

## Relationship between 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 find out different personality traits (as described in five factor theory) of secondary school students. ii) to identify the relationship between students different personality traits and their academic achievement iii) to give recommendations to improve the situation and for further research. Descriptive survey design was used for this study. All the secondary school students of Khyber Pakhtunkhwa, Pakistan constituted population of the study. Out of 25 districts 2 districts were randomly selected (Bannu & Lakki Marwat). Out of 12009 students who were studying in the secondary schools of these districts 800 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 was used as a research instrument. Personally collected data was entered in SPSS-16. Percentage, Mean, Standard Deviation and Pearson Product Moment Correlation were applied as statistical test to achieve the objectives of the study. Results of the study revealed that "conscientiousness" and "agreeableness" personality traits were found high while "extroversion", "neuroticism" and "openness to experience" personality traits were found low in secondary school students. Overall there was no significant relationship found between the students' personality traits and their academic achievement. The researcher recommended that students having conscientiousness personality trait can produce better result in Maths and Islamic Education subjects. So the students having conscientiousness personality trait should take Maths and Islamic Education as optional subjects to produce better result. Students having agreeableness personality trait can produce better result in English, Islamiyat Compulsory, Chemistry and Islamic Education subjects. So the students having agreeableness personality trait should take English, Islamiyat Compulsory, Chemistry and Islamic Education as optional subject to produce better results. Seminars/workshop may be arranged for students and teacher about personality traits and their impact on students' academic achievement.

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

### Introduction

Personality is something everybody knows that it exists, but nobody knows that what it is (Schneewind and Ruppert, 1998). It is certainly true that it is difficult to put human personality which Goethe (1970) called the greatest happiness for children of this earth into scientific terms.

Personality determines a set of important characteristics and that how people interact with others. Human personality is the combination of a number of traits.

Personality can be measured as a set of items usually questions about behaviour and feelings to which the subjects have to respond by agreeing or disagreeing with that question or statements. (Kline, 1993)

In 1930 personality psychology became an identifiable discipline in social sciences. During that time many separate lines of inquiry came together for the field generated by Allport 1937, Murry 1938 and Lewin 1935.

Mary Laurence F. Fortu (n.d) described the following components of personality i) habits ii) attitudes iii) interests iv) values v) principles and vi) mental capacity or intelligence.

Dr. Arthur Janov mentioned the following five components of personality.

1. Physical 2. Social 3. Intellectual 4. Value System and 5. Emotional

According to Cattell, each person contains all the 16 traits in a different ways, but they may be high or low in some traits.

According to Alison Doyle (n.d) that Aptitude tests measure your ability or of work that you can do. Career Tests provide an indication of which jobs match your personality and which careers you have for. Intelligence tests measure your intelligence or you may say that how smart you are? Intelligence tests are designed for the measurement of an individual's mental skills. Inventories and checklists can use to identify factors which you relate to. They measure your interests. Personality and other psychological tests measure your personal characteristics and your stability.

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/Extraversion, 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:

**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 extraversion 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.

**Conscientiousness:** Assesses the individuals degree of persistence, organization and motivation in directed behaviours 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.

**Agreeableness:** Examines the attitudes of an individual towards other people. These attitudes may be soft hearted, trusting, gorgiving 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).

**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)

**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 be 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).

Many Students are different in their personal values and they process information in different ways, their personality traits are different and also their understanding. Personality traits are necessary for people to be successful in their life. Personality has been recognized as a determining factor on how people learn (Lawrence, 1997; Myer et al, 1998).

Human personality and achievement are the most important issues of personality and educational psychology. Human beings are biological organisms living in a particular environment. It has long been believed that the psychological influence of environment on the development of personality is very important. Individuals come across various psychosocial problems, causing feelings of anxiety and frustration. These feelings may be due to their identity crises, vocational selection, peer pressure, relationships and expected or un-expected responsibilities. They all behave differently in different situations and try to resolve these problems on their own. When they fail to overcome their problems, they feel frustrated, which further affects their overall performance. In the present study the focal point is to provide scientific support to the notion that there are strong relationships of certain personality variables with students' academic achievement.

Woolfolk, (2000) reported that many people are academically talented but unsuccessful in life. They have problems in school, in relationships but they cannot improve the situations.

