

# Gender-Based Comparison of Students Personality Traits and Their Academic Achievement in Khyber Pakhtunkhwa, Pakistan

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## Abstract

Theoretical framework of this study based on Big Five Personality Trait Theory (Cattell's & Eysenck's 1973). Objectives of the study were: i) to compare different personality traits of male and female secondary school students. ii) to compare the academic achievement of male and female secondary school students. Descriptive survey design was used for this study. All the secondary school students of Khyber Pakhtunkhwa, Pakistan constituted the population of the study. Out of 25 districts 2 districts were randomly selected (Bannu & Lakki Marwat). Out of 12009 students who were studying in 119 boys and 73 girls secondary schools of these districts 800 (400 male & 400 female) students of 10<sup>th</sup> class were selected through multistage random sampling method using proportional allocation technique as a sample of the study. A self developed questionnaire and result cards of the students were used as research instruments. Personally collected data was entered in SPSS-21. Pearson Product Moment Correlation and Chi-square were applied as statistical tools to achieve the objectives of the study.

**Keywords:** Personality, Traits, Extroversion, Conscientiousness, Agreeableness, Neuroticism, Openness to Experience

## 1. Introduction

Set of characteristics possessed by a person that influences his or her behaviors is called personality. The word personality is from the Latin word persona means mask. The patterns of thoughts and feelings consistently exhibited by any individual over time, that strongly influence our self-perceptions, expectations, values and attitudes is called personality. Personality is not who we are but it is also how we are?

### Trait Theories:

Unlike psychoanalytic or humanistic theories the trait theories of personality is focused on differences between individuals. In 1936, psychologist Allport found that one dictionary alone contained more than 5,000 words describing different personality traits. Allport categorized these traits into three levels i) Cardinal Traits ii) Traits that dominate an individual's whole life and iii) Central Traits, these are the general characteristics of personality. These central traits are the major characteristics that you may use to describe another person. Secondary Traits are those traits which are sometimes related to attitudes or and appear only in certain situations.

### Big Five Theories of Personality

Raymond Cattell a trait theorist reduced the number of personality traits from 4,000 to 171, by combining common traits and eliminating uncommon traits. Hans Eysenck developed a model of three universal personality traits, i) Introversion/Extroversion, involves directing attention on inner experiences and focusing attention outward on other people. ii) Neuroticism/Emotional Stability, related to moodiness versus even-temperedness. iii) Psychoticism, related to those individuals who are suffering from mental illness. Those individuals who are high on this trait have difficulty dealing with reality. Galton (1884) and Baumgarten (1933) are the founder of Big Five, although is often associated with Allport and Odbert. Allport and Odbert (1936) reviewed an International Dictionary and they grouped these words into four columns. Cattell's and Eysenck's theories have been the subject of considerable research which has led some theorists to believe that Cattell focused on too many traits while Eysenck focused on too few traits, and a new trait theory often referred to as the "Big Five" theory emerged. This five-factor theory of personality represents five core traits, these are:

#### i. Extroversion

Costa and McCrae (1985) have defined this domain as representing the quantity and intensity of interpersonal interaction that the need for stimulation and the capacity for joy. This domain contrast sociable, person oriented and active individuals with those who are reserve and quiet. There are two basic qualities assessed on this domain, the interpersonal involvement and the energy. Extraverts are sociable but sociability is not one of the traits but in addition to liking people and preferring large group and gatherings extraverts are also assertive, talkative and active and they like stimulation and excitement and tend to be cheerful (Costa, McCrae & Holland 1984). It is easy to convey the characteristics of the extraverts and the introvert is less easy to portray. In other respects introversion should be seen as the absence of extroversion rather than what might be assumed to be its opposite. Thus introverts are reserved rather than unfriendly, paced rather than sluggish and independent rather than followers. Finally they are not giving to the exuberant high spirits of extraverts. Introverts are not unhappy

or pessimistic.

**ii. Conscientiousness**

Assesses the individual's degree of persistence, organization and motivation in directed behaviors and those individuals are dependable, personal control and the ability to delay gratification of needs. Having this trait the individual is purposeful, determined, strong willed and few become athletics or musicians. Individuals high in this trait is associated with occupational and academic achievement, while low in this trait lead the individual to annoying compulsive neatness and they are more lackadaisical in working toward their goals.

