

## **Gender and Regional Differences in Five Factor Personality Traits Among Students at Secondary Level in Punjab, Pakistan**

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<p><b>Article History:</b></p> <p><b>Received:</b> 24 Jan, 2019</p> <p><b>Accepted:</b> 24 Apr, 2019</p>	<p><b>ABSTRACT</b></p> <p>The educational success of any person seems to depend on residence. It is usually seen that students residing in urban areas enjoy more facilities than rural pupils, so they show higher academic success. Along with residence, many other factors such as students' personality type and gender matter a lot in academic success. Personality is considered as a fundamental pattern of all-round development of a person. An attempt in this regard was made to examine difference in academic achievement of rural and urban students of secondary level according to their personality traits. Students of rural and urban areas of 9th grades enrolled in public sector schools at secondary level in district Mianwali constitute population. 935 students were selected as sample through stratified random sampling technique. 752 students responded on Big five (BFI) Personality Inventory resulting 80% response rate. Descriptive and inferential statistics were used for data analysis. Consciousness, neuroticism, agreeableness, personality traits were higher in students of rural area. Openness, extraversion personality traits were higher in urban students. Significant difference between openness personality trait and gender of students while no difference in consciousness, extraversion, agreeableness, neuroticism personality traits were observed.</p> <p><b>Key Words:</b> Personality traits, Big five inventory, rural and urban residence.</p>
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### **1. Introduction**

Personality is thrashed out in terms of specific characters and sum of many factors. The study of human personality always remained a focal point discussion among psychologists since long time. Personality is an intrapersonal process as well as set of consistent behavior pattern that instigate within a person (Berger 2004). Psychologists

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proposed different theories for explaining personality as well as its traits. There are different factors that make people behave differently living in different regions of same country. For example, urbanization, gender, and climatic changes may be the reason of differences in personality traits. This is in accordance with psychological researches that tend to emphasize the role of environmental interactions, in which a fit can be perceived between the individuals and living environment attributes. Gender and regional differences are major factors in shaping personality of students and it has profound effect of students' academic success.

Studies conducted on gender and different personality traits revealed that personality is shaped out in different ways in different cultures and regions. Terracciano and McCrae (2005) revealed that there are gender differences in personality traits. The results of their studies exposed that males were more assertive as compared to females. Furthermore, secondary analyses data based on revised "NEO personality inventory" of many different cultures revealed that there exist differences in personality of males and females in different cultures. Females were found to be higher in Neuroticism, Agreeableness, besides Openness personality traits, while male members were found higher in Assertiveness plus Openness to ideas traits of personality (Costa, Terracciano, & McCrae, 2001). It is in accordance with the findings of research studies by Eysenck (1967), who on the basis of exhibition of different characteristic adapted, their unique identifications in the direction of life plus many cultural variations, biological stimuli, classified these traits as: Neuroticism, Extraversion, and so on (Phares & Jerry, 2002).

The other issue in the mind of researchers was the role of region. Individuals (men and women) are self -perceived in exhibiting common characteristics that all people in a given region/society share with each other (Maccoby, 2000). According to Rentfrow (2010) Individual differences and group personality differences across gender and region had been an area of interest for personality researchers and psychologists. Regional science research studies revealed the fact that attitudes, values and behaviors of individuals are

clustered across the regions. For instance, Markus and Lachman (2002) and Rentfrow, Gosling and Polter (2008) reported significant regional personality differences in the United States.

The present research study is an attempt to highlight how different personality traits help individuals in their academic success and which traits is found greater in male and female students of secondary level based on regional difference. Personality is considered as a vital pattern of all-round development of a person. In order to measure this unique pattern different techniques have been used by researchers. Cattell (1966) used 16 factors and three factors model. However, recently big five factor personality dimensions are used as a psychometric test in many institutions in cosmopolitan cultures. Applying the Big Five personality traits in this research study would permit us to make comparisons among personality traits, gender, residence and academic achievement of students at secondary level. Furthermore, it explores which trait exists more commonly among boys and which is dominant among girls. The findings of the study are helpful for teachers to comprehend pupils' learning and success and to have insight into learners' behaviors and the way that teachers would help students for their academic success.

