EXPLORING CREATIVITY THROUGH BIG FIVE MODEL IN THE PRIVATE SECTOR UNIVERSITIES OF KHYBER PAKHTUNKHWA, PAKISTAN

Khalil-ur-Rahman, PhD Scholar, University of Malakand, Pakistan**.**
Email: khalilhr06@gmail.com
Altaf Hussain, Department of Commerce and Management Sciences, UoM, Pakistan. Email: altafhussain@uom.edu.pk
Muhammad Hanif Khan, Department of Tourism and Management, UoM, Pakistan. Email: hanifyousafzai@uom.edu.pk

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Abstract. *In today environment personality traits perform significant and vital role in the organization success. For all organization one of the most primary important challenges is how to enhance and increase the level of creativity in their employees through working on different traits of personality. Empirically, this research tests the Big Five Model on creativity among teaching staff of the private sector Universities of Khyber Pakhtunkhwa, Pakistan. This research employs quantitative method with positivist approach to assess the hypothesized connections on the foundation of existing theories and literature. The data was taken from 338 participants performing duty in several private higher education institutions of Khyber Pakhtunkhwa. For sample size determination used Krejcie & Morgan (1970) formula and stratified sampling techniques of data collection. Descriptive analysis, reliability analysis, correlation analysis and multiple regression analysis were performed to ensure that the results are consistent and encounter the systematic consistency. The outcomes of study revealed that extraversion, agreeableness, conscientiousness and openness to experience have significantly positive connection with creativity. On the other hand, the results for neuroticism revealed that neuroticism has significantly negative effect on creativity. Hence, it implies that higher education institutions should develop appropriate strategies for the retention of learning, training and research as well as to improve their creative employees and students.*

Keywords: Extraversion, agreeableness, conscientiousness, neuroticism, openness to experience, creativity, private universities

Introduction

In today fastly changing world of extremely complex socioeconomic factors, creativity performs important role for all institutions to advance their efficiency (Huang, Krasikova, & Liu, 2016; Hughes, Lee, Tian, Newman, & Legood, 2018). Additionally, the word "creativity" performs essential role in several settings like, teaching, painting, education and business and it has established excessive consideration in the area of theoretical and academic literature (Runco, 2014). Moreover, individual personality aspects are the chief sources of creativity, while, the creativity of individual is regularly produced in a work setting that arouses novelty and applied thoughts (Shalley & Gilson, 2004). The word personality explains the ability of an individual to act, think and texture in a convinced reliable method (Shiner & Caspi, 2003). While explaining personality, Lefton and Brannon (2007) postulated that personality consisted of individual design of behavior which contains on regular features and behaviors. Furthermore, the intrinsic and extrinsic characteristics set, which conceivably stimulus the actions of an individual, lead to the word personality (Abdullah et al., 2016). The word personality explained by different researchers in different ways (Abdullah et al., 2016; Baluku et al., 2016). In search of some common characteristics in human personality, there appears an agreement has been reached on the big five model of personality then recognized by the name of FFM (Abdullah et al., 2016). This model of FFM involves five universal personalities recognized as agreeableness, extraversion, neuroticism conscientiousness, and openness to experience (Abdullah et al., 2016).

Digman (1990) proposes the personality five-factor model in 1990s. Later on, Goldberg extended the personality model to high level of organization in 1993. He also demonstrated that the personality five factor model consists of well-known comprehensive trait dimension i.e., agreeableness, extraversion, conscientiousness, neuroticism and openness to experience which often refers to as big five. Extraversion, trait of personality comprises qualities such as action, warmness, enthusiasm, sociability, positive emotions and confidence (Matthews et al., 2009). Individuals having trait of Agreeable are being described as that such individuals demonstrate faith in others individuals and incline to be friendly with others people (Betts, 2012). Similarly, the trait of Conscientiousness is a trait of personality that totals for the geographies like, ability, instruction, dutifulness, attainment determined, self-control and pensiveness (Matthews et. al., 2009). While, the trait of neuroticism is a personality trait that is responsible for the characteristics like, unhappiness, susceptibility, nervousness, self-consciousness, irritated aggression and precipitateness (Matthews et. al., 2009). Lastly, the openness to experience trait of personality is a trait personality containing qualities of thoughts, imaginary, snooping, moods, standards, movements and esthetics (Matthews et al., 2009). Finally, the term creativity describes the philosophies which are original and appreciated connected to the product or procedures (Anderson, Potocnik, & Zhou, 2014).

