less traditional sex roles [3,14].

Neuroticism

Neuroticism describes the tendency to experience negative emotion and related processes in response to perceived threat and punishment; these include anxiety, depression, anger, self-consciousness, and emotional lability. Women have been found to score higher than men on Neuroticism as measured at the Big Five trait level, as well as on most facets of Neuroticism included in a common measure of the Big Five, the NEO-PI-R [3].

Agreeableness

Agreeableness comprises traits relating to altruism,

such as empathy and kindness. Agreeableness involves the tendency toward cooperation, maintenance of social harmony, and consideration of the concerns of others; Women consistently score higher than men on Agreeableness [2, 3].

Conscientiousness

Conscientiousness describes traits related to self-discipline, organization, and the control of impulses, and appears to reflect the ability to exert self-control in order to follow rules or maintain goal pursuit. no significant gender difference has typically been found in Conscientiousness at the Big Five trait level [3].

Extraversion

Extraversion reflects sociability, Assertiveness, and positive emotionality, all of which have been linked to sensitivity to rewards [15,16]. Women tend to score higher than men on Warmth, Gregariousness, and Positive Emotions, whereas men score higher than women on Assertiveness and Excitement Seeking [2,3].

Openness

Openness reflects imagination, creativity, intellectual curiosity, and appreciation of esthetic experiences. No significant gender differences are typically found on Openness at the domain level, likely due to the divergent content of the trait. For example, women have been found to score higher than men on the facets of Esthetics and Feelings [3], whereas men tend to score higher on the Ideas facet [2, 3].

Materials and Methods

This study was conducted in the people's medical college and research centre, Bhopal (mp). We collected data from 150 students of first MBBS 2011-2012 batch, of these individuals, 85% were males and 65% were females. Demographic information such as age, gender was collected, Ethical clearance was taken from institutional ethical committee and written consent was taken from the students of first MBBS those who are involved in the study.

At the start of the semester during classes a personality inventory was administered to the students. We used personality inventory questionnaire of Buchanan (2001) based on Five-Factor Modality (FFM). The students rated each item

on a 5-point Likert-type scale (1= strongly disagree, 5 = strongly agree). The FFM is based in a belief that people are rational beings and count for their own personality and behaving, can analyze their own actions and Reactions (McCrae & Costa, 1996). Then by using responses from the participants from the study, we calculated the average ratings for each of the five personality domains.

Results

Table 1 shows statistical analysis of personality ratings for each of gender that is for men and women. Latent mean differences are displayed, with positive numbers indicating higher latent means in women and negative in men.

Table 1: Statistical analysis of personality ratings for each of gender that is for men and women.

Sr. No	Domain models	MEN (n=85) Score M (SD)	WOMEN (n=65) Score M (SD)	Latent mean difference
1.	Neuroticism	11.30 (6.10)	19.30 (14.10)	0.54**
2.	Agreeableness	1.15 (0.10)	2.28 (1.18)	-0.05*
3.	Conscientiousness	11.30 (1.6)	11.48 (1.7)	-0.033*
4.	openness	16.23 (4.10)	14.30 (3.13)	-0.05*
5.	Extraversion	12.12 (1.11)	12.22 (1.12)	-0.050*

Latent mean differences are displayed, with positive numbers indicating higher latent means in women and negative in men. **= $p < .001$ -significant, *($P < .05$) -Non-significant

Women were higher on Neuroticism ($p < .001$, $d = .54$)

Gender differences on other five factor domains like Extraversion, Openness, Agreeableness, and Conscientiousness, ($P < .05$) were non-significant-

Discussion

In the present study the Women were higher on Neuroticism and no significant gender difference has typically been found in Extraversion, Openness, Agreeableness, and Conscientiousness, ($P < .05$) at the Big Five trait level the present study is consistent with the conclusions of previous reviews that have assessed general anxiety or neuroticism [2]. FFM traits have traditionally been considered to have strong biological bases, with heritability estimates on the order of .5 [19]. This would suggest relatively persistent gender differences across the lifespan as well as across culture. Gender Differences in Personality Traits Across Cultures: Robust and Surprising Findings by Paul T. Costa, Jr [20] suggest that gender differences are small relative to individual variation within genders; differences are replicated across cultures for both college-age and adult samples, and differences are broadly consistent with gender stereotypes: Women reported themselves to be higher in Neuroticism, Agreeableness, Warmth, and Openness to Feelings, whereas men were higher in Assertiveness and Openness to Ideas, It is also consistent with pan cultural gender serotype for example, Williams and Best in 1990 [21] reported M% scores across 14 cultures averaging 15 for *fearful* and