**iii. Agreeableness**

Examines the attitudes of an individual towards other people. These attitudes may be soft hearted, trusting, forgiving nature, cynical, vengeful, compassionate and ruthless (Piedmont, 1998). Agreeableness is primarily a dimension of interpersonal tendencies. Agreeable person is sympathetic, eager to help, fundamentally altruistic and behaves that others will be equally helpful in return. Agreeable people are more popular than antagonistic individuals, however fight readiness for own interest is advantageous and agreeableness is not a virtue on the battle field (McCare & Costa 1992). Low agreeableness is associated with Antisocial, Paranoid Personality Disorders and Narcissistic, whereas high agreeableness is associated with the Dependent Personality Disorder (McCare & Costa 1992).

**iv. Neuroticism**

Assesses affective adjustment vs emotional instability. Individuals with high score on this domain are prone to experiencing psychological distress, maladaptive and unrealistic ideas, while high scores on this domain do not indicate the presence of any clinical disorder and at risk of receiving a psychiatric diagnosis (Zonderman, Costa, Herbst and McCare, 1993). Individuals with low score in neuroticism are emotionally stable, usually calm, tempered and related and better able to face stressful situations without becoming upset or rattled (Costa and McCrae, 1992)

**v. Openness to experience**

The proactive seeking and appreciation of experience for its own sake. Those individuals are curious about both inner and outer worlds and their lives are experimentally richer and they are willing to entertain novel ideas and unconventional values. They experience both positive and negative emotions more keenly than do closed individuals (McCrae & Costa, 1992) Those who score low on Openness to experience tend to conventional in behavior and conservative in outlook, familiar to the novel and their emotional responses are somewhat muted (McCrae & Costa 1985). Closed people simply have a narrower scope and intensity of interest, they tend to be socially and politically conservative, closed people should not be viewed as authoritarians. Closeness does not imply hostile intolerance or authoritarian aggression (McCrae & Costa 1992). Block, (1983) found that females are more likely than males to have a high need for affiliation. Halpern (1992), & McCall, (1994) reported that females are more concerned about doing well in school. They work harder on assignments, earn higher grades and are more likely to graduate from high school. MaCall, (1994) found that boys are typically more under achieving students than girls. Durkin, (1995) said that females on the average have higher school achievement while males have higher long term aspirations for themselves. Such aspirations may be due to the fact that males interpret their successes and failures in ways that yield greater optimism about what they are ultimately capable of accomplishing. According to King, (1989) females are making more headway in this area, for example, she said that girls growing up now are more likely to have career plans than girls who grew up in the 1950s and 1960s. Linn & Hyde, (1991) noted that by the early 1990s differences between boys and girls on many cognitive abilities and achievement tests had all but disappeared. According to Becker, (1990) significant differences however remained in some specific areas of academic achievement such as writing skills. Differences in all areas except writing proficiency are relatively small. The big picture is one of significant or relatively small gender differences in most areas of academic achievement and somewhat large differences in specialized abilities or skills.

Halpern (1992), McCall (1994), Yu, Elder & Urban (1995), stated that girls are generally more concerned about doing well in school. They tend to work harder on school assignments, take fewer risks when doing their assignments, get higher grades and are more likely to graduate from high school. Both genders are more motivated in gender stereotypical areas. Boys exert more effort in such stereotypically "masculine" areas as mathematics, science and mechanical skills, girls work harder in such stereotypically "feminine" areas as reading, literature, art and music. According to Salovey and Mayer, (1990) the source of such difficulties may be the lack of Emotional intelligence. They defined emotional intelligence as a set of capabilities to monitor ones own and others emotions and feelings to discriminate among them and to use this information to guide ones actions and thinking. Although boys and girls have similar patterns and the differences in academic achievement have much decreased, however researches indicate that differences still can be seen in some personality traits and specific academic abilities. Durkin (1995), Law, Pellegrino & Hunt (1993) stated that boys and girls are similar in terms of general intellectual ability. Boys and girls perform equally well in mathematics, although small gender differences are found in specific aspects of math. In recent years, boys and girls are becoming

increasingly more similar in their academic performance.

Bornholt, Goodnow & Cooney, (1994) stated that boys are more likely to have self-confidence in their ability to solve their problems and to control the world, while girls are more likely to see themselves as competent in relationships. In general the boys can rate their own performance on tasks positively than girls do; for example during the elementary school years both genders perform equally well on mathematics and science achievement tests, yet by high school boys are more self confident about their ability to succeed in these subjects. Huston (1983) and Stipek, (1984) stated that boys and girls interpret their successes and failures differently, as boys tend to attribute their successes to an enduring ability and their failures to a lack of effort, while girls attribute their successes to effort and their failures to a lack of ability. Berndt (1992), McCallum & Bracken (1993), Sadker & Sadker (1994) argued that boys exhibit more physical aggression although girls can be just aggressive as boys in more subtle and less physical ways. Girls are more affiliative, they form closer and more intimate interpersonal relationships and they seem to be more sensitive to the subtle nonverbal messages that others give them.