Freud, (1933) focused on childhood experiences. Analysis of his patients' histories convinced Freud that personality is formed during the first few years of life. He observed that his patients' symptoms seemed rooted in unresolved conflicts from early childhood. For Freud human personality, its emotions, strivings and ideas arise from a conflict between the Id and Superego. He mentioned that the Ego becomes the executive and helps the personality to gain mental balance. Freud theorized and gave importance to the tripartite structure of personality. He believed that all conflicts center on the interaction of id, ego and superego.

Goleman, (1995) identified five aspects of emotional intelligence. He reported that three of these aspects involve intrapersonal abilities and two are interpersonal.

Baron (1998), described that at the center of emotional intelligence is the intrapersonal ability to know one's own emotions. If one cannot recognize one's own feelings, he cannot make good choices about jobs, relationships, time management or even entertainment.

According to Shoda Mischel, and Peake (1990) the second aspect of emotional intelligence is managing one's own negative emotions such as depression and anger. They further said that it is useful to know that somebody is angry but if anger leads to rage and temper tantrums, then success in school and life is more

difficult. They also noted that third aspect is self-motivation, the ability to focus persist, energy, control impulses and delay immediate gratification in order to reach important goals. They said that self-motivation is critical in schools.

In developing countries like Pakistan where the literacy rate is very low and people come from different socio-economic backgrounds. It becomes imperative to study the factors that influence the performance of the individuals in their educational achievement. It is also important to know why some students get good grades while others cannot, while studying in the same environment. Therefore, the researchers was attracted to conduct a study on "Relationship between Students' Personality Traits and their Academic Achievement"

### **Objectives of the study**

Following were the objectives of the study:

- i) To find out different personality traits (as described in Five Factor Theory) of secondary school students.
- ii) To identify the relationship between students different personality traits and their academic achievement.
- iii) To give recommendations to improve the situation and for further research.

### **Hypotheses of the study**

- H<sub>o</sub>1: There is no significant relationship between Extroversion personality trait of the students and their academic achievement.
- H<sub>o</sub>2: There is no significant relationship between Conscientiousness personality trait of the students and their academic achievement.
- H<sub>o</sub>3: There is no significant relationship between Agreeableness personality trait of the students and their academic achievement.
- H<sub>o</sub>4: There is no significant relationship between Neuroticism personality trait of the students and their academic achievement.
- H<sub>o</sub>5: There is no significant relationship between Openness to experience personality trait of the students and their academic achievement.

### **Research Methodology**

Basically this was a correlational research to find out the relationship between students' personality traits and their academic achievement. Descriptive survey design was selected for this study in the light of the objectives of the study.

### **Population and Sample**

All the 12009 students' of 10<sup>th</sup> class studying in secondary schools of District Bannu and District Lakki Marwat (District EMIS, 2011) constituted the population of the study. Eight hundred students of 10<sup>th</sup> class were selected through multistage random sampling method using proportional allocation technique as a sample of the study

### **Instrumentation**

Keeping in view the local environment and theoretical framework of Five Factor Theory a self developed questionnaire with five point Likert scale (Strongly Disagree, Disagree, Undecided, Agree and Strongly Agree indicated as SDA, DA, UD, A and SA respectively) having 25 items (five items for each trait) was used to know about the personality traits of the participants of the study and to check the relationship with the academic achievement in the form of 9<sup>th</sup> class result of Board of Intermediate and Secondary Education. The instrument was validated with the help of experts opinions of five faculty members and later on pilot tested through the

responses of 50 students. All the statements of the questionnaire were clear and easily understood to the respondents. Reliability coefficient 0.84 was found for the instrument.

### Analysis and Interpretation of Data

All the types of data (questionnaire + 9<sup>th</sup> class result cards) were collected personally. The collected data was entered in SPSS-16 and analyzed according to the objectives of the study. Percentage, Mean, Standard Deviation, and Pearson Product Movement Correlation were applied as statistical tests.