From literature review, we recognize that here are numbers of research that account the noteworthy influence of Big Five Model on creativity in diverse setting (e.g., Krumm et al., 2018; Zhang et al., 2019; Puryear et al., 2019; Wengang et al., 2020). Very few studies in setting of Pakistan have examined the connection of Big Five Model and creativity generally in Pakistan particularly in Khyber Pakhtunkhwa education sector for instance, Khan et al. (2015), tested the association of Big Five Model in the manufacturing sector. The results of the study confirm the connection between Big Five Model and creativity. Zhang et al., (2019) tested this model in Spanish manufacturing setting Additionally, Jirasek and Sudzina (2020), and Wengang et al., (2020) confirm the connection between creativity and Big Five Model in the developed countries. Similarly, to the best of authors knowledge particularly in the higher private education sector of Khyber Pakhtunkhwa Pakistan the connection between Big Five Model and creativity has been tested rarely. So, current study aims to identify the influence of Big Five Model with creativity in the higher private education sector of Pakistan generally and particularly Khyber Pakhtunkhwa.

Review of Literature

Big Five Model

Big five model of personality is stable model of personality which has been tested and validated in different cultures, age groups and almost every country including Pakistan (Raja & Johns, 2010). Similarly, many scholars have consensus on the perception that the work of each big five trait depend on numerous features (Batey, Furnham, & Safiullina, 2010; Penny, David, & Witt, 2011). The primary record of personality behaviors NEO-PI-R, was developed by Costa and McCrae (2002), to determine the Big five model. Furthermore, in 1990s, study of Goldberg's lexical ended with a greater influence to FFM Model through emerging five separate features of personality. Additionally, the Costa and McCrae (2002), lastly but not the least reshaped the three factors model of personality.

Matthews et al., (2009) designated that the extraversion trait of personality comprises qualities such as action, balminess, enthusiasm, sociability, positive feelings and confidence. Additionally, the individuals of agreeableness trait enable a person to display faith in others people and also have the ability to be friendly with others individuals (Betts, 2012). The trait of conscientiousness is a personality trait that is responsible for the structures like, ability, instruction, dutifulness, attainment determined, self-control and reflection (Matthews et. al., 2009); the neuroticism personality trait is accountable for unhappiness, weakness, nervousness, self-consciousness, annoyed aggression and suddenness (Matthews et. al., 2009). Lastly, the openness to experience is a trait of personality containing the qualities of thoughts, imaginary, interest, moods, standards, movements and esthetics (Matthews et al., 2009).

Creativity

According to study of Robbins et al., (2000) hypothesized that the word "creativity" is the central variable of human related study and organization behavior. Additionally, another study postulated that for organization behavior creativity is a central variable while, connected to innovation and solutions of several problems (Pulakos et al., 2000). Additionally, creativity term creates from Latin term and its means is to form, to beget and to generate (Slahova et al., 2007). Moreover, creativity has many clarifications in the past literature however the utmost documented description is to designate the philosophies which are original and respected connected to the invention or procedures (Anderson, Potocnik, & Zhou, 2014). Additionally, these researchers stated that employees having creative capability are intelligent to deliver fresh and original thoughts in their effort and appearance for exclusive customs of performing profession and provide assistance to staffs to speech administrative matters in well recognized way.

