

Big Five Personality Dimensions and Faculty Performance: An Empirical Study on Public and Private University Teachers of Bangladesh

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Abstract

This paper attempts to investigate whether there exists any relationship between the personality dimensions of faculties working in private and public universities and their teaching performances. McCrae and Costa [1] state that personality characteristics are evaluated through five extensive general dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences, as illustrated in the Big Five Model. This study used a questionnaire comprised of 30 items on a sample of 72 faculty respondents who belong to the universities located in Dhaka and Chittagong - the two historically famous districts of Bangladesh. For analyzing data, appropriate statistical tools are used and interpreted meaningfully. The present study finds significant positive but different levels of association between personality dimensions and teaching performance. The paper is expected to add a new horizon to the literature on quality teaching in universities. Recommendations for further research initiatives are also forwarded at the end portion of the paper.

Keywords: *Big five personality dimensions; Faculty performance; Public and private universities.*

Introduction

Teaching performance is the degree to which faculties have shown excellence in delivering the best efforts for intended student achievement regarding exam grades and promising careers. Personality comprises a number of stable traits that explain the reasoning behind a man's manners in a particular situation. The diverse faculty personalities are the focus of the present study. Quality teaching depends on several faculty characteristics and the extent teachers possess in disseminating education.

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Along with other factors (such as job, organization, etc.), Gosnell [2] found that individual demographics are now considered fundamental factors influencing job performance. An institution's performance is generally measured by the student's achievement, which is highly correlated with teachers' performance. High dedication and job involvement of the faculties in rendering quality education for improved student learning are desired. According to Sarwar et al. [3], the myth of quality higher education is that the more expertise teachers have, the more education they can provide. There seems to be a tendency among the concerned groups to enhance the quality of higher education from different viewpoints. This study will try to find a gap in research and concentrate on faculty characteristics that are the most influencing facets of effective performance. Hence, the authors would like to conceptualize faculty personalities from the viewpoint of distinct dimensions of the Big Five model, such as extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences impacting desired teaching performance.

Literature Review

John et al. [4] opined that the Big Five dimensions were first developed and interpreted as trait attribution in lexical research to explore a taxonomy of different individual characteristics in the natural language. Subsequent research conducted by Loehlin et al. [5] proved the external/predictive validity of the lexical dimensions and that each of the five dimensions expressed an equal level of heritability. Goldberg [6] and Costa and McCrae [7] illustrated that the "Big Five" personality model is among the most popular concepts in modern psychology to explain the most significant characteristics of personality. John and Srivastava [8] defined the Big Five personality dimensions - extraversion, agreeableness, conscientiousness, openness, and neuroticism in the way as follows: *Extraversion* refers to positive emotions to be sociable and optimistic for keeping accompany. Persons with extraversion characteristics are assertive to mix with people, like group cohesion, prefer stimulation, enjoy excitement, and have positive effects like zeal and excitement. *Agreeableness* refers to the feelings of trust, sympathy, generosity, and an optimistic view of human nature. In essence, social beings merit the attraction and affection of the community for others. A low level of agreeableness refers to antagonism and selfishness. *Conscientiousness* enhances goal-directed and task-oriented behavior, like planning before acting, delaying gratification, obeying norms and rules, organizing, and prioritizing responsibilities. Conscientious persons are purposeful and determined. *Neuroticism* indicates the range between stability and neuroticism, i.e., emotional adjustment and maladjustment. The high end of neuroticism in the

continuum identifies those individuals experiencing nervousness, anger, and fear. On the other hand, emotionally stable and even-tempered persons are at the low end of neuroticism. It encompasses the features of pessimism and low confidence to experience negative emotions. *Openness to experience* refers to a person's imaginative and sensitive tendencies. They are willing to prefer and enjoy new ideas and unconventional values, appreciative of dynamic creative art, intellectually curious, broad-minded, and highly responsive towards beauty.

Self-efficacy beliefs and certain personality traits were discovered by several researchers conducted by Barrick et al. [9], Richardson et al. [10], and Salgado [11], which are assumed to be predictive of both academic and professional performance. In their study on the association between the Big Five and job performance, conscientiousness was found to be a valid indicator of job performance across all types of professions studied.

Diener and Lucas [12] found extraversion to be a strong indicator of positive well-being. On the other hand, Keyes et al. [13] found neuroticism to result from negative well-being. Compared to neurotic persons, Brief and Weiss [14] opined that extroverted persons are likelier to experience vigor.