**Table 1:** Personality traits of the students.

S.No	Statement	f / %	SDA	DA	UD	A	SA	M	S.D
01	Extroversion	f	93	125	96	261	223	3.49	1.16
		%	11.6	15.7	12.1	32.6	27.8		
02	Conscientiousness	f	41	106	99	247	304	3.82	1.11
		%	5.22	13.3	12.4	30.9	38.0		
03	Agreeableness	f	12	31	64	294	397	4.28	0.87
		%	1.5	3.9	8.0	36.7	49.6		
04	Neuroticism.	f	168	179	117	179	155	2.96	1.29
		%	21.0	22.4	14.6	22.4	19.4		
05	Openness to Experience	f	140	129	104	202	224	3.29	1.22
		%	17.5	16.2	13.0	25.2	28		

Table 1 shows that 11.6% respondents are "Strongly Disagree", 15.7% are "Disagree", 12.1% are "Undecided", 32.6% are "Agree" and 27.8% are "Strongly Agree" with the personality trait "Extroversion" while over all the respondents are "Undecided" with this personality trait with Mean=3.49 and S.D=1.16. 5.22% respondents are "Strongly Disagree", 13.3% are "Disagree", 12.4% are "Undecided", 30.9% are "Agree" and 38.0% are "Strongly Agree" with the personality trait as "Conscientiousness" while over all the respondents are "Agree" with this personality trait with Mean=3.82 and S.D=1.11. 1.5% respondents are "Strongly Disagree", 3.9% are "Disagree", 8.0% are "Undecided", 36.7% are "Agree" and 49.6% are "Strongly Agree" with the personality trait as "Agreeableness" while over all the respondents are "Agree" with this personality trait with Mean=4.28 and S.D=0.87. 21% respondents are "Strongly Disagree", 22% are "Disagree", 14.6% are "Undecided", 22.4% are "Agree" and 19.4% are "Strongly Agree" with the personality trait "Neuroticism" while over all the respondents are "Undecided" with this personality trait with Mean=2.96 and S.D=1.29. 17.5% respondents are "Strongly Disagree", 16.2% are "Disagree", 13.0% are "Undecided", 25.2% are "Agree" and 28% are "Strongly Agree" with the personality trait "Openness to experience" while over all the respondents are "Undecided" with this personality trait with Mean=3.29 and S.D=1.22.

**Table 2:** Relationship between students' different personality traits and their academic achievement.

S.No	Subjects	r/p	Personality Traits				
			Extroversion	Conscientiousness	Agreeableness	Neuroticism	Openness to Experience
01	English	r	.04	-.03	-.09	.01	.03
		p	.31	.39	.01*	.71	.41
02	Urdu	r	.01	.01	-.06	.02	-.03
		p	.72	.86	.08	.58	.46
03	Islamiyat	r	-.03	.02	-.07	.03	-.07
		p	.35	.60	.04 <sup>†</sup>	.45	.05*

04	Maths	r	.02	.08	.03	.02	-.03
		p	.55	.02*	.43	.50	.43
05	Physics	r	.03	.05	.00	-.02	.00
		p	.46	.24	.93	.63	.97
06	Chemistry	r	.06	-.06	-.10	.06	-.04
		p	.20	.13	.02*	.13	.32
07	Biology	r	.01	.02	-.06	-.01	-.04
		p	.87	.73	.13	.91	.31
08	Islamic Education	r	-.01	.13	.18	.05	.00
		p	.94	.04*	.00*	.41	.97
09	General Science	r	-.06	.06	.09	.12	.05
		p	.37	.33	.14	.05*	.39
10	Arts/Arabic	r	-.06	-.08	.07	-.02	-.11
		p	.32	.20	.29	.76	.09
11	Overall	r	.01	-.02	.03	-.05	.05
		p	.75	.50	.40	.25	.22

\*P is significant at 0.05 level of significance.