Big Five Model and Creativity

According to Khan (2015), did research work regarding big five traits and creativity in developing country of the world while, collected data from several manufacturing organization and his results postulated that the overall trait of personality significantly and positively influence creativity. Krumm et al., (2018) conducted study in Spanish regarding personality traits and creativity through collecting data from 359 respondents and suggested that traits of personality had a significant connection with creativity. Scholar also stated that Extraversion, Agreeableness, Neuroticism, Conscientiousness, and Openness to experience are traits of personality which are connected positively to the creativity while, Neuroticism were connected negatively. Puryear et al., (2019) studied the association of personality traits with creativity and noted that creativity was a complex construct and that could be measured in multiple ways while, personality traits were related with it and viewed that the openness trait of personality was most constantly and strappingly correlated with creativity while, other the other factors of personality had small effect on creativity. Moreover, Researchers stated that from Big Five Model openness to experience is measured the record remarkable aspect for forecasting the influence of creativity (Zhang et al., 2019). However, another study postulated that openness individuals are more creative and are able to accomplish organizational goal (Zhang et al., 2020).

Jirasek and Sudzina (2020), conducted study in Denmark regarding Big Five Model and creativity using survey-based sample of students for data collection. Their results originate that openness to experience is completely interrelated to creativity although, extraversion is weakly connected to creativity and conscientiousness is negatively linked to creativity. Additionally, Wengang et al., (2020) postulated that openness to experience is linked positively to creativity. Moreover, additional researchers stated that neuroticism was a dimension of Big

Five model which affected positively on creativity (Xin et al., 2017). Additionally, other researchers also stated that agreeableness trait of personality positively influence creativity (Kao & Chiuo, 2019). Furthermore, another study reveals that traits of personality positively influence creativity (Dimitriou & Galangnakis, 2022). Finally, the finding regarding personality traits were inconsistent. Approximately several research originate that people with the traits of personality validate high creativity while, other originate the conflicting and some of study results postulated no correlation among the traits of personality and creativity (Guo, Su & Zhang, 2017). Hence, discussing above researcher developed below hypothesized.

Hypothesis 1: Extraversion trait has positive effects on creativity.

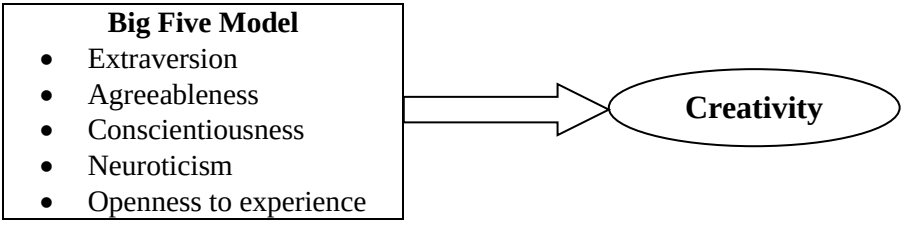
Hypothesis 2: Agreeableness trait has positive effects on creativity.

Hypothesis 3: Conscientiousness trait has positive effects on creativity.

Hypothesis 4: Neuroticism trait has positive effects on creativity.

Hypothesis 5: Openness to experience trait has positive effects on creativity.

Conceptual Model



Methodology

Saunders et al., (2020) stated that for each research sample is very much crucial, important and contended that the enormous sample provide assistance to the researchers to provide better results to their research. They also stated that on the other hand huge sample require more time and funding. Additionally, study of Haier et al. (2014) established that in any research work 100 observations to be there in order to provide significant and better results. Moreover, current learning was passed out in the higher private sector university of KPK, Pakistan making the respondents for this study. The researcher used positivism philosophy and deductive approach for the collection of data. Sample size of 338 employees were selected using stratified random sampling techniques and Krejcie Morgan formula (1970). The data was collected from faculty member i.e., lecturer, assistant professor, associate professor and professor. Lastly, the selected data were further

analyzed via, SPSS and descriptive analysis, reliability analysis, correlation analysis and regression analysis were performed.