In a comparative study of five dimensions conducted by Kim et al. [15], only conscientiousness was found significant. However, Inceoglu and Warr [16] found emotional stability and conscientiousness, among the Big Five dimensions, to be the only two unique predictor variables of job involvement. Gosling [17], in his comparative study on individual differences in nonhuman and human beings, also supported the idea that personal characteristics have a biological basis. Judge et al. [18] conducted a meta-analysis across 222 correlations obtained in 73 studies, which depicts that four big five traits, extraversion (0.31), conscientiousness (0.28), neuroticism (-0.07), and openness to experience (0.24) were significantly tied to leadership performance. John and Srivastava [8] concluded that each model's five variables depict personality at its most abstract level, and each dimension encapsulates numerous distinct, more detailed personality traits. Most prior studies found that all the Big Five characteristics significantly correlate with job performance. A good teacher should deserve all the traits mentioned above.

Zaidi et al. [19] conducted a study to view the connection between the big five personality dimensions and job involvement among 399 faculty members of the public university of Lahore, and they found extraversion, agreeableness, conscientiousness, and openness to experience were positively related to work engagement. However, neuroticism was pessimistically correlated, and the relationship strength was not as strong as the R-square estimated to be 0.28.

Over the years, researchers investigated diverse points of view on the theoretical framework of the Big Five Model. Some theories construct concepts concerning the Big Five model. The interpersonal theory of Wiggins and Trapnell [20] emphasizes the interpersonal relationship and explains the Big Five traits from the viewpoint of their interpersonal implications. Extraversion and agreeableness receive theoretical precedence in the model as the most impacting facets of the Big Five. According to Sullivan [21], the Big Five clarifies the relatively enduring style of persistent interpersonal state of affairs that exemplifies a human life.

Objectives of the Study

This study is expected to seek the following objectives:

- a. To study the faculties' personalities from the viewpoint of the Big Five model
- b. To examine the degree of association between each of the big five dimensions and faculty performance
- c. To investigate how personality traits influence teaching effectiveness
- d. To examine whether the five dimensions differ in the value of their respective coefficients affecting faculty performance
- e. Finally, it presents research implications and provides directions for future research.

Methodology

The study population comprises faculties working in Bangladesh's private and public universities. A sample of 72 respondents was chosen through simple random sampling and personally contacted at their convenience with a questionnaire prepared for the study incorporating five broad personality dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences. Each dimension has 6 items, as illustrated in the Big Five model, and data analysis is based on the 30 total numbers of facets of the independent variables. The questions in the instrument proved reliable and valid as an instrument for behavioral science. The gathered data was analyzed in the SPSS 17.0 version, and the overall faculties' personality characteristics were distributed for descriptive analysis, using arithmetic mean and percentage. Regression coefficients were computed to find the degree of relationship between each of the big five dimensions and faculty achievement. Cronbach's α coefficient and KMO-Bartlett's test of Sphericity are applied for internal consistency and instrumental validity testing, respectively. The mean differences in the study analysis between faculty performance and Big Five

dimensions were tested using ANOVA to evaluate the hypotheses on significant mean differences.

Empirical Analysis and Study Findings

Reliability and Validity

Reliability Test

Table 1 depicts the testing results of this study's independent and dependent variables. Cronbach's α coefficient is suitable for reliability testing to measure internal consistency. Table 1 shows that the questionnaire framed for data collection is reliable in the context of the sample respondents of Bangladesh. The Cronbach's α values for independent and dependent variables are all larger than 0.70, which denotes the internal consistency reliability acceptance level.

Big Five Factors	Number of Items	Cronbach α - Value	Reference Value
Extraversion	6	0.812	$\alpha \geq 0.7$
Agreeableness	6	0.711	$\alpha \geq 0.7$
Conscientiousness	6	0.801	$\alpha \geq 0.7$
Neuroticism	6	0.709	$\alpha \geq 0.7$
Openness	6	0.781	$\alpha \geq 0.7$
Faculty Performance	5	0.914	$\alpha \geq 0.7$

Table 1. Reliability Test Scores

Validity Test

Validity indicates whether we are measuring the variables we want to measure in the study and shows how the variables and their measurement indicators interact. In order to infer data distribution and independence of the dimension of factors, the present study adopts the popular KMO-Bartlett's test of Sphericity, applying the SPSS 17.0 version software to analyze six dimensions (including dependent variable) with a total of 35 factors. According to the practical standard, the questionnaire for the survey possesses construct validity when the value of the KMO measure is more than 0.7 and the p-value of Bartlett's test of Sphericity is smaller than 0.05. Table 2 shows that the KMO value is 0.710, which is greater than 0.7; consequently, Bartlett's test's p-value is smaller than 0.01, let alone 0.05. Hence, the factor analysis is tested and supported.

KMO value and Bartlett's Test of Sphericity	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.710
Bartlett's Test of Sphericity	
Approx. Chi-Square	792.881
Degree of freedom	66
Significance	0.000

Table 2. KMO and Bartlett's Test

Descriptive Analysis

Table 3 states each survey factor's mean scores and standard deviations. In the statistics of all the scores, the value of 3.706 indicates that the sample respondents (faculties) are close to the level of 'Agree' on the big five dimensions influencing teaching performance.

