

The Big Five Personality Traits and Its Relationship with Students' Academic Performance

Adibah Hussin^{1*}, Mas'udah Asmui², Suhanom Mohd Zaki³

^{1,2,3} Faculty of Business Management, Universiti Teknologi MARA Cawangan Pahang, Kampus Jengka, 26400 Bandar Tun Abdul Razak Jengka, Pahang, Malaysia
dibah575@pahang.uitm.edu.my, mas_as@pahang.uitm.edu.my, suhanom@pahang.uitm.edu.my

*Corresponding Author

Abstract: Students have unique and authentic personalities that differentiate one from another. The differences form and influence their academic performance. According to past researches, students' personality and academic performance are significantly interrelated. The past researches have mentioned the relationships between numerous variables including personality and academic performance among students. This paper identified the relationship between Big Five Personality Traits and academic performance among UiTM Pahang students specifically. The data was collected using a self-administered questionnaire and analyzed using SPSS version 22.0 statistical software. The result showed that there was no significant relationship between the Big Five Personality Traits and academic performance. However, it was found that conscientiousness was the strongest and neuroticism was the weakest trait possessed by UiTM Pahang students. Moreover, there was no difference between personality traits and genders yet there was difference between genders and academic performance.

Keywords: Personality Traits, Students' Academic Performance

1. Introduction

Over the years, the influence of student's personality on the academic performance has been discussed seriously. Personality is often referred as one's emotions, thoughts, and behavioral patterns (Kassin, 2003; Jensen, 2007). Even though previous studies indicated that personality tests were unstable since they could not predict significant behaviors and attitudes due to instability but they are still commonly used in a wide range of research in psychology and education. Thus, it is believed that, students with balanced or positive personality will tend to have good result in their study.

Based on past researches, the Big Five Personality traits like extraversion, agreeableness, conscientiousness, neuroticism, and openness have proven related to human behavior including in academic performance, job performance, public relations and leadership (Chamorro-Premuzic & Furnham, 2003; Chowdhury, 2006; Lievens, Ones & Dilchert, 2009; Clark & Schroth, 2010; Komaraju, Karau, Schmeck & Avdic, 2011; Hakimi, Hejazi & Lavasani, 2011; Nye, Orel & Kochergina, 2013). The results from these researches were beneficial to educators in handling students' attitudes and behaviors in classrooms. The personality traits help educators to design academic exercises, assignments or tasks that match students' personality traits. Therefore, students could complete the academic assessments well and contribute to their overall performance. This study is conducted based on the Big Five Personality theory to measure the level of the academic performance among UiTM Pahang students.

2. Literature Review

2.1 Traits of Big Five Personality

The Big Five Personality model consists of five traits and was proposed by Costa and McCrae in 1992. This theory was based on the Five Factor Model (FFM) that comprises of openness, conscientiousness, extraversion, agreeableness, and neuroticism. The Big Five, unlike other personality models, is not based on the theory of one specific psychologist but rather on language that individuals use to understand one another (Jensen, 2007). The model has been discussed in many studies on educational performance by various scholars.

According to Komarraju, Karau, Schmeck and Avdic (2011), conscientiousness is exemplified by being disciplined, organized, and achievement-oriented; neuroticism refers to degree of emotional stability, impulse control, and anxiety; extraversion is displayed through a higher degree of sociability, assertiveness, and talkativeness; openness is reflected in a strong intellectual curiosity and a preference for novelty and variety; agreeableness refers to being helpful, cooperative, and sympathetic towards others.

Clark and Schroth (2010) has also listed out the characteristics of these five personality traits, which are; extroversion is characterized by sociability, spontaneity, and adventurousness; agreeableness is associated with honesty, courtesy, and kindness; conscientiousness is characterized by responsibility, reliability, and organization; neuroticism is associated with insecurity, emotional instability and immaturity; and openness to experience is characterized by intellect, imagination, and preference for variety.

Similarly, Chowdhury (2006) also characterized extroversion as sociable, talkative, communicative and friendly. Conscientiousness is when a particular person concentrates on a particular goal and tries hard to achieve it and the authors believed that this trait suits well with educators. Agreeableness refers to selflessness, good natured, gentle, cooperative, flexible, tolerance courteous and sympathetic. For people who are neurotic, they experience effects such as fear, insecure, sadness, embarrassment and anger; and lastly openness to experience are those who are imaginative, innovative and rule breaking.

