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RELATIONSHIP BETWEEN BIG FIVE PERSONALITY TRAITS AND DEPRESSION

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Abstract

Present study was administered to search out the relationship between big five personality traits and depression. Data was received from students at University of Peshawar through the administration of the instruments Big Five personality Inventory (BFI; John et al., 1991) to determine personality traits and Beck Depression Inventory – II (BDI – II; Beck et al., 1996) to determine depression respectively. Data was collected from a sample of 400 students based on equal representation of males and females (male, n = 200, female, n = 200). The results revealed that neuroticism and conscientiousness (sub dimensions of big five personality inventory) were significant predictors of depression among university students meanwhile extraversion and openness to experience (sub-dimensions of big five personality inventory) were non predictors of depression among them. It is imperative to understand the connection that exists between personality traits and depression provided that the personality variables in individuals can lead to determining the incidence of depressive symptoms in them. If such personality traits are identified, they can be cues towards predicting and treating depression among masses in addition to designing therapeutic interventions to deal with its occurrence.

Key Words: Depression, Extraversion, Neuroticism, Conscientiousness, Openness to experience.

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Introduction

Depression is a frequently seen mental health or psychological wellness issue which is regarded as the 3rd significant causative factor of disability. It is reportedly estimated that depression affects 120 million individuals on a global level and WHO (World Health Organization) anticipates it to be the first and foremost factor responsible for causing disability among the masses by the year 2030 (WHO, 2012).

On comparative basis, the rate of depression is seen to be much higher in adults than that of children. Among adults university students are more prone to developing depression. Since starting university is a transitioning period from adolescence to adulthood for these students, the thought of entering practical lives makes them infatuated with scoring high and achieving their goals at no matter what cost to secure for them a prospective future. At this stage, majority of these students leave the comfort of their houses for the first time to fulfil social and academic demands, sometimes coming across various fiscal ordeals. This load of stipulations is what may be considered as factors attributable for causing depression. (Qaisy, 2002).

The term depression alludes to an illness that can affect many individuals, yet it is not comprehended by many. It is an illness that slowly eats away at the sufferer until they realizes that it has completely impeded their functioning at life. The realization that an individual can no longer assist him or herself can be pretty devastating, but the nature and form of the symptoms still vary from individual to individual. It is reported that in a regular occurring populace, one out of every five individuals are prone to suffering from depression (Ainsworth, 2000).

Individuals experience various circumstances throughout everyday life, in reaction to which they provide an array of both negative and positive emotions. Some may deal with their issues effectively, yet others may find it challenging to tackle them. As a result, they form negative feelings of sadness, frustration, and depression (Bhowmik et.al, 2012). Depression is not only just

a mental disorder, but it also very well may be regarded as a complete body illness. The reason for this may be the massive changes it causes in the body; muscle fatigue, sleep disorders, loss of appetite, restlessness, and weight loss, ensuing in low energy to carry out daily life functions of a normal routine (Ainsworth. 2000).

The DSM – V criteria for major depressive disorder incorporates the following symptoms (or at least five) to be observed for a duration of at least two weeks in an individual; 1) sad mood 2) low level of interest or pleasure in everyday activities 3) change in appetite 4) loss of energy or fatigue 5) reduced physical activity 6) 7) excessive or inappropriate guilt feelings 8) change in pattern of sleep (either insomnia or hypersomnia) 9) psychomotor agitation and 10) suicidal ideation (APA, 2013).

The idea that personality variables could be related to causing various mental disorders goes all the way back to Hippocrates and Galen (1952) who, through their work, contended that there are various “humors” that are accountable for explicit personality types and mental disorders i.e. psychopathology.

Basically, the word personality finds its roots in the Greek word “persona” meaning mask. The concept of personality has been defined in numerous ways since it was identified. Some have tried to label it as a stimulus, others think of it as a response and yet some establish it to be an intervening variable (Allport, 1937). The most commonly accepted definition of personality comes from Allport who is reported to have collected more than fifty definitions of the concept. According to Allport (1961), a psychosocial system dynamically organized in an individual, on the basis of which his unique adjustment patterns in his environment can be identified is known as personality. Analyzing this definition, it regards personality to be a dynamic organization of systems which connotes that an individual is in an ever-

changing and constantly developing state of growth. Every experience that the individual comes across actually helps in fortifying various aspects of his personality. The psychosocial nature of personality i.e. the working of body and mind in unison is what forms the human personality. The combination of convictions, emotions, traits, qualities, beliefs and sentiments is what makes individuals different and unique in their own way (Carducci, 2009).