## 2. Objectives of the Study

Following were the objectives of the study.

- i) To compare different personality traits of male and female secondary school students.
- ii) To compare the academic achievement of male and female secondary school students.
- iii) To give recommendations to improve the situation and further research.

## 3. Hypotheses of the Study

**H<sub>0</sub>1: There is no significant difference between male and female students different personality traits.**

### Sub Hypotheses

H<sub>0</sub>1a): There is no significant difference between extraversion personality trait of Male and Female students'.

H<sub>0</sub>1b): There is no significant difference between conscientiousness personality trait of Male and Female students'.

H<sub>0</sub>1c): There is no significant difference between agreeableness personality trait of Male and Female students'.

H<sub>0</sub>1d): There is no significant difference between neuroticism personality trait of Male and Female students'.

H<sub>0</sub>1e): There is no significant difference between openness to experience personality trait of Male and Female students'.

**H<sub>0</sub>2: There is no significant difference between male and female students academic achievement.**

## 3. Research Methodology

### 3.1 Design of the Study

Descriptive survey design was selected for this study in the light of the objectives of the study.

### 3.2 Population of the Study

All the 12009 students of 119 Boys and 73 Girls Secondary Schools constituted the population of the study.

### 3.3 Sample of the study

The total numbers of sampled respondents were 800 in which 400 were male students and 400 were female students respectively. Multistage random sampling method using proportional allocation technique as a sample of the study.

## 4. Research Instrument

A self-developed questionnaire was used as a research instrument.

## 5. Validity

The instrument was validated and made reliable with the help of experts' opinions and responses of 50 respondents. All the 25 items of 5 sections were cleared and easily understood to the respondents.

## 6. Data Collection

The researcher personally collected the data from the respondents. School wise lists were obtained from the Education Offices.

## 7. Delimitation of the Study

The study was delimited to only 10<sup>th</sup> class students' studying in secondary schools located in District Bannu and

District Lakki Marwat.

### 8. Data Analysis

The collected data was entered in SPSS version-21 and analyzed according to the objectives and hypothesis of the study using Pearson Product Moment Correlation and Chi-square, “ $\chi^2$ ”, “p” and “phi” values were obtained and the following cut points for “phi” were used for the effect size at .01 and .05 level of significance

#### “Phi” Value Effect Size

- < 0.1 = Weak Significance Difference
- < 0.3 = Modest Significance Difference
- < 0.5 = Moderate Significance Difference
- < 0.8 = Strong Significance Difference
- $\geq$  0.8 = Very Strong Significance Difference

Trait	Gender	Frequency	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	$\chi^2$	p	phi
Extroversion	M	Observed	248	340	192	680	540	26.46	.06	.18
		Expected	232.5	314.5	242	653.5	557.5			
	F	Observed	217	289	292	627	575			
		Expected	232.5	314.5	242	653.5	557.5			
Conscientiousness	M	Observed	115	248	230	684	723	67.10	.00	.30
		Expected	104.5	266	249.5	618.5	761.5			
	F	Observed	94	284	269	553	800			
		Expected	104.5	266	249.5	618.5	761.5			
Agreeableness	M	Observed	36	81	191	701	991	16.70	.27	.14
		Expected	32	79	160	735	994			
	F	Observed	28	77	129	769	997			
		Expected	32	79	160	735	994			
Neuroticism	M	Observed	421	436	283	489	371	30.03	.03	.19
		Expected	421.5	448	292.5	449	389			
	F	Observed	422	460	302	409	407			
		Expected	421.5	448	292.5	449	389			
Openness to experience	M	Observed	314	290	310	557	529	30.46	.04	.19
		Expected	350	324	261	505	560			
	F	Observed	386	358	212	453	591			
		Expected	350	324	261	505	560			