2.2 Big Five Personality and Academic Performance

Chamorro-Premuzic and Furnham (2003) have studied on which five personality traits that predict academic performance in two British university samples. For academic performance, they assessed throughout a three year period and via multiple criteria, such as final exam results and final year project. They found that neuroticism and conscientiousness was able to predict overall final exam marks. They concluded that neuroticism may impair academic performance, while conscientiousness may lead to higher academic achievement.

Another study done by Lievens, Ones and Dilchert (2009) has discussed the validity of Big Five personality factors in predicting academic performance in medical school across multiple years in European countries. From their analysis, they found that over time, extraversion, openness to experience and conscientiousness became increasingly valid in predicting grade point averages. So, the personality trait was important in academic performance.

Hakimi, Hejazi and Lavasani (2011) also discussed the relationships between personality traits and academic achievement among students. The study had been done on 285 students from Faculty of Management and Economy, Tehran University. They were using NEO Big Five Personality Factors and students' GPA as a proxy for personality traits and academic achievement. From their analysis, it revealed that personality traits were significantly related to academic achievement. The results also showed conscientious, which explained 39 percent of variance in

academic achievement, was the most important predictor variable. They also tested whether there were differences between female and male students exist. However, from MANOVA and t-test indicated there was no significant gender difference in the personality characteristics and academic achievement.

Komaraju et al. (2011) also concluded that personality traits influences academic achievement. However, the authors investigated both personality traits and learning style (synthesis analysis, methodical study, fact retention, and elaborative processing) influence academic achievement. The study has been done to 308 undergraduates' college students by distributing the Five Factor Inventory and the Inventory of Learning Processes and they filled their grade point average. The study found that conscientiousness and agreeableness were positively related with all four learning styles, whereas neuroticism was negatively related with the learning styles. Besides, it was also found that all of the personality traits explained 14% of the variance in grade point average (GPA), and learning styles explained an additional 3%, suggesting that both personality traits and learning styles contribute to academic performance.

3. Research Methodology

The objectives of this study were to examine the relationship between big five personality traits and academic performance of UiTM Pahang students and to identify the strongest and weakest traits of the big five personality traits among students. This study also investigates whether there are differences between genders in terms of personality traits and academic performance.

In this study, a self-structured questionnaire was designed and distributed to 210 final semester students of Faculty of Business Management. The students were selected as sample using convenience sampling method. From 210 questionnaires, only 180 were valid. The selection of the final semester students was believed that these students' personality has been developed constructively and has life vision and objective. Besides, it is generally because of the accessibility to the researcher and homogeneity as a group. As mentioned by Calder et al. (1981) in their study on the rationale of using university students as respondents, it has been a research method practiced in many countries in the world because it is easier for the researchers to get in touch with their respondents and have similar characteristics as a group.

The questionnaire comprised of two sections; demographic profile in Section A including their GPA and CGPA which as a proxy of academic performance and Section B for Big Five Personality Traits. The data obtained in this study was analyzed using descriptive analysis and multi regression. Statistical Package for Social Sciences, version 22.0 was used to generate the findings in this study.

4. Findings

There were 180 respondents, consisting of all final semester students of Faculty of Business Management, UiTM Pahang. Referring to Table 1, 76.7% were female and 23.3% were male. Most of the respondents were aged between 21 to 22 years old which was 65%, followed by aged of 19 to 21 years old, 33.3% and only 1.7% were aged between 23 to 24 years old. 43.9% of the respondent were from lower income family, with a household income of less than RM1500, another 35% from household income between RM1501 to RM3000, another 12.8% from household income between RM3001 to RM4500, another 5% from household income from RM4501 to RM6000 and the rest were from household income more than RM6000 (3.3%). While for category of origin, it was quite balanced whereby 52.2% were from urban area and 47.8% were from rural area. In terms of academic performance, most of the respondents were from high achievers, whereby most of them scored between 3.01 to 3.5 for both CGPA (37.2%) and GPA (46.1%).

Table 1. Demographic Profiles

<i>Demographic variable</i>	<i>No.</i>	<i>%</i>	<i>Demographic variable</i>	<i>No.</i>	<i>%</i>
Gender			Origin		
Male	42	23.3	Urban Area	94	52.2
Female	138	76.7	Rural Area	86	47.8
Age			GPA		
19 to 20 years old	60	33.3	Less than 2.00	1	0.6
21 to 22 years old	117	65	2.01 – 2.50	13	7.2
23 to 24 years old	3	1.7	2.51 – 3.00	44	24.4
25 years and above	0	0	3.01 – 3.50	67	37.2
			More than 3.50	55	30.6
Household Income			CGPA		
Less than RM1500	79	43.9	Less than 2.00	1	0.6
RM1501 – RM3000	63	35	2.01 – 2.50	11	6.1
RM3001 – RM4500	23	12.8	2.51 – 3.00	50	27.8
RM4501 – RM6000	9	5	3.01 – 3.50	83	46.1
More than RM6000	6	3.3	More than 3.50	35	19.4

Table 2 summarizes the correlation values between the Big Five Personality Traits and students' academic achievement (CGPA and GPA).