## **2. Literature Review**

The study of personality is principally valuable in examining behavioral differences between genders. Personality is often perceived to be an extent of displaying high or low levels of specific traits. Traits are considered as the consistent patterns of beliefs and intentions. Gender differences in personality traits are described in relations of which gender seem to have higher scores on one trait, on average. For instance, female usually scored more on agreeableness trait than males (Costa et al., 2001; Feingold, 1994). The goal of examining gender differences in personality, is to expose the differences in behavioral pattern of males and females, with the understanding that males and females can experience situations across the full range of many traits. Gender differences in

personality traits are usually studied in terms of the “Big Five”. In Big Five, traits are categorized in such a way that more specific traits that vary together are clustered in higher-order factors, such as Big Five.

#### The Big Five Personality Traits

The Five Factor Personality Inventory (FFM) has been developed as a measuring tool for capturing personality traits of individuals. This inventory is based on five specific traits: Extraversion, Agreeableness, Conscientiousness, Neuroticism, as well as Openness (Barrick, Mount & Judge, 2001).

#### Agreeableness Personality Trait.

Agreeableness personality trait talks about how one is cooperative, sympathetic and show high concern in sustaining social harmony in a situation in hand. According to Larsen and Buss (2002) high agreeable people are those with high level of trustworthiness, honest, selfless, in contrast to those with low agreeableness personality trait with characteristics of aggressiveness, unreliable, obstinate. Females are generally found to have high scores than male counterparts on Agreeableness and related measures, such as tender-mindedness, because females are nourished in such an environment, where they are trained to be agreeable to certain situations (Feingold, 1994; also see, Costa et al., 2001).

#### Conscientiousness Personality Trait.

People with Conscientiousness personality trait are mostly hard working, success-oriented, and strong mindfulness (Barrick & Mount, 2001). Female students are generally thought to be more conscious toward their success than males ( Erdheim, Wang & Zickar, 2006). Thus highly conscious individuals are thought of organized, with strong success orientation. On the other hand, individuals' who have low scores on conscientiousness personality are generally unplanned, liable to procrastinating, in addition to their undisciplined nature. (Costa & McCrae, 1995).

#### Openness Personality Trait.

People with Openness personality assumed to have artistic creativity and are divergent in their thinking as well as having strong imagination power (Barrick & Mount, 2001). This is one of the traits among all big five personality traits, which include highest level of cognitive aspects (imagination, thinking, creativity). In this regard, individuals with high level of openness to development have strong imagination, they are adventurous in nature, having originality in their work while individuals with a lower level of openness are traditional, conservative, and are regarded as uncaring. Such beings may be male or female, depending on their locality in which they live and are nourished (Carson, Butcher, & Mineka. 2000; Costa & McCrae, 1995).

Extraversion Personality Trait.

Extravert people are thought of friendly and social in nature. Such people are usually talkative in nature, generally females are thought to possess this trait at higher level than males, but it is not true in all circumstances, boys are found more social than girls in certain situations (Barrick & Mount 2001). According to Fleeson (2001) extravert individuals are outgoing, energetic, and experiences positive emotion that are portrayed in wide variety of behaviors. They tend to attain positions of leadership, are more accepted, and live longer.

Neuroticism Personality Trait.

Neurotic people exhibit a strong state of anxiety, anger, hatred besides mistrust (Barrick & Mount, 2001). People with neurotic personality trait tend to have negative emotions of guilt, irritability, sadness and fear in their surrounding rather than accepting and making their surrounding joyful and excited. In this regard, a high neuroticism individual seems anxious, and feels insecurity in their surroundings (Costa & McCrae, 1995).

Big-Five inventory is known as cross cultural instrument due to its wide use in numerous cross-cultural researches that validate its broad based applicability and practical validity (Yung, 1999). Allik and McCrae (2004) carried out secondary analysis using FFM data from 36 cultures and concluded that differences exist between Asian and African cultures with European and American cultures. As, European and American cultures showed high scores in extraversion and openness to experience and low scores in agreeableness. According to Costa et al. (2001) smaller gender differences in personality among Asian and African cultures were found while largest gender differences were found in European culture. These studies were carried out to demonstrate comparison between mean levels of personality across cultures. This approach seemed useful for understanding the important links between culture and personality (Schmitt, Allik, McCrae, & Benet-Martinez, 2007). Emmerik et al. (2010) recommended that national character may interact with culture for shaping the demonstration of attained needs in cultural perspective. (see also Allik & McCrae, 2004; Schmitt et al., 2007).

In view of the above, the present study aimed to investigate the differences in personality traits between male and female and urban and rural students in district Mianwali, Punjab, Pakistan. Following two research questions were formulated to carry out research.

