Gender Differences In Personality Traits In Relation To Academic Performance

Dur Khan

The study attempted to explore the impact of personality traits on academic performance with regards to gender differences. A primary study was conducted on a sample size of 666 students (453 males and 213 females). Using Mann-Whitney analysis, it was found that different personality traits impact the academic performance of students for both boys and girls. Extraversion, Conscientiousness Agreeableness and Emotional Stability were found to influence the academic performance of male students. On the other hand, Openness influenced the academic performance of female students. Conscientiousness was the only trait to influence the academic performance of both male as well as female students.

Keywords: Personality Traits, Academic Performance, Gender Difference

Introduction

Personality is the set of habitual behaviours, cognitions and emotional patterns which have evolved from biological and environmental factors (Corr & Matthews, 2009). Personality captures what people are like and ability captures what people can do (Colquitt et al, 2009). In a nutshell, personality has to do with individual differences among people in behaviour patterns, cognition and emotion. (Mischel et al, 2004). Though the dimensions of personality are beyond one's control, they strongly influence one's attitudes, expectations and assumptions and behaviour (Kinicki, 2008).

Personality traits are the enduring set of characteristics a person demonstrates in day to day behaviour. Personality can be conceptualized as a set of personality traits which are dynamic, organized and generally enduring

Dur Khan ✉
Jamnalal Bajaj Institute, University of Mumbai, India
Email: durkhan@jbims.edu

in nature. Traits can be defined as "habitual patterns of behaviour, thought, and emotion" (Kassin, 2003). One popular and extensively used personality trait model is Five Factor Model (FFM) (Goldberg, 1993; Costa & McCrae, 1992). These five factors are extraversion, agreeableness, conscientiousness, neuroticism (or its opposite pole, emotional stability), and intellect (or openness to experience) (John et al, 2008). Many psychologists currently believe that five factors are sufficient to describe personality of an individual. (McCrae & Costa, 1987,1992). Many personality psychologists including Costa and McCrae (1992), Goldberg, (1993) and Saucier and Goldberg (1996) agree that five domains capture the most basic individual differences in personality traits and different alternative trait models can be conceptualized in terms of the Big Five structure (O'Connor & Brian, 2002). Basic aspects of these five factors are given below:

Extraversion includes traits like being sociable, talkative, gregarious, assertive, active, ambitious and expressive (Barrick & Mount, 1991). They have a strong desire for social recognition, praise, power and status. Extraversion is associated with sub traits such as sociable, talkative, passionate, bold, and dominant (Colquitt et al, 2009). Extraverts are action-oriented, assertive and enthusiastic and are likely to say yes to opportunities (Friedman & Schustack, 2016).

Agreeableness includes personality traits such as being courteous, trusting, flexible, cooperative, soft hearted, forgiving, good natured, and tolerant (Barrick & Mount, 1991). Agreeableness has adjectives such as kind, cooperative, sympathetic, helpful, courteous, and warm (Colquitt et al, 2009). Agreeable individuals are willing to compromise their happiness for others benefit (Barrick & Mount, 1991). Disagreeable individuals prefer self-interest over getting along with others (Friedman & Schustack, 2016).

Conscientiousness includes traits such as being hardworking, thorough, organized, responsible, careful, and persevering (Barrick & Mount, 1991). Conscientiousness is associated with trait like being dependable, organized, reliable, ambitious, and hardworking (Colquitt et al, 2009). Conscientiousness is a behaviour trait through which people control, regulate, and direct their impulses (Friedman & Schustack, 2016). Conscientious people achieve high levels of success through purposeful planning, persistence and perseverance (Colquitt et al, 2009).

Neuroticism (polar opposite of emotional stability) includes traits like being depressed, nervous, emotional, angry, concerned, worried, and insecure (Barrick & Mount, 1991). Neuroticism means the tendency to experience negative feelings such as anxiety, anger, or depression (Friedman & Schustack, 2016). Individuals who score high in emotional stability get upset less easily and they are less emotionally reactive (Colquitt et al, 2009).

