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THE ROLE OF BIG FIVE PERSONALITY TRAITS IN PREDICTING PROSPECTIVE EFL TEACHERS' ACADEMIC ACHIEVEMENT*

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Abstract

This study sought to find out the possible relationships between personality traits and academic achievement of prospective English as a Foreign Language (EFL) teachers. A total of 200 university students from a major state university voluntarily participated in the study. Data were collected through the International Personality Item Tool (IPIP) and the self-reported grade-point average (GPA). The tool was designed to determine the dominant personality trait(s) of the participants within the scope of Big Five Personality Traits; that is, conscientiousness, extraversion, agreeableness, openness and neuroticism. In line with the literature the results revealed that there were statistically significant relationships between the participants' personality traits and academic achievement. Specifically, conscientiousness, openness and agreeableness were the personality traits that positively and significantly correlated with academic achievement. Furthermore, in order to find out the predictive effects of the personality traits on academic achievement, the multiple regression analyses were conducted. According to the results of the analyses, personality traits were able to predict 17% of the academic achievement, with openness being the strongest determinant. Conscientiousness followed openness while three other traits failed to predict academic achievement of the participants.

Keywords: EFL, teacher education, personality traits, academic achievement, prospective English teachers

1. Introduction

The growing interest of researchers in the individual differences during the 20th century has led to the rise of many theories covering individual differences. Some of these theories have dealt with issues such as anxiety, gender, age or attribution. However, when individual differences are regarded, personality is often one of the first constructs associated with these differences. Essentially, it covers all the features and deeds that make people as they are. It was also defined as "individuals' characteristic patterns of thought, emotion and behavior together with the psychological mechanisms – hidden or not – behind those patterns" (Funder, 2001, p. 2). As it is one of the most critical individual differences, it has been studied extensively and thoroughly (Busato, Prins, Elshout, & Hamaker, 2000; Komarraju & Karau, 2005). As a result, numerous models, theories and approaches have been created in an attempt to find out how personality traits work in different settings. The main rationale for the rise of personality models and theories lays on the fact that many researchers (e.g., Barratt, 1995; Blickle, 1996; Farsides & Woodfield, 2003) claimed that personality had an effect on the way learners accumulate and process information. More specifically, Chamorro-Premuzic and Furnham (2003a, 2003b, 2004, 2005) alleged that personality traits could

determine academic outcomes together with the intelligence factor. Existence of a great number of studies on the impact of personality traits on learning encouraged contemporary researchers to dig into other links between personality traits and learning. However, only a couple of studies tried to enlighten these links from prospective EFL teachers' point of view. The present study, therefore, aimed at finding out the possible relationships between personality traits and academic achievement of the prospective EFL teachers.

2. Literature Review

2.1. The Big Five Personality Traits Model

As personality is found out to make a difference in academic achievement (Chamorro-Premuzic, & Furnham, 2006; Conrad & Patry, 2012; Noftle & Robins, 2007), certain models, theories and approaches have been developed to uncover the possible effects of personality on learning. The Big Five Personality Traits Model stood out for many reasons. To begin with, these five traits, i.e. openness to experience, conscientiousness, extraversion, agreeableness and neuroticism, overlap perfectly with the studies that include more or less traits than those in the Big Five Personality Traits Model. Verhoeven and Vermeer (2002) stated that these five traits are "dynamic but nevertheless relatively stable dispositions and indicators of personal needs" (p. 373). Additionally, the model uses terms that can be used universally. In other words, it creates a common jargon for the researchers working on personality.

With the help of The Big Five Personality Traits, earlier studies found out promising results between personality traits and academic achievement. For example, Chamorro-Premuzic and Furnham (2003) discovered that conscientiousness was a strong and determinant predictor of learners' performance in exams. Similarly, Bipp, Steinmayr, and Spinath (2008) discovered an inverse relationship between conscientiousness and work avoidance orientation. Furthermore, in his study about the relationships between personality traits and SAT scores of the learners, Conard (2006) found out that learners who were high in conscientiousness tended to have higher SAT scores. More recently, Feyter, Caers, Vigna and Berings (2012) observed a strong link between conscientiousness and academic motivation and also academic performance.