### **Research Questions**

1. Is there any significant difference in five traits of personality between male and female participants?
2. Is there any significant difference in five traits of personality between rural and urban participants?

### **3. Materials and Methods**

- **Research Design**

The researchers used descriptive research design in this study. The research design enabled the researcher to establish the relationships between the subscales of Big Five personality traits and gender and region. Various statistical tools were used to find the significant difference among personality traits between male and female and between urban and rural students.

- **Participants**

Data were collected from secondary level students enrolled in 10th grade in district Mianwali, province Punjab, Pakistan. Random sampling technique was used to obtain potential participants from population. The population of this study comprised on secondary level students of urban and rural. The sample size of 930 was determined through the criteria given by Gay (2015)'s sample size table. Proportionate random sampling technique was used to get representative sample. The 930 sample was comprised of 651 boys and 279 girls from secondary level schools selected through proportionate random sampling technique. The Urdu translated version of BFI was distributed to 930 students, 755 students participated and responded their responses with the response rate of 80%. During data cleaning process six observations were removed due to incomplete response. A total of 749 samples were used in this study including 342 male (46%) and 407 female (54%) participants after data cleaning process. Because missing plus flawed data can result a significant problem in the validity as well as reliability of research outcomes. There were more urban participants (N=407) than rural participants (N=342).

- **Instruments**

To answer the research questions, data was gathered by using Big Five Inventory (BFI; John & Srivastava, 1999). The Big Five Inventory (BFI; John & Srivastava, 1999) includes 44-item with five subscales: Extraversion, Agreeable, Conscientiousness, Neuroticism, and Openness. The Big Five Inventory consists of 10 facet scales, two for each domain, for examining personality traits (See Soto & John, 2009). Individuals were

to respond on a five-point Likert type scale ranging from 1= Strongly Disagree to 5= Strongly Agree.

The Big Five Inventory (BFI; John & Srivastava, 1999) comprised of items that were already tested at the time of their first use, thus making it easy for researchers to be confident in using it as good indicators of their concepts of interest. It might be helpful in saving time on part of respondents (Biemer & Lyberg 2003). The reliability of the questionnaire was determined through pilot testing on 30 students of class 10th. Before data collection, the Urdu translated version was validated through expert consultation.

#### **4. Data Analysis**

A range of statistical procedures were used to measure the reliability and validity of the instrument and to answer research questions. These techniques included descriptive statistics, reliability analysis, factor analysis, correlation analysis, MANOVA (Multivariate Analysis of Variance). Two separate MANOVA procedures were used to find the significant difference in five personality traits between male and female and between rural and urban participants. The data was analyzed using SAS 9.4 software. Statistical significance level was set at  $p < .05$  for all omnibus statistical tests to analyze the data.

**Table 1.** *Descriptive Statistics of the scores on each subscale and scores on overall BFI (N=749)*

Variable	# of Items	Mean	Standard Deviation	Standard Error	Kurtosis	Skewness	Cronbach Alpha
Extraversion	8	3.95	0.58	0.02	-0.42	-0.79	0.82
Agreeable	9	2.83	0.63	0.02	1.09	1.18	0.82
Consciousness	9	4.10	0.47	0.02	1.76	-1.30	0.80
Neuroticism	8	2.76	0.70	0.03	-0.51	0.21	0.85

Openness	10	3.05	0.75	0.03	-1.20	0.20	0.83
BFI	44	3.33	0.31	0.01	0.29	0.04	0.78

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The assumptions of normality and equal variance were checked prior to statistical procedures. The descriptive statistics of the average of each subscales of Big Five Inventory (BFI) along with reliability coefficient are reported in Table 1

The construct validity of the instrument was assessed through factor analysis. The factor analysis with five factors produced overall 64% variance in the BFI 44-item scale. The internal consistency reliability of the full scale Big-five inventory was calculated through Cronbach alpha and was .78. The reliability coefficients of all five subscales were ranged from .80 to .85. These internal consistency reliability values indicate quite well reliability of the instrument. Following are the subscales of Big-Five inventory to measure five traits of personality:

**i. Extraversion**

Extraversion subscale items refer as an active approach toward social word. This subscale contains eight items. The reliability coefficient of Extraversion subscale was .82.

**ii. Agreeable**

This subscale contains nine items. These items measure the kindness and antipathy of an individual person towards another person. The internal consistency reliability was .82.

**iii. Conscientiousness**

There are nine items in this subscale. These items describe socially set values that lead to task and goal-directed behavior. The internal consistency reliability of Conscientiousness subscale was .80.