Openness to experience comprises of traits such as imaginative, curious,

original, intelligent, broad minded and artistic (Barrick & Mount, 1991). Openness has to do with curious, imaginative, creative, complex, refined, and sophisticated (Colquitt et al, 2009). Open individuals are intellectually curious, and appreciative of art. (Friedman & Schustack, 2016). Closed people prefer familiarity over innovation and they often show resistance to change (Colquitt et al, 2009).

REVIEW OF LITERATURE

Research evidence is mixed regarding the role of personality traits in predicting academic success. Though the role of intelligence and motivation in predicting academic success are well established, the role of personality traits has mixed opinions. A study by Farsidesa and Woodfield (2002) assessed the role of big five personality traits in predicting academic success. It was found that only openness to experience and agreeableness are positively associated with academic success. Openness to experience had a direct impact on final grades. However, the impact of Agreeableness was mediated by the factor of not missing lectures and seminars (Farsidesa & Woodfield, 2002).

In another meta-analysis done by O'Connor and Paunonen (2007), empirical literature on the relations between the Big Five personality dimensions and post-secondary academic achievement was reviewed, and some consistent results were found. This meta-analysis showed conscientiousness to be strongly and consistently associated with academic success. in addition, openness to experience was positively associated with scholastic achievement, whereas extraversion was negatively related to the scholastic achievement, although the empirical evidence regarding these latter two dimensions was somewhat mixed. Personality traits can account for variance in academic performance beyond the measures of cognitive ability (O'Connor & Paunonen, 2007).

Noftle and Robins (2007) reported that the Big Five, especially conscientiousness, predicts academic achievement, including grades and standardized test scores. Openness proved to be the strongest predictor of verbal scores whereas conscientiousness was the strongest predictor of both high school and college grades. These findings replicated across four independent samples and across four different personality inventories. Further it was reported that conscientiousness predicted college scores, even after controlling for high school scores and SAT scores (Noftle & Robins, 2007).

Poropat's research (2009) also reported that conscientiousness strongly predicts academic achievement. The research reported a meta-analysis of personality-academic performance relationships, based on the Five-Factor Model (FFM), with cumulative sample sizes ranging over 70,000. The meta-analysis reported that academic performance significantly correlates with agreeableness, conscientiousness and openness to experience. correlations between conscientiousness and academic success were largely independent of intelligence. Conscientiousness and intelligence forecasted tertiary academic performance to a similar extent (Poropat, 2009).

In a gender based study by Nguyen et al. (2005), students' personality traits were investigated in relation to course grade in an undergraduate management course. It was reported that conscientiousness positively and significantly predicted overall GPA over and beyond other personality traits of agreeableness, extroversion, emotional stability and intellect, accounting for unique variance in final course grade and overall GPA. Gender consistently moderated the relationship between personality and academic performance (as measured by GPA). Emotional stability significantly and positively predicted academic performance among male students, but not among females. Intellect positively and significantly predicted academic performance among male students, but the same relationship was non-existent among female students (Nguyen et al, 2005).

In a study done by Komarraju et al. (2011), a group of researchers validated that personality and learning styles are both likely to play significant roles in influencing academic achievement. A sample of 308 undergraduate students completed the Five Factor Inventory and the Inventory of Learning Processes and reported their grade point average. Two of the Big Five traits, conscientiousness and agreeableness, were positively related with all four learning styles, whereas neuroticism was negatively related with all four learning styles. Personality and learning styles are both likely to play significant roles in influencing academic achievement (Komarraju et al, 2011).

Hakimi and his fellow researchers (2011) studied the relationships between personality traits and academic achievement among students. A sample of 285 students were given the NEO (Neuroticism-Extraversion-Openness) Big Five Personality inventory and student's GPA was asked. The analysis discovered that personality traits were significantly related with academic achievement. Personality traits accounted for a huge amount of variance in academic achievement. The results indicated that personality traits account for a huge amount of variance in academic achievement of sample students. Conscientiousness was the most important predictor variable. The statistical analysis also indicated there were no significant gender differences in the personality characteristics and academic achievement. (Hakimi et al, 2011).