Table 2. Correlations of Big 5 Personality Traits and Academic Performance.

	1	2	3	4	5	6	7
1. Extraversion	1						
2. Agreeableness	.540**	1					
3. Conscientiousness	.421**	.670**	1				
4. Neuroticism	.399**	.619**	.658**	1			
5. Openness to Experience	.492**	.604**	.549**	.660**	1		
6. CGPA	.048	.073	.024	-.036	-.055	1	
7. GPA	.056	.066	.043	-.040	-.031	.833**	1

Note. Coefficients above represents correlations between variables for total sample (N=180); Coefficients printed in bold are significant (p<0.01).

The result shows that all of the big five personality's traits had no significant relationship with students' academic performance. Therefore, the academic performance did not significantly relate to personality traits they possessed or vice versa. This result was inconsistent to most of the previous studies whereby at least one of the personality traits will be significantly related with academic performance (Chamorro-Premuzic & Furnham, 2003; Lievens, Ones & Dilchert, 2009; Hakimi, Hejazi & Lavasani, 2011; Komarraju et al., 2011).

Table 3. Descriptive Analysis

	N	Mean	Std. Deviation
1. Extraversion	180	4.0792	.49893
2. Agreeableness	180	4.1014	.50258
3. Conscientiousness	180	4.1528	.52079
4. Neuroticism	180	3.9806	.50102
5. Openness to Experience	180	3.9972	.58136

For further investigation, the strongest personality trait that students possessed was determined. Based on Table 3, the strongest personality trait was conscientiousness ($m = 4.1528$, $SD = 0.52079$) followed by agreeableness ($m = 4.1014$, $SD = 0.50258$). On the other hand, the least frequent personality trait was neuroticism ($m = 3.9806$, $SD = 0.50102$). In order to explore gender differences in personality traits and academic performance, multivariate analysis of variance was used. The result is shown in Table 4.

Table 4. T-tests for Comparisons between Genders in Personality Traits

		Leven Statistics		t-test for Equality of Means					
		F	Sig.	t	df	Sig.	Mean Difference	Std. Error Difference	95% CI
1. Extraversion	Equal variances assumed	7.600	0.006	-0.114	178	0.909	-0.010	0.088	[-0.184, 0.16]
	Equal variances not assumed			-0.099	56.039	0.922	-0.010	0.102	[-0.214, 0.194]
2. Agreeableness	Equal variances assumed	3.267	0.072	-0.615	178	0.539	-0.055	0.089	[-0.229, 0.120]
	Equal variances not assumed			-0.572	61.228	0.569	-0.055	0.095	[-0.245, 0.136]
3. Conscientiousness	Equal variances assumed	0.696	0.405	0.281	178	0.779	0.026	0.092	[-0.155, 0.207]
	Equal variances not assumed			0.263	61.780	0.793	0.026	0.098	[-0.170, 0.222]
4. Neuroticism	Equal variances assumed	3.420	0.066	0.638	178	0.524	0.056	0.088	[-0.118, 0.231]
	Equal variances not assumed			0.588	60.479	0.559	0.056	0.096	[-0.135, 0.248]

5. Openness to Experience	Equal variances assumed	1.13 6	0.28 8	-1.102	178	0.27 2	-0.113	0.102	[-0.314, 0.089]
	Equal variances not assumed			-1.027	61.397	0.30 8	-0.113	0.110	[-0.332, 0.107]
6. CGPA	Equal variances assumed	0.45 3	0.50 2	-4.035	178.00 0	0.00 0	-0.580	0.144	[-0.863, -.296]
	Equal variances not assumed			-4.138	70.624	0.00 0	-0.580	0.140	[-0.859, -.300]
7. GPA	Equal variances assumed	0.18 8	0.66 5	-4.498	178.00 0	0.00 0	-0.708	0.157	[-1.018, -.397]
	Equal variances not assumed			-4.881	77.929	0.00 0	-0.708	0.145	[-0.996, -.419]

The Levene’s tests for the personality traits except extraversion are found to be statistically not significant; therefore the null hypothesis was not rejected and should assume equal variances. The result of t-test also indicated that the two groups (male and female) were relatively the same (agreeableness, conscientiousness, neurotism and openness to experience). However for extraversion, the Levene’s test indicated unequal variances ($F = 7.6, p = 0.006$), so degrees of freedom were adjusted from 178 to 56. The t-test’s significance was 0.922, thus the condition did not appear to be a difference in means. The null hypothesis was accepted. The result revealed that there were no significant gender differences among students in the personality traits. Hakimi, Hejazi and Lavasani (2011) also found that there was no significant gender difference in the personality characteristics among students of Behavioral Sciences, Faculty of Management and Economy from Tehran University.