14 for *complaining*. These gender differences in susceptibility to negative affect are not attributable solely to differential sensitivity to emotional experience, because many of them remained significant even when Openness to Feelings was statistically controlled. Our results are congruent with reports by Barefoot and colleagues, 2001 [22] of higher levels of depression, and by Lowe and Reynolds, 2006 [23] of higher levels of anxiety in adult women.

As in previous studies and reviews [2], men were found to be higher in assertiveness and women higher in nurturance, with the net effect that women scored substantially higher than men on A. Both evolutionary and social role theory explanations have been proffered for the consistent finding that women tend to be more nurturing. Evolutionary explanations emphasize the adaptive advantage for reproduction and preservation of offspring conferred by sensitivity and nurturance [7], while social role theory attributes female nurturant behavior to feminine gender role socialization [8]. These findings, again, are consistent with pan cultural gender stereotypes: mean M% scores for *adventurous* and *dominant* were 94 and 87, whereas mean M% scores for *affectionate* and *sentimental* were 10 and 12, respectively.

Because E combines aspects of dominance and nurturance [10], gender differences in E vary by facet, with men higher in E3: Assertiveness and E5: Excitement Seeking, and women higher in E1: Warmth, E2: Gregariousness, and E6: Positive Emotions. Because Extraversion scales vary in the ratio of dominant to nurturant content, the direction of gender differences may also vary. It seems likely

that women scored lower than men on Extraversion in Lynn and Martin's [18] review but higher here because the NEO-PI-R E factor emphasizes warmth more than assertiveness, whereas the opposite may be true for the Eysenck scale. At the facet level of Neuroticism, women have been found to show higher levels of anxiety, depression, self-consciousness, and vulnerability than men [3]. All of these facets load primarily on Withdrawal rather than Volatility [16]. This pattern is consistent with the fact that clinical diagnoses of depression and anxiety are considerably more common in women than men [26].

As in younger samples [3], men evinced more Intellectual Interests and women more Aesthetic Interests. In explanations of such differences among adults, Costa and colleagues have noted that men favor more information-oriented occupations, while women prefer aesthetically oriented occupations. It remains unclear whether this is a cause or result of gender differentiation on these aspects of Openness, but a reasonable hypothesis would be that personality and vocation mutually influence one another: Gender differences in intellectual and aesthetic pursuits may emerge during schooling, leading to different educational and career trajectories. Spending one's work years in occupations congruent with one's basic tendencies may in turn strengthen those tendencies, entrenching gender differentiation in these aspects of Openness. Of course, there are many men who favor aesthetic pursuits and many women who favor intellectual activities, so gender differences are averages only about which individuals vary.

Our results must be considered in the context of a few qualifications. First, the present results are based primarily on self-report. McCrae et al. [9] replicated patterns of trait differences in observer reports of young adults. Many of the difficulties in interpreting cultural differences in gender differentiation are due to this mono-method approach a similar replication in older adults is required to rule out reporting bias. Second, we used the NEO-FFI rather than the NEO-PI R, so we were unable to thoroughly investigate the full complement of gender differences observed at the specific facet level of the latter instrument. Future work might examine NEO-PI R facet gender differences in older adults. Third, our sample size was very less also. Hence our results may not accurately reflect the trajectories of personality change in men and women.

Taken on balance, these results represent an important extension of prior findings to a young adulthood, women score higher than men on Neuroticism.

Finally, though this and other studies have shown the existence of gender differences in personality, the question remains as to why these differences exist. Although the general consistency of gender differences across cultures may suggest evolutionary reasons for the existence of gender differences in personality traits. Exactly how culture impacts personality is a complex question, worthy of future study.

Conclusions

As Women were higher on Neuroticism ($p < .001$, $d = .54$) and no significant gender difference has typically been found in Extraversion, Openness, Agreeableness, and Conscientiousness ($P < .05$) at the Big Five trait level.

So we conclude that gender differences emerged at the level of NEO-FFM domains.

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