According to Buju (2013), conscientiousness is the sole predictor of academic success. Extraversion is positively correlated with the academic performance (yet correlation is weak and insignificant). Agreeability and neuroticism have negative correlations with the academic performance. Conscientiousness is the only significant predictor of academic performance. The purpose of a study by Ibrahim (2014) was to explore the correlation between the `Big Five' personality traits and students' academic achievement

measured by GPA. This meta-analysis showed that conscientiousness highly correlates to GPA compared to others personality trait. (Ibrahim, 2014).

Another study by Eyong et al. (2014) investigated the influence of personality traits on academic achievements of secondary school students in Cross River State. The sample was drawn from 13, 838 students studying in all 239 public secondary schools throughout Cross Rivers State, Nigeria. 20 schools were then randomly selected, from which a sample of 8530 students was drawn. The 44-item standardized questionnaire of big five personality by McCrae and Costa (1999) was adapted for the study. A significant difference was found in the academic achievement of students with high level of conscientiousness and agreeableness, and those with low levels of the traits. (Eyong et al, 2014). However, another research proves that conscientiousness is not important for academic success. Neuroticism, introversion, agreeableness and openness to experience have significant relationship with academic performance but conscientiousness is relatively unimportant for success (Nye et, al 2013).

A study by Al-Naim et al. (2016) was conducted to determine various personality traits and its correlation with their academic performance so that the teaching and learning methods can be improved to enhance excellent academic achievement by the students after awareness of their patterns of personality. A sample of 416 medical students of College of Medicine, King Faisal University, Saudi Arabia were studied in a cross-sectional study using a self-administered Big Five Inventory (BFI). The 'Conscientious Personality' trait showed highly significant association with high GPA (p=0.0001). However, no significant association was observed between other personality traits (Openness, Extraversion, Agreeable, and Neuroticism) and GPA (Al-Naim et al 2016).

The study by Nyarko et al. (2016) examined the association of students' personality traits, motivation and academic achievement by selecting a sample of 273 students from the University of Ghana, Legon. Results show conscientiousness to be the only factor significantly predicting students' academic achievement. Interestingly, the analysis did not show any significant relationship between extrinsic motivation and academic achievement as well as intrinsic motivation and academic achievement (Nyarko et al, 2016).

Based on personality traits, another study by Litvinova et al. (2015) studied the differences in academic self-handicapping among undergraduate students. A sample of 440 participants completed two questionnaires, Big Five Inventory and Self-handicapping Scale. Analysis of data reveals that significant negative correlation exists between academic self-handicapping and their personality traits—agreeableness, conscientiousness and openness to new experience, while for neuroticism this correlation is positive (Litvinova et al, 2015).

A recent study of Neesha et al. (2017) aimed to study the influence of Big Five Personality on the achievement motivation and academic performance among sojourn students. The participants of the study consist of 57 sojourn students, in the age group of 17 to 22. Neo Five Factor Inventory and Stanford Achievement Test were used to collect from the participants. Grade Point Average were collected was also collected from the participants. The results proved that there is no significant correlation between the Big Five personality traits, achievement motivation and academic performance. (Neesha et al, 2017).

GAP ANALYSIS AND IDENTIFICATION OF VARIABLES

On the basis of literature review, it can be summarized that many researchers have studied the impact of personality traits on academic performance. However, the gender differences in establishing relationship between personality traits and academics is a under researched area. From the literature review it can also be observed that there is paucity of research in area of understanding the moderating effect of gender in defining relationship between personality traits and academic performance. Hence, keeping literature review as base, the given components/variables were examined.

