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PERSONALITY ASPECTS INVOLVED IN ACADEMIC PERFORMANCE

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Abstract: *The aim of this study was to investigate the relationship between Conscientiousness, Neuroticism and school performance. In the present study are included a sample of 158 secondary school students, 118 female respondents and 40 male respondents from Brasov County. The instruments used in this study were the Conscientiousness scale from Big Five questionnaire and the Eysenks' Neuroticism scale. Results showed that there are strong associations between Conscientiousness and school performance and negative correlation between Neuroticism and Conscientiousness. The results confirm the findings of previous studies regarding highly significant association between GPA and conscientiousness. GPA differences between the two groups above and below average, in terms of the conscientiousness, are statistically significant. Between Neuroticism and GPA we have not identified any significant direct relationships, neither difference between emotionally stabile and anxious individuals regarding GPA scores.*

Keywords:*Neuroticism, Conscientiousness, academic performance.*

1. Introduction

Within specialty studies from the area of educational psychology, researches have shown a diversification in an effort to identify factors that influence learning in depth and thus academic performance. Some of these studies have focused on how the academic skills and personality factors determine learning and academic success (Galla, Wood, Tsukayama, Har, Chiu, Langer, 2014). Because learning is the process of operating with information that has as central elements thinking, memory, attention and perception, this process is actually influenced by other factors like mental management and responses to stimuli (Verešová, 2015). Personality traits act as intermediaries between the learning processes and the mechanisms of response to stimuli. Conscientiousness is one among the personality traits that have been shown to predict academic success (Swanberg, Martinsen, 2010; Noftle, Robins, 2007).

Conscientiousness is a personality factor, according to the Big Five model. Research shows that it is an important predictor of academic performance (Trapmann, Hell, Hirn, Schuler, 2007). Conscientiousness describes how the person controls, regulates and directs the pulses, even in stressful situations.

Individuals with high scores on this dimension avoids risk taking, preferring rigorous planning and perseverance in order to achieve success in what they set their mind to do. Furthermore, students with high scores at this factor have a high level of attention concentrated in learning situations (Saklofske, Austin, Mastoras, Beaton, Osborne, 2012) experiencing low levels of stress, and have confidence in their potential. Therefore they obtain superior outcomes in learning tasks (Poropat, 2014). Extremes of this scale are perfectionists and, diametrically opposed to individuals who do not accomplish things, who lacking in ambition and which do not comply with rules.

An optimal level of Conscientiousness involves effective regulation of attention on the task in order to control emotions and actions. Also, these students frequently use self-regulation and time management strategies, are orientated towards goals, make plans and follow rules in order to adapt to educational requirements (Poropat, 2014).

Academic performance is one of the most investigated aspects of educational psychology. There were analyzed various factors which influence the level of educational achievement. One of them is Conscientiousness, taken into consideration in various combinations, along with other personality factors. Research indicates that a considerable proportion of the variance of performance is determined by Conscientiousness (Trapmann, Hell, Hirn, Schuler, 2007;Chamorro-Premuzic, Furnham, 2008). The question that arises is: How can we foster the development of students' conscientiousness?

Neuroticism is the personality factor which, at a high level, determines negative emotional feelings have such as: anxiety, anger, depression (Ng, Eby, Sorensen, Feldman, 2005; Judge, Hurst, 2007). High scores at this factor reveal a tendency toward impulsive, intense emotional reactions. Persons in this situation shall tend to interpret ordinary situations as threatening and transform frustrations in insurmountable obstacles (Popa, 2013).

Some researches highlight the fact that a high level of Neuroticism can lead to poor academic performance, showing a strong negative correlation between anxiety and academic achievement (Trapmann, Hell, Hirn, Schuler, 2007). Specialists are reserved regarding the predictability of the Neuroticism factor, due to various correlations obtained by factors facets (anxiety, hostility, depression, self-awareness, impulsivity and vulnerability) with school performance (Trapmann, Hell, Hirn, Schuler, 2007). Has been proven that the

more an individual is less emotionally stable, the more he tends to focus on negative thoughts and feelings, on the fear of making mistakes and not on the error itself preventing individuals to learn from mistakes, reducing learning by association due to distraction from the learning tasks to negative thoughts and feelings (Poropat, 2014).