As openness refers to being intellectually inquisitive and having a strong desire to have variety (Komarraju & Karau, 2005), a great number of studies (Busato, Prins, Elshout, & Hamaker, 1999; Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003a; Zhang, 2002; 2003) associated it with higher achievement. In line with the earlier studies, Bidjerano and Dai (2007) found out that learners having high levels of openness made better use of time management and effort regulation, which led academic success. Farsides and Woodfield (2003) stated that openness was one of the traits that predicted final grades. However, several scholars (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Gray & Watson, 2002; Furnham & Monsen, 2009) warned that the results regarding openness varied in different settings.

Extraversion is another personality trait that needs a closer look. Essentially, it is "characterized by sociability, spontaneity and adventurousness" (Clark & Schroth, 2010, p.20). Therefore, it was claimed that it might have both facilitative (e.g. Poropat, 2009) and inhibitive effects (e.g., De Raad & Dchouwenburg, 1996; Feyter, Caers, Vigna, & Berings, 2012) on academic achievement and performance.

Similar to extraversion, the links between agreeableness and academic achievement are not always consistent and statistically significant. Although there are a number of studies that found out positive relationships between academic achievement of the learners (Duckworth

& Seligman, 2005; Farsides & Woodfield, 2003; Furnham, Zhang, & Chamoro, 2006; Lounsbury, Sundstrum, Gibson, & Loveland, 2003b; Zhang, 2002; 2003), Hakimi, Hejazi, and Lavasani (2011) found out that agreeableness did not have a predictive role in academic achievement.

The last one of the big five personality traits, neuroticism is defined as "individual differences in one's disposition towards constructing, perceiving and feeling realities in threatening, disturbing or problematic ways" (Hakimi et al., 2011, p. 837). Due to its nature, neuroticism was negatively associated with academic achievement (Duff, Boyle, Dunleavy, & Ferguson, 2004; Laidra, Pullmann, & Allik, 2007; Lounsbury et al., 2003a; Mathews & Zeidner, 2004). In line with the earlier studies, Furnham and Monsen (2009) hypothesized that neuroticism and academic performance were negatively correlated due to the fact that the stress level that neurotic learners experienced was much higher than the facilitating level.

3. Methodology

3.1. Research Design

This study was conducted with a quantitative research design and survey methodology. No manipulation of the environment or the participants was required. As in many quantitative research designs, participants of the study were expected to provide data with the help of the instrument in their natural education settings where no intervention was planned or utilized.

3.2. Setting and Participants

Data for this study were collected from students (*N*=200; female: 159; 79.5%; male: 41; 20.5%) enrolled in an English as a Foreign Language (EFL) teacher education program at a major state university. Convenience sampling technique, a well-known non-probability sampling technique in language studies, was used in selecting the participants for the study.

3.3. Measures

In addition to a self-report measure of participants' current GPA, Goldberg's International Personality Item Pool (2001) was used. The 50-item tool consists of two sections called Personality Traits and Global Personality Traits. It has a Likert-Scale design with responses from 1, referring to "very inaccurate of me", to 5, meaning "very accurate of me". Depending on the answers of the participants, the measure was intended to reveal the dominant personality trait(s) according to the Big Five Personality Traits Model. The reliability analysis based on the current data was also computed and provided below.