There is an abundant amount of theories published in an effort to explain the concept of personality. The most widely recognized is the Big Five Personality Theory which posits that personality has five expansive and diverse dimensions which are as follows;

- 1) Extraversion: dimension of personality incorporating traits and features of enthusiasm, energy, gregariousness, assertiveness, and an outgoing attitude. All the positive experiences and feelings are consisted in this trait of personality (Clark & Watson, 1991).
- 2) Agreeableness: This trait implies that an individual with agreeableness dimension of personality will have the characteristics of altruism, modesty, trust worthiness and sympathy (Coetzer & Rothmann, 2003).
- 3) Conscientiousness: Conscientious individuals will be dutiful, achievement-oriented, competent, organized, and deliberative and determined as per Barrick and Mount (1993).
- 4) Neuroticism: Hough et.al. (1990) are of the view that individuals with this aspect of personality will be impulsive, aggressive, guilty, anxious, depressed, moody and will have a severe lack of self-confidence. Neuroticism is considered to be a rather adverse dimension of personality among the five.
- 5) Openness to Experience: The traits of being curious, unconventional, creative, imaginative, excited, having an eye for aesthetic and having wide

interests are embodied in this dimension of the Five Big Personality Theory (Coetzer & Rothmann, 2003).

In another study to inspect the relations between the five factors of personality and depression (major), Bagby et al. (1995) set out to study 57 unipolar and non-psychotic depressed patients from where he found that the personality dimension of neuroticism is positively related to depression whereas that of extraversion is negatively related to it.

In a study by Janowsky (2001) on depressed patients, it was found that 74 % displayed symptoms of introversion i.e. low extraversion – a dimension of personality thus, supporting the argument that depression and personality traits are correlated.

Moreover, the exact same relations between neuroticism, extraversion and depressive illness were sought by Jylha et al. (2009) in a research study done on 193 patients suffering from major depression disorder. The data obtained from the index interviews administered on them was compared to that of 388 individuals from general population, the results of which revealed that the low scores on neuroticism and high scores on extraversion dimension of personality came from patients with comparatively lower level of depression whereas the contrary was seen for patients with higher levels of depression. These findings proceeded to confirm that high neuroticism and low extraversion are in fact, related to depression; the relations being positive for the prior dimension of personality and negative for the latter.

A research conducted by Kendler and Myers (2010) on a sample size of 44112 participants, 542 of them being same sex twin pairs, it was unequivocally established by the use of Big Five Personality Inventory and Structural Modeling that the conscientious dimension of personality is negatively related with the risk of Major Depression (MD) being developed. Literature review further asserts that the development and incidence of depressive illness can be attributed to

distinctive traits of personality (Klein et al., 2011). Jourdy, R & Petot, J. (2017) researched on the relationship between personality traits and depressive illness considering the Big Five personality model. According to the results, depressive illness was positively related with neuroticism trait and negatively related to traits like extraversion and conscientiousness. Another study was conducted by Zhou Young et al. (2021) in which loneliness and depression were analyzed with Big Five Personality model. A total of 1179 students from college were taken as a sample. The result showed slightly positive relationship of extraversion with depression and loneliness where as a complete positive relationship of neuroticism with the loneliness and depression.

RATIONALE

The rate of depression is high in adults than in children. Students are at higher risk of depression especially university students. Depression is considered as one of the most protruding problem among university students because this time is considered as transition period. Students are more concerned with grades, bright future. They want to achieve certain goal. Some students leave their homes for the first time and they have to meet social and academic demands. Some deal with financial issues for the first time. All these conditions cause stress and can be considered as the risk factor for development of depression (Qaisy, 2001).

It is very important to understand the relationship between personality traits and depression because personality variables help to predict the occurrence of symptoms of depression. It also plays significant role in diagnosis, and treatment of depressive symptoms. The early assessment of personality status in treatment of depression can help in prediction of outcome (Howes, Tyrer, & Johnson, 2005). Studying depression from the perspective of personality will be helpful in designing new psychotherapeutic approaches based on targeting personality traits responsible for occurrence of depression.

It would also be helpful in tailoring therapeutic outcome (Roth & Fonage, 1996).

More research is needed to understand the factors responsible for development and severity of depression among university students to get better understanding and treatment of depression. Therefore the current research aims to investigate the relationship between big 5 personality traits including extraversion, neuroticism, agreeableness, conscientiousness and openness to experience and depression among the students of university of Peshawar.