**iv. Neuroticism**

There are right items in Neuroticism subscale. These items reflect emotional states of an individual. The internal consistency reliability of Neuroticism subscale was .85.

**v. Openness**

The openness subscale includes 10 items. These items describe the scope, depth, and complexity of an individual’s mental and life experiments. The internal consistency reliability of openness subscale was .83.

The negative worded items were recoded prior to data analysis. The averages of all items of corresponding subscales were used for data analysis. The higher mean value of each subscale indicates a higher level of agreement.

**Table 2.** *Correlation Matrix of Five Subscales of BFI (N = 749)*

Pearson Correlation Coefficients, N = 749						
	BFI	Extraversi on	Agreeab le	Consciousne ss	Neuroticis m	Openne ss
BFI	1.00					
Extraversion	0.53* *	1.00				
Agreeable	0.66* *	0.14**	1.00			
Consciousness	0.24* *	0.60**	.014	1.00		
Neuroticism	0.51* *	-0.09**	0.48**	-0.27**	1.00	

Openness	0.45*	-0.04	-0.02	-0.31**	0.02	1.00
	*					

Note: \*\* significant at 0.01

## vi. Results

The inter-scale correlation matrix is reported in Table 2. The total BFI score is positive significantly correlated with each subscale of the BFI: Extraversion, Agreeable, Conscientiousness, Neuroticism, and Openness with, .53, .66, .24, .51, and .45 respectively.

**Table 3.** *Descriptive Statistics of the Scores on Five Traits of Personality for Male and Female Students (N=749)*

Gender	N	Extraversion		Agreeable		Conscientiousness		Neuroticism		Openness	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Female	407	3.95	0.56	2.97	0.76	4.15	0.45	2.95	0.70	3.16	0.66
Male	342	3.96	0.61	2.65	0.34	4.03	0.48	2.53	0.64	2.92	0.84

Descriptive statistics for the scores on five personality traits for male and female are reported in Table 3. According to Table 3, male students tend to have higher level of agreement in extraversion personality trait than female students while female students have reported higher scores on other four personality traits (Agreeable, Conscientiousness, Neuroticism, Openness) than male students.

**Table 4.** *Descriptive Statistics of the Scores on Five Traits of Personality for Rural and Urban Students (N=749)*

Region	N	Extraversion		Agreeable		Conscientiousness		Neuroticism		Openness	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Rural	342	3.92	0.62	2.94	0.83	4.16	0.48	2.88	0.65	2.75	0.63

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Urban	407	3.98	0.54	2.73	0.36	4.04	0.46	2.65	0.73	3.31	0.75
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Descriptive statistics for the scores on five personality traits for urban and rural students are reported in Table 4. According to Table 4, rural students have higher scores on agreeable, conscientiousness, neuroticism than urban students while urban students have significantly higher score on the personality trait of openness than rural students.

A one-way MANOVA (Multivariate Analysis of Variance) revealed a significant multivariate main effect at 0.05 in gender, Wilks'  $\lambda = .76$ ,  $F(5, 743) = 46.73$ ,  $p < .001$ ; concluded that there were significant differences among the set of five personality traits between male and female participants. The result indicates that 24% of the variation in the set of big five personality inventories is accounted for by the gender of the participants. Since the multivariate F test was statistically significant. The post-hoc analysis was conducted using Bonferroni correction. The Bonferroni's correction alpha  $.05/5 = .01$  was used for follow-up analysis. The univariate F-test showed significance differences in Agreeableness, Conscientiousness, Neuroticism, and Openness personality traits between male and female participants,  $F(1, 747) = 50.50$ ,  $p < .001$ ;  $F(1, 747) = 11.64$ ,  $p < .001$ ;  $F(1, 747) = 73.43$ ,  $p < .001$ ; and  $F(1, 747) = 20.43$ ,  $p < .001$  respectively. While Extraversion subscale showed a non-significant result,  $F(1, 747) = 0.11$ ,  $p = 0.73$ .

Hence, there were significance differences in Agreeableness, Conscientiousness, Neuroticism, and Openness personality traits between male and female participants and no significant difference in the Extraversion personality trait between male and female.

Another one-way MANOVA (Multivariate Analysis of Variance) was used to see the significant difference in five traits of personality between rural and urban participants. A MANOVA result revealed a significant multivariate main effect at  $\alpha = 0.05$  in region, Wilks'  $\lambda = .80$ ,  $F(5, 743) = 36.12$ ,  $p < .001$ ; concluded that there were significant differences among the set of five personality traits between rural and urban participants.