Table 1. *Reliability values of Goldberg's international personality item pool*

	Cronbach Alpha	***N of Items***
Conscientiousness	.69	10
Openness	.79	10
Extraversion	.74	10
Agreeableness	.63	10
Neuroticism	.83	10
Total	.78	50

The internal consistency of the five subscales ranged from α=.83 to α=.63 (conscientiousness .69, openness .79, extraversion .74, agreeableness .63, neuroticism .83)

3.4. Data Collection and Analysis

The present study was conducted with prospective English language teachers at a major state university in Ankara. Before data collection, all necessary permissions were taken from the Ethics Commission of the university. In addition, all participants were given a consent form, through which they were informed that it was a voluntary survey and that they were free to stop participating at any time they wanted. In order to see the probable relationships between personality traits and academic achievement, some statistical analyses were conducted with the help of IBM SPSS Statistics 20. Given that the data were normally distributed and necessary assumptions were met, the Pearson-Product Moment Correlation test was conducted to find out whether there were any relationships between Big Five personality traits and academic achievement. In addition, multiple regression analysis was carried out to explore the predictive power of the personality traits. Among several other methods of multiple regression, enter method was used for the current study.

4. Results

The present study investigated the relationships between personality traits and academic achievement. Additionally, the study sought the role of personality traits in predicting the academic achievement of pre-service EFL teachers.

As the data met the major requirements of certain assumptions such as normality, linearity, multicollinearity and homogeneity of variance, parametric tests specifically correlation and regression tests could be run.

The Pearson-product moment correlation test was run in order to reveal the relationship between academic achievement and Big Five personality traits. The intercorrelation of the Big Five personality traits and GPA of the participants were presented below.

Table 2. *The intercorrelation of the big five personality traits and GPA*

		1	*2*	*3*	*4*	*5*	*6*
1 GPA	*Pearson Correlation*	1					
2 Conscientiousness	*Pearson Correlation*	.315**	1				
	Sig. (2-tailed)	.000					
3 Openness	*Pearson Correlation*	.331**	.323**	1			
	Sig. (2-tailed)	.000	.000				
4 Agreeableness	*Pearson Correlation*	.214**	.326**	.437**	1		
	Sig. (2-tailed)	.002	.000	.000			
5 Extraversion	*Pearson Correlation*	.132	.170*	.390**	.375**	1	
	Sig. (2-tailed)	.065	.019	.000	.000		
6 Neuroticism	*Pearson Correlation*	.044	-.145*	-.119	-.009	-.338**	1
	Sig. (2-tailed)	.539	.047	.104	.897	.000	

As seen in the table, several positive correlations existed between GPA and Big Five personality traits; that is, openness, conscientiousness, extraversion, agreeableness and neuroticism; coefficients ranging from .214 to .331 (p<.01).

The results of Pearson-product moment correlation test indicated that conscientiousness as one of the Big Five personality traits was positively and significantly correlated with academic achievement of the participants, r=.315, p < .01. In addition, there was a significant and positive correlation between openness and academic achievement of the participants according to the result of the correlation analysis, r=.33, p<.01. Finally, there was a statistically significant and positive correlation between academic achievement of the

participants and their agreeableness, r=.215, p<.01. However, no statistically significant relationships were found between academic achievement and extraversion, r=.132, p=.65. Contrary to common belief in literature, no negative correlations existed between neuroticism and academic achievement, r=.044, p=.53.

The second part of the study included multiple regression analysis. The main aim of this analysis was to observe the predictive effects of the personality traits on academic achievement of the participants. Thus, Big Five personality traits were entered to see the effects of Big Five personality traits on GPA. Table 3 below shows the results of the multiple regression analysis.

Table 3. *Multiple regression analysis results*

Model		***Unstandardized Coefficients***		***Standardized Coefficients***	***t***	***Sig.***
		B	***Std. Error***	***Beta***		
1	***(Constant)***	1.987	.248		8.010	.000
	Conscientiousness	.128	.042	.230	3.046**	.003
	Openness	.162	.046	.285	3.509**	.001
	Agreeableness	-.005	.053	-.007	-.089	.929
	Extraversion	.002	.041	.005	.060	.952
	Neuroticism	.049	.032	.113	1.514	.132

Multiple R = .42 R^2 = .17 Adjusted R^2 = .15

**p < .01

As it can be seen from the table above, after all variables were entered into the equation, Multiple R appeared to be .42 (p< .01). When the Beta values were examined, it was found out that Conscientiousness and Openness were able to predict GPA grades of the participants positively and significantly (β =.23 and β=.28 respectively, p<.01). In addition, the predictive power of Openness was stronger than that of Conscientiousness. The results demonstrated that other three personality traits failed to predict academic achievement of the participants (p>.05). Thus, the multiple regression analysis results indicated that personality traits, specifically Conscientiousness and Openness were able to explain 17% of the variance in participants' GPA.