Objectives of the Study

1. To find out the relationship between Personality traits and depression.
2. To explore the relationship between neuroticism conscientiousness and depression.
3. To investigate the correlation between extraversion, openness and depression.
4. To find out the correlation between neuroticism and depression.

Hypotheses:

H1: Students who score high on neuroticism sub scale of Big 5 personality traits will score high on Beck Depression Inventory.

H2: Students who score high on Extraversion subscale of Big 5 personality traits will score low on Beck Depression Inventory.

H3: Students who score high on Conscientiousness sub scale of Big 5 personality traits will score high on Beck Depression Inventory.

H4: Students who score high on Openness to experience sub scale of Big 5 personality traits will score high on Beck Depression Inventory.

Method

The sample size for the present study was 400 university students ($N=400$) of BS degree program from various departments of Statistics, Computer Science, Political Science, Economics, Physics and Psychology in University of Peshawar. The sample for the present study ranged in age from 20-25 years. Convenient sampling technique was used to collect the data.

Instruments

Big Five Inventory (BFI)

Developed in 1991, the Big Five Personality Inventory (BFI; John, Doanhue & Kenlte, 1991) is a 44 item self-report scale based on 5- Likert response pattern – with 1 being “disagree strongly” and 5 being “agree strongly.” The BFI (John et al., 1991) is subdivided into 5 scales; each pertaining to one of the five dimensions of personality i.e. extraversion, agreeableness, conscientiousness, neuroticism and openness to experience. The alpha coefficient reliability for the BFI (John et al., 1991) falls within the range of .60 to .90, the average reliability being established at .80. Sixteen items are reverse coded in this scale. The scoring details of each subscale of BFI is as follows; (“R” denotes reverse-scored items):

Extraversion: 1, 6R, 11, 16, 21R, 26, 31R, 36.

Agreeableness: 2R, 7, 12R, 17, 22, 27R, 32, 37R, 42

Conscientiousness: 3, 8R, 13, 18R, 23R, 28, 33, 38, 43R

Neuroticism: 4, 9R, 14, 19, 24R, 29, 34R, 39

Openness: 5, 10, 15, 20, 25, 30, 35R, 40, 41R, 44

Beck Depression Inventory (BDI II)

To measure the strength and severity of symptoms of depression among individuals, a 21 item, self-report BDI- II (Beck Depression Inventory II, Beck et al., 1996) was used in the current study. According to the author of BDI II It has an alpha coefficient reliability of .92 signifying that it is a highly reliable instrument. The scale has a 4- Likert response pattern to items, the total of which is obtained by summation. A score within the range of 0-13

implies minimum level of depression among individuals, between 14-19 implies mild, between 20-28 indicates moderate whereas a total score within the range of 29-63 indicates severe level of depression among individuals.

Procedure

In order to test the hypotheses of the current study, a sample of 400 university students (N=400) from various departments of Statistics, Computer Science, Political Science, Economics, Physics and Psychology was selected from the University of Peshawar. Permission was obtained from the heads of the respective departments prior to collection of data. Upon approaching students, they were briefed about the nature and purpose of the study. Informed consent was obtained, and the scales (BFI and BDI-II) were administered to them one by one.

Each participant took roughly 30 minutes to record their responses on both the scales. After data was obtained, the participants were thanked for their time and cooperation.

Results

The study was administered to examine the relation between personality dimensions and depressive illness. Analysis of data was done by using SPSS – 16. The detailed results of correlations established between study variables are shown in Tables 1 to 4.

Table 1

Correlation between Neuroticism and Depression (N=400)

	BDI total	Neuroticism
BDI total	-	.113*
Neuroticism	.113*	-

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations between neuroticism dimension of personality and depression is depicted in Table 1. It can be seen that there is a significant positive relationship between the two, meaning that the higher the levels of neuroticism, the higher will be the levels of depression among students.

Table 2

Correlation between Extraversion and Depression (N=400)

	Extraversion	BDI total
Extraversion	-	-.181**
BDI total	-.181**	-

It is evident from the results of Table 2 that the extraversion dimension of personality significantly negatively correlates with that of depression, implying that higher levels of extraversion among students will mean lesser levels of depression among them.

Table: 3

Correlation between Conscientiousness and Depression (N=400)

	BDI total	Conscientiousness
BDI total	-	-.145**
Conscientiousness	-.145**	-

Table 3 shows the results of Pearson Product Moment correlation for depression and conscientious dimension of personality for a sample of 400 university students (N=400), which, like the findings of table 2, indicates that they are significantly negatively correlated. This implies that the higher the level of conscientiousness among students, the lesser will be the level of depression among them.