Results and Interpretation

Frequency Distribution of Respondents

Table 1 provides the participants' information regarding demographics. According to the table, there are 278 respondents of gender having percentage of (82.24% of the total) were men. Women's participation rate was 17.76 percent (60 out of 338). This reflects the patriarchal ethos of Pakistani society, where women have a dismal employment rate. According to the Federal Bureau of Statistics, women in Pakistan contribute significantly less to the economy than men (FBS, 2005-2006). Given these considerations, it is reasonable to assume that the current research sample is reliable and will aid in generalizing the study's findings. Similarly, the second part of the table displays age of the participants. There were 60 %, or 17.8% of all respondents, were under the age of 30, followed by 206 respondents, or 60.9% of all respondents, between the ages of 30 and 40, 38 respondents, or 14.2% of all respondents, between the ages of 41 and 50, and 24 respondents, or 7.1% of all respondents, over 50. The sample includes a younger group of employees, which is consistent with Pakistan's demographic distribution, which consists of many young people. This is because our study focused on knowledge workers who require a high level of education. Additionally, the third part of the table defines the educational level of the participants. According to Table 1, 16% of respondents have Master or BS HONS, 32.2% have a MS or M Phill, and 45.3% have PhD degree while, 6.5% have post Doc level of education Because academic employees are the unit of analysis in this study, this distribution makes sense. Moreover, the fourth part of the table explains the designation of the respondents. According to the table below, there are 166 faculties are lecturers having percentage of 49.1, 118 faculties are assistant professors having percentage of 34.9 while, 37 are associate professors with the percentage of 10.9 and the remaining 17 are professors having percentage of 5. It shows that majority of the respondents are lecturers. Finally, the last part of the table describes the respondent’s professional experience. Table 1, includes 64 responses of 18.9% from people with less than five years of experience and 127 responses of 37.6% from people with between five and ten years of experience. There were 105 responses of 31.1% from people with 11-15 years of work experience and 42 responses (12.4%) from people with more than 15 years of job or professional experience. Given that the vast majority of respondents were aged 5 to 10, it is reasonable to assume that they have less than five years of professional experience. Similarly, respondents over 40 are more likely to have more work experience than those in younger age groups, with respondents 30-40 having the most work experience (5-10 years).

Table 1: *Demographic Information of the Participants (N= 338)*

Demo-graphic			Fre-quency	%	Valid %	Cumulative Percent
Gender	*Valid*	Male	278	82.24	82.24	82.24
		Female	60	17.76	17.76	17.76
		Under 30 years	60	17.8	17.8	17.8
		31-40 years	206	60.9	60.9	78.7
		41-50 years	48	14.2	14.2	92.9
		Above 51 Years	24	7.1	7.1	100.0
		Master/BS HONS	54	16	16	16.0
		MS/M Phill	109	32.2	32.2	48.2
		PhD	153	45.3	45.3	93.5
		Post Doc	22	6.5	6.5	100
		Lecturer	166	49.1	49.1	49.1
		Assist. Prof.	118	34.9	34.9	84.0
		Associate Prof.	37	10.9	10.9	95.0
		Professor	17	5.0	5.0	100
		Below 5 years	64	18.9	18.9	18.9
		5-10 years	127	37.6	37.6	56.6
		11-15 years	105	31.1	31.1	87.6
		above 15 years	42	12.4	12.4	100

Reliability Analysis

Table 2 explains the number of items of independent variable (Big Five Model) and number of items for the dependent variable (creativity). The Big Five Model number of items are 25 and creativity consist on 5 numbers of items and the total items number are 30. The Cronbach's alpha for extraversion no of items are 0.853, which demonstrate that high level of consistency existing is there in it. Moreover, the Cronbach's alpha for agreeableness no of items is 0.882, which also designates that high consistency level existing in it. Furthermore, the Cronbach's alpha for conscientiousness no of items is 0.759, which result also indicates that there is consistency high level in it. However, the Cronbach's alpha for neuroticism no of items is 0.841, which displays high level of consistency existing is in it. Finally, Cronbach's alpha of openness to experience is 0.776, which suggested that there is consistency of high level in it. Additionally, the Cronbach's alpha for the dependent variable (creativity) no of items is 0.857, which describes that dependent variable is highly consistence. Moreover, the reason in all variable's items of high Cronbach's alpha is the fever number of items while, the whole Cronbach's alpha result designates that the Big Five Model number of items i.e. (Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to experience) and creativity are consistent highly with one another.