Big Five Factors	Mean	Standard Deviation
Extraversion	4.22	0.914
Agreeableness	3.13	0.917
Conscientiousness	4.04	1.211
Neuroticism	2.98	0.817
Openness	4.16	0.791
Average score (Mean of the mean scores)	18.53 / 5 = 3.706	

Table 3. Descriptive Analysis of the Big Five Factors

In Table 3 above, the three distinctive variables of extraversion, conscientiousness, and openness surpass 4, which denotes that faculty performance is accelerated mainly by these characteristics in a university teacher. Only the variable – neuroticism-scored below 3, which indicates that this factor has little influence on faculty performance. The mean agreeableness score lies between 3 and 4, indicating that it moderately impacts teaching achievement.

Regression Analysis

The regression analysis method is applied in this study to examine the affiliation between the Big Five dimensions and faculty achievement. The authors construct a regression model assuming the Big Five factors as independent variables and

faculties' teaching performance as dependent variables. The computed results of regression analyses are depicted in Table 4.

Big Five Dimensions	Regression Coefficients	t	Sig.	Adjusted R Square	F	Sig.
Extraversion	0.688	14.159	0.000	0.557	41.261	0.000
Agreeableness	0.224	5.013	0.000	0.334	19.113	0.000
Conscientiousness	0.598	10.219	0.000	0.597	35.667	0.000
Neuroticism	0.219	4.035	0.010	0.312	7.236	0.010
Openness	0.606	9.909	0.000	0.531	34.676	0.000

Table 4. Regression Analysis Findings

The brief findings revealed in Table 4 show different levels of positive correlation between the Big Five variables and faculty performance. This study finds that none of the independent variables has a negative or inverse relationship with the dependent variable. Hence, the research demonstrates that teaching performance at the higher study level is subjected to a number of dimensions proposed in the Big Five model of demographic characteristics. Each Big Five dimension is also found significant at the 0.01 level.

The most significant coefficient for extraversion indicates that faculties possessing this distinctive quality excel at a higher level of exposure skill in disseminating knowledge to the students. This is followed by openness quality, as shown in the table above, computing the second-highest value of the regression coefficient. It is consistent with common sense that students prefer those instructors who are easily accessible. Conscientiousness is the third major factor, with a value of regression coefficient of more than 0.5, which denotes the essence of these characteristics as a crucial impacting factor. Although agreeableness and neuroticism have coefficient values less than 0.5, they are significant at 0.01 levels.

Table 4 depicts that the five dimensions differ in the value of their respective regression coefficients. Hence, they exert different levels of impact on faculty teaching performance. Inference can be drawn that the influential degrees of extraversion, openness, and conscientiousness rank at the top. The other two factors still need to be improved for quality knowledge dissemination.

Limitations and Recommendations for Future Research

This paper only incorporates five main dimensions to evaluate faculty performance, ignoring numerous demographic and academic factors viable for a teaching career.

Instead, the sample size is not as large as the entire population to draw inferences free from criticisms. Moreover, the paper fails to explain why and how the five factors affect teaching outcomes. Along with other factors, academic and research works must be included in future research with a greater sample size to generalize the study findings. Although quantitative research is followed in this study, qualitative research would be applied in the upcoming research to understand better how the five factors are related to teaching achievement. A comparative study between public and private universities from the viewpoint of the Big Five dimensions may also be conducted in the future. The authors expect a significant initiative to conduct more research in Bangladesh, reflecting the authenticity of the visible impact of the five dimensions.

Conclusions and Implications

The Big Five dimensions uphold the individual differences in faculty performance but have indifferent surface manifestations. In personality research, the Big Five framework presents the statement of common personality traits in a broader and integrative context of abstraction. The study discovers that each of the five variables has positive and significant relationships with the faculty teaching performance. However, the degrees of impact on teaching performance significantly differ in individual personality differences. However, the Big Five theory is a development and extension of earlier personality traits theory that tended to be not mutually exclusive but rather to be complementary with each other.

Due to the increasing tendency toward enhancing quality in the teaching profession, the present paper emphasizes faculty members' five major personality traits that are responsible for teaching performance. Understanding the relationship between personality characteristics and faculty performance would help ensure a quality teaching-learning process in the country's tertiary education sector. The individual faculty would be more conscious of what they lack and how to cover the lacking to become more effective. The study's findings may have another implication for predicting and enhancing a university's overall academic performance and would benefit the policymakers, practitioners, researchers, and academicians in the respective fields of Bangladesh.

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Acknowledgements

The authors of the paper appreciate the reviewers’ and editor’s insightful comments, which have raised the caliber of this work. The authors also acknowledge the university teachers, i.e., respondents of the study who spontaneously and enthusiastically participated in this research, sacrificing their valuable time.

Conflict of Interest

The authors have declared no conflicts of interest.