Table 4*Correlation between Openness and Depression (N=400)*

	BDI total	Openness
BDI total	-	-.145**
Openness	-.145**	-

** . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Product Moment Correlational analysis depicted in Table 4 entails that the study variables are significantly negatively correlated i.e. the openness to experience dimension of personality negatively relates with depression, implying that higher levels of openness will lead to lower levels of depression and vice versa.

Discussion

The aim of the current study was to investigate the relationships between the Big Five Personality Traits and depression among university students for which purpose it was hypothesized that students who score high on neuroticism, conscientiousness, and openness to experience dimension of personality will also score high on depression inventory whereas those who score high on the extraversion dimension of personality will score low on the depression inventory.

To test the hypotheses of the study, instruments were administered on students. The significant positive correlations between neuroticism and depression proved right the first hypothesis (H1) of the study that those who score high on neuroticism dimension of personality will score high on Beck Depression Inventory. These findings are in line with the findings of Zinbarg et al (2016) who, in their study, found similar results. The results of this research established that neuroticism is strongly linked with depression among university students.

Another hypothesis of the current study was that those who score high on the extraversion dimension of personality will score low on depression inventory (H2) which was proven correct by the findings presented in Table 2 above. The significant negative correlations between extraversion and depression in the current study makes it associated with the findings of Spinhoven et al. (2011) who also established the same results among formerly depressed patients. Their findings proved that those participants who were diagnosed with depressive illness scored low on extraversion and high on the neuroticism dimension of personality.

The third hypothesis of the study stating that those students who score high on conscientiousness dimension will score high on the depression scale (H3) was proved wrong by the findings of the current study. The significant negative correlation between the two variables as shown in Table 3 depict that the findings contradict the hypothesis. These findings of the study are well supported by the literature via the study of Takahashi et al. (2013) who reported similar findings in their study on fifty six healthy individuals, twenty seven depressed and thirty five treatment resistant depressed patients. The reported findings of study by Takahashi et al. (2013) also established that those with treatment resistant depression scored low on the extraversion, conscientiousness and openness to experience dimension of personality meanwhile scoring high on the neuroticism dimension of personality.

The statement that those who score high on the openness to experience dimension of personality in the BFI (Big Five Personality Inventory; John et al., 1991) will also score high on the Beck Depression Inventory (BDI II; Beck et al., 1996) constituted the fourth hypothesis of the study (H4). This hypothesis was also rejected because the findings in Table 4 suggest that there is a significant negative relationship between the two variables. It implies that those students who are open to new experiences will be lesser prone to developing or experiencing depression. These findings are backed up by the

literature stating that those individuals who are more open will be less depressed because they express their emotions in a right way (Tice et al., 2001). Research also indicates that those individuals scoring high on the openness dimension of personality are more apt to adjust in new environments, listen and accept attitudes, ideas and opinions different than their own. These qualities lower their threshold to develop depression as compared to those who are inflexible in their thinking and rely majorly on traditional modes of behavior (Digman, 1990).

Conclusion

Present study was carried out to find the relationship between Big Five personality traits and depression. The study centers around the role of big 5 personalities (neuroticism, extraversion, agreeableness, conscientiousness and openness to experience) and how these personality factor influence the risk factor of depression in university students. The finding of the present study suggests that neuroticism is positively correlated with depression. The traits of Extraversion, conscientiousness, and openness to experience showed a significant negative correlation with depression. Low score on these dimensions suggest that such individuals are more assertive, energetic, outgoing, achievement oriented and are unconventional.

The higher score of female students on neuroticism and agreeable subscale of big five inventory, suggests that females are more anxious, stressed, and depressed than male students. Male students are found to be less cooperative, less altruistic and are less complying as compared to female students.

Limitations & Suggestions

The scope of the study was limited and it cover only non-clinical sample. People who were already suffering from depression were not included

in the sample. It is suggested in future one must consider clinical sample as well.

The present research study is conducted in one university of Khyber Pakhtunkhwa i-e Peshawar University. It is suggested that in future research one must conduct this research in other universities as well.

The present study was limited to the students of BS (Hons), in future research; students of higher studies must be approached.

Only one variable that is depression was correlated with personality traits. Other variables must also be linked with personality traits like anxiety and suicide for further research.

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