Table 2 predicts that there is no significant relationship between the students' personality trait "Extroversion" with English, Urdu, Islamiyat, Maths, Physics, Chemistry, Biology, Islamic Education, General Science and Art/Arabic ( $r=.03, .01, -.03, .02, .03, .05, .00, -.00, -.05, -.06$  and  $p=.30, .72, .35, .54, .45, .20, .86, .93, .36, .31$  values respectively). Overall there is no significant relationship between the students' personality trait "Extroversion" and their academic achievement at significance level .01 ( $r=.01, p=.75$ ), therefore  $H_{01}$ : "there is no significant relationship between Extroversion personality trait of the students and their academic achievement" is accepted. There is no significant relationship between the students' personality trait "Conscientiousness" with English, Urdu, Islamiyat, Physics, Chemistry, Biology, General Science and Art/Arabic ( $r=-.03, .00, .01, .05, -.06, .01, .06, -.08$  and  $p=.39, .85, .59, .23, .13, .72, .33, .20$  values respectively), while there is significant relationship between the students' personality trait "Conscientiousness" with Maths and Islamic Education ( $r=.08^*, .13^*$  and  $p=.02, .03$  values respectively). Overall there is no significant relationship between the students' personality trait "Conscientiousness" and their academic achievement at significance level .01 ( $r=-.02, p=.50$ ), therefore  $H_{02}$ : "there is no significant relationship between Conscientiousness personality trait of the students and their academic achievement" is accepted. There is no significant relationship between the students' personality trait "Agreeableness" with Urdu, Maths, Physics, Biology, General Science and Art/Arabic ( $r=-.06, .02, .00, -.06, .09, .06$  and  $p=.07, .42, .93, .13, .14, .28$  values respectively), while there is significant relationship between the students' personality trait "Agreeableness" with English, Islamiyat, Chemistry and Islamic Education ( $r=-.09^{**}, -.07^*, -.10^*, .18^{**}$  and  $p=.00, .03, .01, .00$  values respectively). Overall there is no significant relationship between the students' personality trait "Agreeableness" and their academic achievement at significance level .01 ( $r=.03, p=.40$ ), therefore  $H_{03}$ : "there is no significant relationship between Agreeableness personality trait of the students and their academic achievement" is accepted. There is no significant relationship between the students' personality trait "Neuroticism" with English, Urdu, Islamiyat, Maths, Physics, Chemistry, Biology, Islamic Education and Art/Arabic ( $r=.01, .02, .02, .02, -.02, .06, -.00, .05, -.01$  and  $p=.71, .57, .44, .49, .63, .13, .91, .40, .76$  values respectively), while there is significant relationship between the students' personality trait "Neuroticism" with General Science ( $r=.12^*$  and  $p=.05$  values respectively). Overall there is no significant relationship between the students' personality trait "Neuroticism" and their academic achievement at significance level .01 ( $r=-.05, p=.25$ ), therefore  $H_{04}$ : "there is no significant relationship between Neuroticism personality trait of the students and their academic achievement" is accepted. There is no significant relationship between the students' personality trait "Openness to experience" with English, Urdu, Maths, Physics, Chemistry, Biology, Islamic Education, General Science and Art/Arabic ( $r=.02, -.02, -.02, -.00, -.04, -.04, .00, .05, -.10$  and  $p=.40, .46, .42, .97, .31, .30, .96, .39, .09$  values respectively), while there is significant relationship between the students' personality trait "Openness to experience" with Islamiyat ( $r=-.07^*$  and  $p=.04$  values respectively). Overall there is no significant relationship between the students' personality trait "Openness to experience" and their academic achievement at

significance level .01 ( $r=.05$ ,  $p=.22$ ), therefore  $H_0$ : "there is no significant relationship between Openness to experience personality trait of the students and their academic achievement" is accepted.

### Conclusions

It is concluded that:

1. "Conscientiousness" and "agreeableness" personality traits were found high in secondary school students, while "extroversion", "neuroticism" and "openness to experience" personality traits were found low in secondary school students.
2. There was not a significant relationship found between the students' personality traits Extroversion, Conscientiousness, Agreeableness, Neuroticism, Openness to experience and their overall academic achievement.
3. All the subjects were found significantly uncorrelated to the students personality trait "Extroversion".
4. Maths and Islamic Education were found significantly correlated to the students personality trait "Conscientiousness".
5. All the subjects except Urdu, Maths, Physics, Biology, General Science and Art/Arabic were significantly correlated to the students' personality trait "Agreeableness".
6. Only General Science was found significantly correlated to the students' personality trait "Neuroticism".
7. Except Islamiyat all the subjects were found significantly correlated to the students' personality trait "Openness to experience".

### Recommendations

Keeping in view the results of the present study on the relationship between students' personality traits and their academic achievement it is suggested that:

1. Students having conscientiousness personality trait can produce better result in Maths and Islamic Education subjects. So the students having conscientiousness personality trait may take Maths and Islamic Education as optional subjects to produce better result.
2. Having agreeableness personality trait, teacher may guide the students towards English, Islamiyat, Chemistry and Islamic Education as optional subjects for better achievements.
3. Teachers may guide the students to take General Science (Arts) as optional subject at secondary level because the students with neuroticism personality trait were found better in General Science.
4. Seminars/workshop may be arranged for students and teacher about personality traits and their impact on students academic achievement.
5. Further researches may be conducted at higher level and on a larger number of participants so that it may be found out whether there exist a significant relationship between personality traits and students' academic achievements.

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