Table 2: *Reliability Analysis of Big Five Model and Creativity*

Variables	No of items	Cronbach's Alpha
Extraversion	5	0.853
Agreeableness	5	0.882
Conscientiousness	5	0.759
Neuroticism	5	0.841
Openness to experience	5	0.776
Creativity	5	0.857

Correlation Analysis

Correlation analysis has been conducted among creativity, extraversion, agreeableness, conscientiousness, neuroticism and openness to experience to confirm the connection among these factors. Below table # 3 values explains the significant correlation between creativity and the dimensions of Big Five Model ($p=0.000 < 0.05$).

Table 3: *Correlation Analysis (N=338)*

	Creati-vity	**Extra-version**	**Agree ableness**	**Conscien-tiousness**	**Neuro-ticism**	**Openness to experience**
Creativity	1.000					
Extraversion	.389	1.000				
Agreeableness	.388	.355	1.000			
Conscientiousness	.426	.412	.681	1.000		
Neuroticism	.526	.192	.324	.401	1.000	
Openness to experience	.392	.272	.402	.391	.505	1.000

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

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

Regression Analysis

Regression analysis has been executed to explore the role of each trait of personality i.e., extraversion, agreeableness, conscientiousness, neuroticism and openness to experience on creativity. Below table # 4 depicted that independent variables are extraversion, agreeableness, conscientiousness, neuroticism and openness to experience while, the dependent variable is creativity. In below table the connection of strength among all variables are explain the value of R. The R value is 0.562 which postulate that there is 56.2% connections of extraversion, agreeableness, conscientiousness, neuroticism and openness to experience with creativity. Moreover, the degree of variance in the dependent variable due to variation in independent variable is explained through the adjusted R square value. Additionally, in the below table the adjusted R square vale is 0.422 which recommend that independent variables explain 42.2 variation describing dependent variable.

F value recommend the statistical significance about the model. The value of F in the below table is 18.401, p= .000 (p< .05) displays that statistically this model is significant. Furthermore, the degree of variation in dependent variables due to 1 unit variation in independent variable shows by coefficient β. The value of β in the below table is 0.282, 0.352, 0.290, 0.211 and 0.276 respectively, which assumes that 1 unit variation in independent variable improves variation of 0.282, 0.352, 0.290, 0.211 and 0.276 units in the dependent variable. Similarly, the scholars decide acceptance or rejection of hypothesis on t value with p < .05. t value in the table for H_1, H_2, H_3, and H_5 are 2.809, 4.321, 3.201 and 3.221, p= .000 (p<.05) which suggests that extraversion, agreeableness, conscientiousness and openness to experience influence creativity effectively. Hence, H_1, H_2, H_3, and H_5 are accepted. Additionally, on the other hand the value of t for H_4 in the table is -1.675, which infers that neuroticism has insignificant influence on creativity, hence, H_4 stand is rejected.

Table 4: *Regression Analysis*

	Unstandardized Coefficients			
Model	B	Std. Error	t-value	Sig.
Constant	.730	.241	4.30	.000
Extraversion	.282	.321	2.809	.000
Agreeableness	.352	.091	4.321	.006
Conscientiousness	.290	.112	3.201	.000
Neuroticism	.211	.089	-1.675	.096
Openness to experience	.276	.058	3.221	.001
R	.562			
R Square	.431			
Adjusted R Square	.422			
F value	18.401			
F Sig.	.000			

a. Predictors: (Constant), Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness to experience
b. Dependent variable: Creativity

Finding and Discussion

Current research aim was to identify creativity from Big Five Model viewpoint among the staff member of private higher education sector Universities of Khyber Pakhtunkhwa, Pakistan. The results of this research confirm positive and significant correlation among extraversion, agreeableness, conscientiousness and openness to experience with creativity while, explore significantly negative relationship with neuroticism which is in lies with the preceding researches (e.g., Khan et al., 2015; Xin et al., 2017; Krumm et al., 2018; Puryear et al., 2019; Zhang

et al., 2019; Zhang et al., 2020; Jirasek and Sudzina (2020) and Wengang et al., 2020).