### Results

Table 1 predicts that male observed frequency for “SDA”, “DA” and “A” is greater than expected frequency while female observed frequency for “UD” and “SA” is greater than expected frequency with  $\chi^2=26.46$ ,  $p = .06$  and  $\phi=.18$ . Female are more strongly agreeing while male are strongly disagreeing with the trait and modest significant difference was found between male and female students’ personality trait as “Extroversion”. Male observed frequency for “SDA” and “A” is greater than expected frequency while female observed frequency for “DA”, “UD” and “SA” is greater than expected frequency with  $\chi^2=67.10$ ,  $p = .00$  and  $\phi=.30$ . Female are more strongly agreeing while male are agreeing with the trait and moderate significant difference was found between male and female students’ personality trait as “Conscientiousness”. Male observed frequency for “SDA”, “DA” and “UD” is greater than expected frequency while female observed frequency for “A” and “SA” is greater than expected frequency with  $\chi^2=16.70$ ,  $p = .27$  and  $\phi=.14$ . Female are more agreeing with the trait and modest significant difference was found between male and female students’ personality traits as “Agreeableness”. Male observed frequency for “A” is greater than expected frequency while female observed frequency for “SDA”, “DA”, “UD” and “SA” is greater than expected frequency with  $\chi^2=30.03$ ,  $p = .03$  and  $\phi=.19$ . Female are more agreeing with the trait and modest significant difference was found between male and female students’ personality traits as “Neuroticism”. Male observed frequency for “UD” and “A” is greater than expected frequency while female observed frequency for “SDA”, “DA” and “SA” is greater than expected frequency with  $\chi^2=30.46$ ,  $p = .04$  and  $\phi = .19$ . Female are more agreeing with the statement and modest significant difference was found between male and female students’ personality trait as “Openness to experience”.

So, overall the hypothesis “There is no significant difference between male and female students different personality traits” is accepted.

**Table 2: Comparison of Male and Female Secondary School Students' Academic Achievement**

Gander	Frequency	Grade A	Grade B	Grade C	Grade D	Grade E	$\chi^2$	p	phi
Male	Observed	51	93	134	93	29	3.16	.53	.06
	Expected	48	95	143	88	25			
Female	Observed	45	98	152	83	22			
	Expected	48	95	143	88	25			

Table 2 predict that male observed frequency for “Grade A”, “Grade D” and “Grade E” is greater than expected frequency while female observed frequency for “Grade B” and “Grade C” is greater than expected frequency with  $\chi^2=3.16$ ,  $p = .53$  and  $\phi = .06$ . Male are good in academic achievement and strong significant difference was found between male and female students' academic achievement.

So, the hypothesis “**There is no significant difference between male and female students academic achievement**” is rejected.

### Conclusions

1. Modest significant difference was found between male and female students' personality trait as “Extroversion”.  
So,  $H_01$  (a) is accepted.
2. Moderate significant difference was found between male and female students' personality trait as “Conscientiousness”.  
So,  $H_01$  (b) is rejected.
3. Modest significant difference was found between male and female students' personality traits as “Agreeableness”.  
So,  $H_01$  (c) is accepted.
4. Modest significant difference was found between male and female students' personality traits as “Neuroticism”.  
So,  $H_01$  (d) is accepted.
5. Modest significant difference was found between male and female students' personality trait as “Openness to experience”.  
So,  $H_01$  (e) is accepted.
6. Strong significant difference was found between male and female students' academic achievement.  
So,  $H_02$  is rejected.

### 9. Discussion

In the light of the results of the study, it was found that the observed frequencies for strongly disagree, disagree and agree were greater than the expected frequencies.

It was also demonstrated that female respondents were found strongly agree whereas male respondents strongly disagree with the trait and the modest significant difference was found between male and female students' personality trait “**Extroversion**”.

Likewise, the results of the study also concluded that female respondents were found more strongly disagree while male respondents only agree with the trait and the moderate significant difference was seen between male and female students' personality trait “**Consciousness**”.

In the same way, female students were found agree with the trait rather than male students and the modest significant difference was found between male and female students' personality trait “**Agreeableness**”.

Furthermore, female respondents were found agree as compared to females with the trait and the modest significant difference was found between male and female students' personality trait “**Neuroticism**”.

Female respondents were found agree with the trait as compared to male students and the modest significant difference was found between male and female students' personality trait “**Openness to Experience**” respectively.

Overall, the hypothesis “**There is no significant difference between male and female students' different personality traits**” is accepted.

### 10. Recommendations

Keeping in view the results of the present study on the Gender-based comparison of Students Personality Traits and their Academic Achievement the researcher suggests a few recommendations, which can be studied in the future researches:

1. It has been recommended for the teachers that they can try to remove the negative traits of their students as it has been seen that having positive traits students can produce better results.
2. The teachers may try to learn more about the personality traits of their students that they can categorized their students easily according to their personality traits.



3. Further research may be conducted on a larger number of participants in order to get better results.
4. Further researches may be conducted at elementary level that teachers may better know about the personality traits of their students'.
5. Further researches may be conducted at higher secondary and graduate level that the authority may be able to categorize students according to their personality traits and disciplines.
6. Other variables like Mother and Father educational qualification must included in the study that mother and father education has great importance in the children personality traits as well as in academic achievement.

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