The Independents variables are personality traits namely Emotional stability (the degree to which a person can be depressed, anxious, angry and emotionally insecure), Extroversion (the degree to which a person can be talkative, active, sociable, and assertive), Openness to experience (the degree to which an individual can be open to new experiences and intellectually curious), Agreeableness (the extent to which a person can be flexible, good natured, trusting, and liked by others) and Conscientiousness (the degree to which a person can be a planner, a dependable, responsible and organized person). Academic Performance is identified as the dependent variables. For measuring academic performance, percentage of marks secured in graduation were considered. Gender was taken as a moderating variable.

RESEARCH METHODOLOGY

For the study, secondary research in the form of literature review was done, various national and international research papers were studied and gaps in the literature were highlighted to articulate the hypothesis of the study. Further, primary research on graduate students of Mumbai was done through a questionnaire. Descriptive and Exploratory Research methodology has been adopted for the purpose of the study. Further the association of these traits with academics is explored through an in-depth survey analysis.

Target population consist of graduate students of Mumbai region. Sample size drawn out of the population was 666. Sample size has been taken into consideration based on the book 'Research methods for business' (Sekaran,

2015) using the published tables of population and corresponding sample size. Population above the size of 10000 are statistically infinite and hence the percentage of sample required is 4% when the population size is above 10000. The sample size of 666 students consisted of around 68% male and 32% female students. Students majorly came from engineering, commerce and management backgrounds (graduation level).

The survey made use of Goldberg, Lewis Big 5 scale (1992) to measure the personality traits (Emotional stability, Extroversion, Openness to experience, Agreeableness and Conscientiousness). It includes sentences and the respondents have to indicate their degree of agreement on a scale of 1 to 5 (1=Very Inaccurate, 5=Very Accurate) as a description of their personalities. Sample test sentences are; I am quiet around strangers, I make people feel at ease, I follow a schedule, I am full of ideas etc. For assessing the academic performance, percentage at the graduation level was considered. The Cronbach's alpha reliability value was 0.929 for items measuring personality traits which means that the questionnaire has high internal consistency.

RESULTS OF THE STUDY

The data collected was analysed through descriptive and inferential analysis. Descriptive statistics were calculated to understand the personality traits and psychological well-being. Since the data was not normally distributed, non-parametric tests were used to analyze the data and make meaningful conclusions. Mann-Whitney U test was done to see the impact of personality traits on academics within each category of gender. Table 1 gives the information about descriptive statistics of personality traits.

Results in Table 1 show that majority of students have high Extraversion, Agreeableness, Conscientiousness, Openness but comparatively low Emotional Stability. The median for emotional stability also stands at 3 while for others it stands at 4. But overall, majority of respondents were average or high on all traits. The skewness and kurtosis values depict that this data of trait ratings may not be normally distributed as there is a general human tendency of rating themselves as positive. The median and mode also supports the fact that majority of students have rated themselves high on a scale of 1 to 5 where 1 is lowest and 5 is highest.

Table 1

Descriptive Statistics (Personality Traits).

	Extraversion	Agreeableness	Conscientiousness	Emotional Stability	Openness to Experiences
N	666	666	666	666	666
Mean	3.69	3.78	3.68	3.31	3.59
Median	4.00	4.00	4.00	3.00	4.00
Mode	4.0	4.0	4.0	3.0	4.0
Skewness	-0.376	-0.825	-0.566	-0.228	-0.566
Std. Error of Skewness	0.092	0.092	0.092	0.092	0.092
Kurtosis	0.298	1.107	0.535	-0.097	0.827
Std. Error of Kurtosis	0.184	0.184	0.184	0.184	0.184

Table 2 gives results regarding the Graduation Percentage.

Table 2

Descriptive Statistics (Graduation Percentage).