Extraversion trait of personality significantly affects creativity. So, this work is connected to study of Khan et al. (2015) directly who stated that extraversion personality trait contributes significantly to creativity. Additionally, Krumm et al., (2018) and Puryear et al., (2019) finding reported that extraversion personality trait positively influence creativity. Findings of this research recommend that an organization with extravert personality trait are able to enhance extra creativity amongst their faculty. Similarly, in the area of academic, this posture that universities are well come an employee's having trait of extraverts in order to enhance and increase creativity among its faculty staff that will eventually leads to advance education and teaching process. Moreover, the finding of this study reveals that agreeableness trait of personality positively influence creativity which is related directly with study of Zhang et al., (2019) who reported that agreeableness significantly positive effect on creativity. Furthermore, study of Zhang et al., (2020) also supported this result and reported that agreeableness trait of personality positively influence creativity. The results for conscientiousness postulated that conscientiousness trait of personality significantly and positively influence creativity which associated directly to the research work of Krumm et al., (2018) who stated that conscientiousness trait of personality positively influence creativity. Moreover, the results of Jirasek and Sudzina (2020), also similar with these results and recommended that conscientiousness trait of personality positively affects creativity. The results for fourth hypothesis recommended that neuroticism trait of personality negatively influence creativity. Hence, this result entail considerable importance for the future research and Universities administration need to monitor and manage an environment to reduce the negative consequences of neuroticism to maintain and enhance advance learning process that are effective for both employees and organization. The results for last hypothesis reported that openness to experience trait of personality significantly positive effect on creativity which is directly consisted with the work of Khan et al. (2015) and Puryear et al., (2019) whose results recommended that openness to experience influence on creativity positively. The results of Wengang et al., (2020) also related with this study and noted that openness to experience trait of personality positively influence creativity. So, Universities administration need to recruit and train such employees which are open minded, imaginative, bring new ideas and think big for the purpose to enhance and increase creativity which results leads to better productivity in term of learning and research activities.

Conclusion

Creative employees are considered the valuable and significant wealth of an institutions. Aim of this study work was to identify the role of Big Five Model on creativity in the private higher education sector Universities of Khyber Pakhtunkhwa, Pakistan. This research summarizes the positive association among

extraversion, conscientiousness, agreeableness and openness to experience to the creativity. Similarly, current study also postulated that here is negative association between neuroticism and creativity. Additionally, the outcomes of this research also contribute that neuroticism is a real challenge to the faculty in enhancing creativity in the private higher education sector Universities of Khyber Pakhtunkhwa, Pakistan. Moreover, for an organization it is important to monitor work environment regarding employees having neuroticism trait of personality for the purpose to reduce the negative consequences of neuroticism for the purpose to enhance creative and knowledgeable staffs for the institutions. Furthermore, this study also reveals that personality traits must be ensured in the organization to improve the creativity level of the university's faculty specially, personality traits followed by openness to experience, agreeableness and extraversion. Finally, this study suggested that a well behavior and personality employee ultimately achieve the creative education and training procedure along with the advances the activities of research that would primary beneficial to the scholars while, generally to community at big level.

Limitations of the study

As no investigative work is hundred (100 %) perfect hence, to the private higher education sector Universities of Khyber Pakhtunkhwa, Pakistan this study is limited. Moreover, this research work is correlational in nature because, to the single time period the method of data collection is limited. Additionally, the questionnaire linguistic was difficult to the participant which may influence the response of the participants. Lastly, the limitation of current research is about the respondents of personality traits and creativity.

Future Work

Existing study aims to identify the role of Big Five Model on creativity in the private Universities of Khyber Pakhtunkhwa, Pakistan. Hence, this study may be carried out in the private Organizations of Pakistan of other provinces. Similarly, mediate or moderate variables may be taken to explore the connection among personality traits and creativity. Additionally, to understand the outcomes bitterly the qualitative and mixed method of research may be taken in future study. Moreover, the current study also be conducted to maximize the participants number by revealing the both sector Universities of Khyber Pakhtunkhwa, Pakistan i.e., public and private sector.

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