5. Discussion

The present study aimed at finding out the potential links between personality traits and academic achievement. The results of the current study indicated that personality and academic achievement were closely and significantly correlated. Specifically, Openness, Agreeableness and Conscientiousness were the personality traits which correlated significantly with academic achievement of the participants. In addition, personality traits all together were able to predict 17% of the variance in GPA grades. Openness and Agreeableness were the two personality traits which led to statistically significant changes in GPA of the participants.

The results of the study were in line with the literature. The previous studies also alleged that personality traits were always influential factors in foreign language teaching (Dörnyei, 2005). It affected not only behaviors of the individuals but also attitudes and emotions towards certain issues (Hogan, Hogan, & Roberts, 1996). Therefore, lots of researchers conducted studies on the concept of personality and related it to language learning (e.g., Chamorro-Premuzic & Furnham, 2004; Rinderman & Neubauer, 2001; O'Connor &

Paunonen, 2007). Chamorro-Premuzic and Furnham (2003a), for instance, claimed that personality and academic performance were positively and significantly associated. Similarly, it was also asserted that personality could predict academic achievement significantly (Farsides & Woodfield, 2003). Hakimi et al. (2011) also found out that personality traits were able to predict 48% of academic achievement, which showed the power of personality traits on academic achievement.

As the results revealed, Openness had statistically significant relationships with academic achievement of the participants. It also had the biggest predictive power among other personality traits. The results of the both correlation and regression analyses were in line with the earlier research. To illustrate, Farsides and Woodfield (2003) stated that Openness had a predictive power on the final grades of the participants. Similarly, another study by Komarraju and Karau (2005) indicated that open learners tended to attend classes more regularly and these learners were more achievement-oriented compared to non-open learners. The results of Öz's study (2015) supported the previous studies by claiming that there was a link between Openness and powerful goal orientations, which fostered learning. Many other scholars (e.g., Ackerman & Heggenstad, 1997; Busato et al., 2000; Lounburry et al., 2003) also suggested that use of such techniques helped open learners to succeed more.

Conscientiousness has always been regarded as one of the strongest predictors of academic achievement (Cheng & Ickles, 2009; Diseth, 2003; Feyter et al., 2012). In line with the studies, Conscientiousness followed openness in terms of the correlation value and predictive power. A strong correlation existed between conscientiousness and academic achievement. It was also able to statistically predict academic achievement. Aligned with the results of the current study, Chamorro-Premuzic and Furnham (2003a) claimed that Conscientiousness was able to predict exam performance of the participants. Similarly, in his study on the effects of personality traits on SAT scores, Conard (2006) found out that Conscientiousness was associated with academic performance and academic motivation. Another study by Hakimi et al. (2011) discovered that Conscientiousness was able to predict the variance in academic achievement. When the results of the earlier studies and the nature of Conscientiousness as a personality trait were taken into account, it was quite rational to expect such results.

The results of the present study also showed a positive relationship between Agreeableness and academic achievement. The correlation between academic achievement and Agreeableness was statistically significant. However, as the table presented, the link was not as striking as it was in Conscientiousness and Openness. Parallel to the current results, earlier studies found out positive links between Agreeableness and academic achievement. Farsides and Woodfield (2003), for instance, asserted that Agreeableness and school grades were positively associated. Similarly, the results of Zhang's study (2002) stated that agreeable learners focused on higher grades compared to non-agreeable peers. Yet, as opposed to the results of the correlation analysis, multiple regression analysis indicated that Agreeableness failed to make statistically significant difference in the variance of GPA of the participants. Although the correlation between agreeableness and academic achievement was significant, agreeableness was not a statistically significant predictor of GPA. In line with this result, certain studies (e.g., Hakimi et al., 2011) claimed that despite the existence of the positive correlation, Agreeableness could not predict GPA or academic achievement of the participants. When both results are taken into account, it can be inferred that Agreeableness is a personality trait that needs closer examination.