The result indicates that 20% of the variation in the scores of five personality traits is accounted for by the region of the participants. Since the multivariate F test was statistically significant. The Bonferroni's correction  $\alpha .05/5 = .01$  was used to control Type I error rate. The univariate F-test showed significance differences in Agreeableness, Conscientiousness, Neuroticism, and Openness personality traits between urban and rural participants,  $F(1, 747) = 22.28, p < .001$ ;  $F(1, 747) = 12.92, p < .001$ ;  $F(1, 747) = 20.78, p < .001$ ; and  $F(1, 747) = 119.82, p < .001$  respectively. While Extraversion subscale also showed a non-significant result,  $F(1, 747) = 1.94, p = 0.16$  alike gender's result.

Hence, there was significance differences in Agreeableness, Conscientiousness, Neuroticism, and Openness personality traits between urban and rural participants but no significant difference in the Extraversion personality trait between rural and urban participants

- **Discussion**

The purpose of this study was to compare five personality traits between male and female student and between urban and rural students at secondary level in district Mianwali, Punjab, Pakistan. The Urdu translated version of BFI was used in this study. The psychometric properties of the BFI Urdu version had strong internal consistency and therefore, it was a valid and reliable instrument to measure the personality traits in a general Pakistani population. This study found that 24% of the variation in the set of big five personality inventory is accounted by gender and 20% of the variation in the set of big five personality inventory is accounted by region (urban and rural). Results indicated that female tends to have higher level of agreement in BFI in Agreeableness, Conscientiousness, Neuroticism, and Openness personality traits than male. It was also found that females have significantly higher agreeableness than males. High level of Agreeableness, Conscientiousness, Neuroticism, and Openness in female is consistent with the findings of many researchers (Goodwin & Gotlib, 2004; Terracciano & McCrae, 2001).

However, there was no difference in extraversion subscale. The current study revealed that rural area students scored higher on big five inventory for conscientiousness, neuroticism, and agreeableness, whereas urban area students scored higher on openness, extraversion. Exceptional findings are shown for conscientious personality trait, perhaps this is due to the fact that rural area students have minimum resources as compared to urban students, so these students have to struggle more for their better academic success, as a result they are more conscientious for their achievement as compared to their urban area fellows. Research findings in Extraversion and Conscientiousness subscale revealed some inconsistencies. Scores on Extraversion, in addition to Conscientiousness among girls in some studies were significantly higher (Goodwin, & Gotlib, 2004; Schmitt, Realo, Voracek, & Allik, 2008) whereas, other researches indicated significantly higher scores for males (See for review Shokri, Kadivar, & Daneshvarpoor, 2007). It is stated by some researchers (Costa, Terracciano, & McCrae, 2001) that gender differences on these traits might be inconsistent or negligible. According to Costa, Terracciano, and McCrae (2001) elaborated that male scored higher in some aspects of Openness along with Extraversion, on the other hand females scored higher in others. Furthermore, it seems that a little modification exists between males and females on these personality dimensions.

An interesting and unexpected result was found related to the Openness, agreeableness, and neuroticism personality traits that were found to exist higher in girls than their male fellows at secondary level, which is in contrast to the results reported by Goodwin and Gotlib, (2004) and Shokri, Kadivar, and Daneshvarpoor (2007). It is evident that in Pakistani context there exist different social norms for male and female. Female students are supposed to do domestic jobs while males are supposed to do outside jobs. Female are associated with particular personality traits like: openness in the form of creativity, agreeableness in the form supporting others, conscientiousness in the form of to be careful in several matters, and neuroticism as getting nervous in several matters. Therefore, females tend to possess these personality traits higher than male counterparts at secondary level.

This study has certain limitations. For example, this study was limited to one district of Punjab province, Pakistan. Samples from other districts are required in order to generalize the findings for larger population. Future research is required to address the psychometric properties and to examine the construct validity of the BFI. However, despite of all the limitations, this study has some rigorous implications. The present study is taken for finding the relationship of specific personality traits and school success of secondary school pupils. This research study revealed facts about how specific personality traits may be influenced by gender and region.

There are certain directions for future researchers. Like, potential researcher can use similar study in different context to validate the findings of this study. Moreover, future researcher can use rigorous validation process to validate the Urdu version of BFI inventory. Moreover, potential researcher can use qualitative research method to get in-depth information about how gender or region can influence various personality types.

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