Next, the students’ academic performance between genders were compared. Table 4 shows the results of Levene’s test for CGPA ($F=0.453; sig = 0.502$) and GPA ($F=0.188, sig=0.665$) that indicated that equal variance assumed. However, the results of t-test indicated that there was a significant difference in academic performance; CGPA for male ($M=3.33, SD=0.786$) and female ($M=3.91, SD=0.824$) conditions; $t(178)=-4.035, p = 0.000$ and GPA for male ($M=3.36, SD=0.791$) and female ($M=4.07, SD=0.922$) conditions; $t(178)=-4.498, p = 0.000$.

This analysis shows that there was no difference between the genders in personality traits. However, this result does not match their academic performance. The female students were found to perform better than male students with mean scores for both CGPA and GPA were higher.

5. Conclusion

This study was carried out to examine the relationship between the Big Five Personality Traits (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness) and students’ academic performance (CGPA and GPA). The results from the analysis revealed personality traits were not significantly related to the academic performance.

From the descriptive analysis, it was found that the most frequent personality trait that student possessed was conscientiousness followed by agreeableness, extraversion, openness to

experience and the least frequent was neuroticism. The respondents were final semester students and they have their own goal, are focused and persistent in their action.

The result of gender differences in personality traits showed that there was no significant difference between male and female students. In Malaysia's current scenario, men and women hold the same level of position in many fields such as politics, economy and social. Therefore, men and women are getting gradually closer to each other in their attitudes and personality. However, for the academic performance, there was a significant difference between male and female students. Female students were found to perform better in their academic matters as compared to male students. This finding is consistent with Etkinson (2004), which reported female students were better in all subjects.

Nowadays, academic performances are important to ensure students has place in the employment field. The findings from this study may provide information to lecturers, university and the curriculum developers in designing academic assessment based on the learners' personality differences. These differences should be considered when lecturers deal with different personality students and should be accounted in developing the educational curriculum.

6. References

- Calder, B. J., Phillips, L. W., & Tybout, A. M. (1981). Designing research for applications. *Journal of Consumer Research*, Vol. 8.
- Chamorro-Premuzic, T., & Furnham, A. (2003). Personality traits and academic examination performance. *European Journal of Personality*, 17, 237-250.
- Chowdhury, M. (2006). Students' Personality Traits and Academic Performance: A Five-Factor Model Perspective. *College Quarterly*. Vol 9 (3). Retrieved on 17 July 2014 from <http://www.collegequarterly.ca/2006-vol09-num03-summer/chowdhury.html>.
- Clark, M. H., & Schroth, C. A. (2010). Examining relationships between academic motivation and personality among college students. *Learning and Individual Differences*, 20, 19-24.
- Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) manual. Odessa, FL: Psychological Assessment Resources.
- Hakimi S., Hejazi E., & Lavasani, M. G. (2011). The Relationships between personality traits and students' academic achievement. *Procedia - Social and Behavioral Sciences*, 29, 836-845.
- Jensen, S. A. (2007). Relationship between personality and job burnout among special education teachers (Doctoral dissertation, Capella University, 2007). Dissertation Abstracts International, 28-31. (UMI No. 32745980).
- Kassin, S. (2003). Psychology. NJ: Prentice-Hall.
- Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The big five personality traits, learning styles, and academic achievement, *Personality and Individual Differences*, 51, 472-477. Retrieved on 11 July 2014 from <http://psychology.okstate.edu>.
- Lievens, F., Ones, D. S., & Dilchert, S. (2009). Personality scale validities increase throughout medical school. *Journal of Applied Psychology*, 94, 1514-1535.
- Nye, J., Orel, E., & Kochergina, E. (2013). Big five personality traits and academic performance in Russian universities. Basic Research Program: Working Papers, National Research University Higher School of Economics. Retrieved 11 July 2014 from <http://www.hse.ru/data/2013>.
- Singh, A. K. (2012). Does trait predict psychological well-being among students of professional courses? *Journal of the Indian Academy of Applied Psychology*, 38 (2), 234-241.