Academic performance has a significant social value. The concept is operationalized as the totality of notes or the average of the scores obtained by a subject at a school discipline or the average annual scores of a student (Richardson, Abraham, Bond, 2012). School rating is "an index which corresponds to certain yield of school performance" (Cucoş, 2008). Thus, school performance is defined as the total yield of the student learning activity. The concepts that designate educational reality given by the level of school performance are: educational success, school efficiency, school improvement, school success (Panţuru, Voinea, 2006; Tulbure, 2010; Gherasim, Butnaru, 2013). Other experts highlight the subjective side of school activities, defining performance in learning as the self-assessment of acquired knowledge, understanding the skills developed and the desire to learn more (Young, Klemz, Murphy, 2003).

In a previous study, we observed that the variables that have a strong influence on school performance are the level of internal regulation (ρ (270) = 0, 514, p = 0,00), intrinsic motivation (ρ (270) = 0, 402, p = 0,00) and perceived self-efficacy (ρ (270) = 0, 515, p = 0,00) (Popa, 2013).

2. Objectives

The general aim of this research paper is to investigate the relationship between Conscientiousness, Neuroticism and Academic performance.

The research objectives are:

1. To investigate the relations between Neuroticism, Conscientiousness and Academic performance.

2. To investigate the differences between students with high levels and those with low levels regarding the Neuroticism, Conscientiousness and Academic performance.

3. Method

3.1. Participants

The research was conducted with the participation of 158 students. The lot contains 110 students aged 13, 44 students aged 14, 4 students aged 15. 89 respondents meaning 56.3% are from rural areas and 43.7% respectively 69

participants are from urban areas, 118 female respondents (74.7%) and 40 of respondents are male (25.3%).

3.2. Instruments

A high level on **Neuroticism scale** leads to poor academic performance, showing a strong negative correlation between anxiety and academic achievement (Trapmann, Hell, Hirn, Schuler, 2007). To measure the emotional stability has been used the 12-item Neuroticism scale of Eysenck Personality Inventory (Eysenck, Eysenck, 1968). Items are scored on a 5-point Likert scale from 1 = strongly disagree, to 5 = strongly agree. No item is reverse scored (e.g. „I like mixing with people"). The alpha Cronbach coefficient obtained for this scale is α=.890. (N=158) slightly lower than the values in literature α = .910.The scale that measures the **Conscientiousness** dimension is comprised of 11 items from Big Five Personality Inventory (BFI), version adapted for middle school children, built by John, OP, & Srivastava, S. (1999), with a 0.826 coefficient Alfa Cronbach. Items are scored on a 5-point Likert scale from 1 = strongly disagree to 5 = strongly agree. Six items are reverse scored (e.g. „Often forget to put things back in their proper place"). The alpha Cronbach coefficient obtained for this scale is α=.851 according to the values presented by International Personality Item Pool for this scale between α=.79 and α=.88.

We operationalized school performance according to definitions provided by scientific literature. Thus, we obtained the consent and extracted from schools records the students' GPA.

4. Results

In *Table No.1 Descriptive statistics,* regarding respondents' answers for Conscientiousness scale, we can observe the following characteristics: mean = 38.52, median = 40.00, standard deviation = 9.218, asymmetry indicator Skewness = -0.586, vaulting indicator Kurtosis = -0.231, a minimum score of 13 and a maximum of 55, participants achieving scores in both minimum and maximum extreme thresholds allowed by the questionnaire that has an average score of 33.The respondents' scores for Neuroticism scale present the following characteristics: mean = 38.75, median = 39.00, standard deviation = 10.915, asymmetry indicator Skewness = -0.209, vaulting indicator Kurtosis = -0.562, a minimum score of 12 and a maximum of 60, participants achieving maximum scores in extreme thresholds allowed by the questionnaire that has an average score of 36.

We note that the average respondents' scores are higher than the average score of the questionnaires. As regards the students GPA the group shows the

following characteristics: mean = 8.49, median = 8.44, standard deviation = 0.636 indicator of asymmetry Skewness = 0.052 indicator vaulting Kurtosis = -0.390, a minimum score of 7.02 and a maximum of 9.95.

Table no.1 Descriptive statistics

	Conscientiousness	Neuroticism	GPA
Mean	38.52	38.75	8.49
Median	40.00	39.00	8.44
Std. Deviation	9.218	10.915	0.636
Skewness	-0.586	-0.209	0.052
Kurtosis	-0.231	-0.562	-0.390
Minimum	13.00	12.00	7.02
Maximum	55.00	60.00	9.95

The first objective of the research will be examined by identifying the associations between the three factors postulated in the introduction. Thus we observe that the Conscientiousness variable correlates strongly and significantly with GPA (r (158) = 0, 294, $p \leq 0{,}001$), also with Neuroticism variable (r (158) =- - 0,197, $p \leq 0{,}013$) identifying a reversed statistically significant association. The values of correlation coefficients of the analyzed variables show that relations are average, but they are at a very good level of materiality threshold. (Table no 2 Correlations between Conscientiousness, Neuroticism and GPA). There weren't found any direct relationships between Neuroticism and GPA (r (158) = - 0.045, $p \leq 0.575$).