The results of the correlation analysis indicated that there were neither positive nor negative relationships between Extraversion and GPA of the participants. Similarly, multiple

regression analysis did not find out any predictive effects of Extraversion on GPA. As Duff et al. (2004) stated, nature of the Extraversion led inconclusive results. That is, extraversion included some features such as being socially active, having desires to contact with other people, and these features were expected to help learning, especially peer learning. From this point of view, Extraversion was thought to foster learning. Certain studies (e.g., Chamorro & Furnham, 2003a; Hakimi et al., 2011) came up with results indicating positive relationships between academic achievement and Extraversion. However, there were more studies (e.g., Furnham & Monsen, 2009; Furnham, Zhang, & Chamorro, 2006; Hakimi, 2011; Matthews, 1997; O'Connor & Paunomen, 2007; Oswald et al., 2004; Rolfhus & Ackerman, 1996) claiming that Extraversion was negatively associated with academic achievement. Therefore, Extraversion is one of the traits that needs to be approached with care.

Neuroticism has always been associated with negative emotions (Busato et al., 2000), inclination for stress (McCrea & John, 1992) and insecurity (Clark & Schroth, 2010). Thus, many studies (e.g., Hakimi et al., 2011; Komarraju & Karau, 2005; Laidra et al., 2007; Matthews & Zeidner, 2004) demonstrated negative correlations between academic achievement and Neuroticism due to the fact that stress and negative emotions that such individuals experienced hindered learning (Duff et al., 2004).

Different from these results, correlation analysis results of the current study indicated no statistically significant relationships between academic achievement and Neuroticism. Likewise, Neuroticism did not have a negative predictive power on GPA grades of the participants in multiple regression analyses. Although these results were not in line with the studies cited earlier, many studies came up with interesting results with regard to academic achievement and Neuroticism. Komarraju, Karau and Schmeck (2009), for instance, stated that the links between Neuroticism and academic achievement were more multifaceted than labeling Neuroticism as a purely negative trait. In that study, Komarraju et al. (2009) discovered certain positive correlations between Neuroticism and achievement. In line with their study, Bratko et al. (2006) argued that neurotic individuals might also achieve because they possessed certain level of anxiety which might, in fact, facilitate learning at various settings.

Like the results of the current study, various studies (Nguyen et al., 2005; Rosander, Backstrom, & Stenberg, 2011) found out no relationships between academic achievement and Neuroticism. Even though Neuroticism has always been labelled as a trait hindering learning, such results, in a way, may help individuals to come up with the prohibitive effects of Neuroticism.

6. Conclusion

The current study aimed at finding out the possible relationships between Big Five personality traits and academic achievement. In the light of previous studies, several statistically significant relationships among these concepts were expected. Considering the small number of studies conducted with pre-service teachers of English, it was believed that there was a gap in literature. In an attempt to contribute to the literature, data were collected from 200 pre-service teachers of English. IPIP-Five-Factor Markers by Goldberg (2001) was used as the data collection tool. In addition, demographic information such as age, grade and GPA was obtained prior to the questionnaires. After the data collection was over, the data were analyzed with the help of the data analysis software, SPSS 20.0. Correlation and multiple regression analyses were used. The results of the study revealed several significant relationships among personality and academic achievement. To start with, statistically significant relationships between academic achievement and conscientiousness, openness and agreeableness were discovered. However, multiple regression analysis showed that only

conscientiousness and openness were able to predict academic achievement significantly. Finally, overall findings indicated that personality traits predicted 17% of the academic achievement.

The current study aimed at finding out promising relationships in a unique environment with unique participants and as a result, contributing the existing literature. In such an attempt, the study revealed several interesting but promising results for not only educators but also learners. Hopefully, further studies on personality and academic motivation might raise better awareness in learners and create better learning environments.

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