DescriptiveStatistics	GraduationPercentage (%)
N	666
Mean	70.3743
Median	69.3850
Variance	74.384
Std. Deviation	8.62463
Minimum	49.94
Maximum	92.50
Skewness	0.351
Std. Error of Skewness	0.175
Kurtosis	-0.204
Std. Error of Kurtosis	0.347

Data in Table 2 shows that the descriptive statistics of academic performance (graduation percentage of respondents). The percentage ranged

from a minimum of 49.94 percent to a maximum of 92.50 percent with mean of 70.37 percent. This data also may not be normally distributed as skewness and kurtosis values are high. To test the hypothesis, it is important to understand normality of data and to choose appropriate test. Next step is the normality test to confirm, whether data are normally distributed or not. Table 3 gives the results of normality test.

Table 3

Normality Test of the Data.

	Kolmogorov -Smirnov [a]			Shapiro -Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Graduation Percentage	.064	663	.000	.979	665	.000

a. Lilliefors Significance Correction

As given in Table 3, the significance level is less than 0.05 for the dependent variable (Graduation Percentage) hence it can be concluded that data is not normally distributed at 5% level of significance. Since independent variable is not normally distributed, Non-parametric tests are done to further test the hypotheses. Table 4 gives the results of chi-square analysis testing difference in personality traits across categories of gender.

Table 4

Chi-Square (Personality Traits and Gender).

	Gender			
	Chi-square	df	Exact Sig. (2-sided)	N
Extraversion	3.818	1	0.056	666
Agreeableness	0.11	1	0.932	666
Conscientiousness	1.064	1	0.325	666
Emotional stability	26.218	1	0.000	666
Openness	3.208	1	0.077	666

From the chi-square calculations of Table 4, it is clear that there is significant difference in emotional stability across gender (p<0.05). For rest of the traits Extraversion, Agreeableness, Conscientiousness and Openness, there is no significant difference in the distribution of traits across categories of gender. More number of females are low on emotional stability compared to their male counterparts. This finding is supported by the study of Costa et al (2001), Vianello et al (2013) and Tyagi and Bansal (2010). Analysis of effect of Gender

on academic performance (distribution of Percentage) across personality traits is done using Mann-Whitney U test. Mann-Whitney U test is used as graduation percentage data is continuous and non-parametric and personality traits are categorical in nature (Table 5).

Table 5

Relationship of Personality Traits with Graduation Percentage.

Male Students (N=453)	Trait Score	N	Mean Rank	Sum of Ranks	Mann - Whitney U	Wilcoxon W	Asymp. Sig. (2 - tailed)
Extraversion	High	295	237.04	69926.00	20344	32905	0.026
	Low	158	208.26	32905.00			
Agreeableness	High	307	238.46	73206.50	18893.5	29624.5	0.007
	Low	146	202.91	29624.50			
Conscientiousness	High	278	241.89	67246.50	20184.5	35584.5	0.002
	Low	175	203.34	35584.50			
Emotional Stability	High	210	242.01	50822.00	22363	52009	0.023
	Low	243	214.03	52009.00			
Openness to Experiences	High	253	232.11	58723.50	24007.5	44107.5	0.350
	Low	200	220.54	44107.50			
Female Students (N=213)	Trait Score	N	Mean Rank	Sum of Ranks	Mann - Whitney U	Wilcoxon W	Asymp. Sig. (2 - tailed)
Extraversion	High	124	112.86	13994.50	4791.5	8796.5	0.101
	Low	89	98.84	8796.50			
Agreeableness	High	146	107.23	15655.50	4857.5	7135.5	0.936
	Low	67	106.50	7135.50			
Conscientiousness	High	278	241.89	67246.50	20184.5	35584.5	0.020
	Low	175	203.34	35584.50			
Emotional Stability	High	56	96.36	5396.00	22363	52009	0.132
	Low	157	110.80	17395.00			
Openness to Experiences	High	105	115.80	12159.00	24007.5	44107.5	0.040
	Low	108	98.44	10632.00			

From the results in Table 5, it can be interpreted that the difference in percentage across categories of Extraversion, Agreeableness,

Conscientiousness and Emotional Stability is significant for male students only. Thus, it can be inferred that male students with high Extraversion Agreeableness, Conscientiousness and Emotional Stability demonstrated better academic performance than male students with low Extraversion Agreeableness, Conscientiousness and Emotional Stability respectively. Conscientiousness is the only trait to significantly impact the academic performance of male as well female students. It can also be interpreted that the difference in percentage across categories of 'Openness' is significant only for female students but not significant for male students. Thus it can be inferred that female students with high Conscientiousness and Openness demonstrated better academic performance than female students with low Conscientiousness and Openness respectively.