Table no 2 Correlations between Conscientiousness, Neuroticism and GPA

		Conscientiousness	Neuroticism
GPA	Pearson Correlation	0.294**	-0.045
	Sig. (2-tailed)	0.000	0.575
Conscientiousness	Pearson Correlation		-0.197*
	Sig. (2-tailed)		0.013

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

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

In order to identify whether there are differences in terms of academic performance between students with scores above and those with scores below average at the Conscientiousness variable, we have applied the independent-samples t test. Thus in Table no 3 t test for comparing students GPA and Conscientiousness, we can observe that the mean scores of students who have a high level of conscientiousness (M = 8.618, SD = 0.572) were significantly

higher (t = 3.411, df = 156, p≤0,01) than the average scores of students with low level of the conscience (M = 8.356, SD = 0.678).

Table no 3 t test for comparing students GPA and Conscientiousness

	Conscientiousness	N	Mean	Std. Deviation
GPA	>= 40.00	83	8.618	0.572
	< 40.00	75	8.356	0.678

Table no. 4 Independent Samples t Test for Conscientiousness

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Conscientiousness	Equal variances assumed	3.411	0.067	2.630	156	0.009	0.26194

Regarding objective no. 2, in order to identify whether there are differences in terms of academic performance between students with scores above and those with below average scores at the Neuroticism variable,we have applied the independent-samples t test. Thus, in *Table no 5 t test for comparing students GPA and Neuroticism,* we can observe that the mean scores of students who have high levels of Neuroticism (M = 8.471, SD = 0.643) are not significantly different (t = -0.452, df = 156, p≤0.652) compared to the mean scores of students who have low levels of Neuroticism (M = 8.517, SD = 0.632).

Table no 5 t test for comparing students GPA and Neuroticism

	Neuroticism	N	Mean	Std. Deviation
GPA	>= 39.00	83	8.471	0.643
	< 39.00	75	8.517	0.632

Table no. 6 Independent Samples t Test for Neuroticism

	Levene's Test for Equality of Variances	t-test for Equality of Means

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Neuroticism	Equal variances assumed	0.138	0.711	-0.452	156	0.652	-0.04594

Regarding objective no. 2, in order to identify whether there are differences in terms of emotional stability between students with scores above and those with scores below average at the Conscientiousness variable, we have applied the independent-samples t test. Thus in *Table No 7 t test for comparing Neuroticism and Conscientiousness,* we can observe that the mean scores of students who have a high level of Conscientiousness (M = 36.951, SD = 11.318) have a significantly lower Neuroticism mean (t = -2.209, df = 156, $p \leq 0.05$) than the average scores of students with low Conscientiousness (M = 40.746, SD = 10.157).

Table no 7 t test for comparing students Conscientiousness and Neuroticism

	Conscientiousness	N	Mean	Std. Deviation
Neuroticism	>= 40.00	83	36.951	11.318
	< 40.00	75	40.746	10.157

Table no. 8 Independent Samples t Test for Conscientiousness and Neuroticism

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Neuroticism	Equal variances assumed	0.352	0.554	-2.209	156	0.029	-3.79486

5. Conclusions

The study results confirm the conclusion of previous studies regarding highly significant association between GPA and Consciousness thereby we can state that students who have a high level of the conscience obtain higher grades

during the school year. This statement is supported by GPA differences between the two groups above and below average in terms of the Conscience scale score. Regarding Neuroticism, between it and GPA, we have not identified any significant direct relationship neither differences between emotionally stabile and anxious individuals regarding GPA scores.

The reversed association of Conscience variable with Neuroticism variable is supported by the scientific literature according to which, and in the light of the study results, we can state that highly conscientious students tend to be more emotionally stable, and less anxious compared to students with a lower level of conscientiousness.Therefore significant differences have been identified between students with high levels and those with a low level of conscience in terms of emotional stability.

In light of this study's results we believe it is necessary a more detailed survey concerning emotional stability because even though we have not identified a direct influence of Neuroticism that would directly reflect in students' grades, we believe that this variable may be moderated by other factors such as conscientiousness.

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