DISCUSSION AND CONCLUSIONS

Personality traits significantly impact the academic performance of graduate students. It is furthermore proven by Hakimi et al. (2011) that personality traits account for huge amount of variance in academic achievements. This research proves that extraversion positively influences academic performance. Extrovert students perform better in exams compared to their introvert counterparts. Extroverts are assertive and ambitious (Barrick & Mount, 1991), this might have had helped them outperform introverts in academics. Buju (2013) also highlighted that extraversion is positively and significantly correlated with the academic performance, but for his study this correlation was weak. Agreeableness also positively influences academic performance. Students with high agreeableness perform better in academics compared to students with low agreeableness. This could be because academics involves socialization. Agreeable individuals are cooperative, courteous, pleasant and accommodating in social situations (Barrick & Mount, 1991). These qualities make it easy to interact with fellow students and learn from each other, group work becomes more enjoyable. The generous, friendly and helpful nature of the highly agreeable make it easy for them to receive help and favour from fellow students as well. It has been highlighted by empirical research as well that Agreeableness significantly impacts academics (Farsidesa & Woodfield, 2002, Poropat, Arthur E, 2009; Komarraju et al, 2011; Nye et, al 2013; Eyong et al, 2014).

However, the role of personality in influencing academic performance is strongly mediated by gender. Extraversion, agreeableness and emotional stability significantly impacts the academic performance of male students only. However, conscientiousness significantly impacts the academic

performance of male as well female students. And interestingly, openness created positive significant difference in academic performance of female students only. It was also reported by Nguyenn et al. (2005) that emotional stability positively and significantly predicts academic performance among male students, but not so among females (Nguyen et al, 2005). There is paucity of research in understanding the gender based differences while assessing the impact of personality traits on academics. This research thus adds to the literature by highlighting this gender based differences.

Findings of this research will be useful for students as having a fair idea about the personality traits will help them to improve their overall academic performance. Students can have greater control over their attitudes and behaviours once they have a broad idea of who they are in terms of personality traits. They will be in a better position to take decisions best suited according to their personality. Understanding the impact of personality on academics is also vital and important. These relationships determine the level of success of an individual. An individual can take learnings and develop his traits in order to maximize his performance. For example, conscientiousness is important for academic success. Thus, an individual with relatively low ranking on conscientiousness can deliberately try to be more organized and systematic in his studies and preparation in order to improve his marks. Understanding these relationships can be a great help in improving students academic performance.

REFERENCES

Al-Naim, A., Al Rashed, A., Aleem, A., Khan, A., Ali, S. & Bogam, R. (2016). Personality traits and academic performance of medical students in Al-Ahsa, Saudi Arabia. *International Journal of Scientific Research*, 5(4), 425-427.

Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44(1), 1-26.

Buju, S. (2013). Personality profile of students with technical academic performance. *Procedia -Social and Behavioural Sciences*, 78(1), 56-60. doi: 10.1016/j.sbspro.2013.04.25.

Colquitt, J., Le-Pine, J., & Wesson, M. (2009). *Organizational behaviour: Improving performance and commitment in the workplace.* New York: McGraw-Hill, Irwin.

Corr, P.J., & Matthews, G. (2009). *The cambridge handbook of personality psychology*. UK: Cambridge University Press.

Chow, P.H. (2010). Predicting academic success and psychological wellness

in a sample of canadian undergraduate students. *Electronic Journal of Research in Educational Psychology*, 8(2), 473-496.

Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, 13, 653–665. doi: 10.1016/0191-8869(92)90236-i.

Eyong, E. I., David, B. E., & Umoh, A. J. (2014). The influence of personality trait on the academic performance of secondary school students in Cross River State, Nigeria. *IOSR Journal of Humanities and Social Science, 19*(3), 12-19.

Farsidesa, & Woodfield. (2002). Individual differences and undergraduate academic success: the roles of personality, intelligence, and application. *Personality and Individual Differences,* 34, 1225–1243.

Friedman, H.S. & Schustack, M.W. (2016). *Personality: Classic theories and modern research*. Pearson.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4(1), 26.

Kinicki. (2008). *Organizational behaviour: Core concepts*. New York: McGraw-Hill Irwin.

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*. 48, 26–34. doi:10.1037/0003-066x.48.1.26. PMID 8427480.

Hakimi, S., Hejazi, E., & Masoud, G. (2011), The relationships between personality traits and students' academic achievement. *Procedia - Social and Behavioural Sciences, 29*(1), 836-84. https://doi.org/10.1016 / j.sbsproul.2011.11.312.

Mischel, W. (2004) Toward an integrative model for CBT: Encompassing behaviour, cognition, affect, and process. *Behaviour Therapy, 35*(1), 185-203.

John, O. P., Naumann, L. P., & Soto, C. J. (2008). *Paradigm shift to the integrative Big Five trait taxonomy: History, measurement, and conceptual issues*. Handbook of Personality: Theory and Research. 3rd ed., 114–158. New York: Guilford.

Komarraju, S.J., Karau, R.R., Schmeck, A. & Avdic. (2011). The big five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, 51(1), 472-477.

Litvinova, A., Balarabe, M., & Mohammed, A. I. (2015). Influence of personality traits and age on academic self-handicapping among undergraduate students of Ahmadu Bello University, Zaria, Nigeria. *Psychology, 6*(1), 1995-2003.

McCrae, R. R., & Costa, P. (1987). Validation of the five-factor model across instruments and observers. *Journal of Personality and Social Psychology, 52*(1), 81-90. doi:10.1037/0022-3514.52.1.81. PMID 3820081.

Nguyen, N. T., Allen L.C., & Fraccastoro, K. (2005). Personality predicts academic performance: Exploring the moderating role of gender. *Journal of Higher Education Policy and Management*, 27(1), 105-117. doi: 10.1080/13600800500046313.

Neesha, T. K., Minal, M., Kirtana, D., & Varun, K. (2017). Personality, achievement motivation and academic performance among sojourn students. *Guru Journal of Behavioural and Social Sciences*, 5 (1), 631-638.

Noftle, E.E., & Robins, R.W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, 93(1), 116–130.

Nyarko, K., Kugbey, N., Amissah, C., Nyarko, M., & Dedzo, B. (2016). The influence of the big five personality and motivation on academic achievement among university students in Ghana. *British Journal of Education, Society and Behavioural Science*, 13(2), 1-7.

O'Connor, B. (2002). A quantitative review of the comprehensiveness of the five-factor model in relation to popular personality inventories. *Assessment*, 9(2), 188–203. doi: 10.1177/1073191102092010.

O'Connor, M., & Paunonen, S. (2007). Big five personality predictors of post-secondary academic performance. *Personality and Individual Differences, 43*, 971–990.

Poropat, A.E. (2009). A meta-analysis of the five-factor model of personality and academic performance. *Psychological Bulletin, 135*(2), 322–338.

Saucier, G., & Goldberg, L.R. (1996). The language of personality: Lexical perspectives on the five-factor model. In J.S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives*. New York: Guilford.

Saul, K. (2003). *Psychology*. USA: Prentice-Hall, Inc.

Uma, S., & Roger, B. (2015). *Research methods for business: A skill-building approach*. John Wiley and Sons.