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## A correlational study of personality traits and academic achievement

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### Abstract

The present study was aimed to establish the relationship between personality traits and academic achievement of adolescents. It was hypothesized that there would be a significant correlation between personality traits and academic achievement. To verify the hypothesis, 60 college students were contacted personally and rapport were established. NEO-FFI and G.P.A. scale were administered on them to collect the data. The collected data were analysed by applying Pearson's correlation in SPSS 20 software. The results show that neuroticism is negatively correlated with academic achievement while conscientiousness is positively correlated with academic achievement. Other personality traits don't show any significant correlation with academic achievement.

**Keywords:** personality, academic achievement, adolescents, neuroticism, conscientiousness

### Introduction

Personality refers to individual differences in which one feel, think, and behave. "Personality is dynamic organization within the individual of those psychophysical systems that determine his unique adjustment to his environment. (Allport, 1937) <sup>[1]</sup>.

One of the most widely used models of personality in the world is the five factor model of personality. McCrae and Costa (1989) define personality as enduring emotional, interpersonal, experiential, attitudinal, and motivational styles that explain behavior in different situations. The five factors of personality are-

**Neuroticism (N):** It is a personality trait characterized by anxiety, stress, looking for pity, hostility, obsessive impulse, depression and low self-esteem.

**Extroversion (E):** It is a personality trait characterized by being positive, courageous, and energetic and being friendly.

**Openness (O):** It is a personality trait characterized by being curious, love for art, being artistic, flexibility and rationality.

**Agreeableness (A):** It is a personality trait characterized by generosity, kindness, sympathy with any one, altruism and being able to trust people.

**Conscientiousness (C):** It is a personality trait characterized by being organized, neat, efficient, and trustworthy, self-discipline, self-organization, being reasonable and being peaceful.

Academic performance is the assessment of the extent to which a student has achieved educational goal. Academic achievement is the outcome of the education, the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement is commonly measured by examinations or continuous assessment through assigning marks or grade.

The term "Academic Achievement" is said to be coined by the great Greek Philosopher, Plato, according to whom "Academic achievement means the attainment level, at which a student functions in his or her school task through a regular curriculum in a fixed place to which he named as the academy." Achievement ordinarily means actual ability whereas capacity means potential ability. Academic achievement indicates how much knowledge and skills an individual has obtained in various school subjects (Mohanty 1988).

It is generally agreed that one of the main objectives of education is to realize the potential of every individual child, however, there are children of all ability levels who for various reasons, fail to reach their full-development. There are a lot of factors which affect academic

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achievement, personality is one of the major factor among them. *Why some people get high academic achievement and some get failures?* Here, we try to relate some personality variables with academic achievement to find answers of such type of questions. Hence, our present study is aimed to establish the relationship between personality traits and academic achievement.

### Review of related literature

- Only conscientiousness is consistently associated with academic performance across primary, secondary, and tertiary education. Openness, agreeableness, emotional stability, and extraversion all have lower correlations with academic performance in secondary and tertiary education (Poropat, 2016) <sup>[19]</sup>.
- Spengler, M., Ludtke O, Martin R. and Brunner, M. (2013) <sup>[20]</sup>. Investigated that personality is related to educational out comes in late adolescence: Evidence from two large-scale achievement studies.” This study is the first to investigate the relation between personality traits and academic out comes in adolescence. They used data from two independent Luxembourgish samples of students including a representative sample of 15 years old students (n=898) and a large heterogeneous sample of more than 2,000 ninth and tenth graders. They found a differentiated pattern of results concerning key educational out comes: Conscientiousness was more closely related to grades, whereas openness showed higher relations with achievement test scores. Possible mechanisms that may underlie the pathways from personality to educational success and the implications of using short inventories in the context of large-scale (educational) studies are discussed.
- The biologically based Eysenckian personality model (Eysenck & Eysenck, 1975) has been an influential alternative to the FFM, in educational research as in psychology in general. Two of the personality factors in the Eysenckian personality model, extraversion and neuroticism, are very similar to extraversion and emotional stability (reversed) in the FFM and show similar associations with academic performance. Furthermore, the psychoticism factor in the Eysenckian model partly overlaps with conscientiousness (reversed), but unlike conscientiousness, psychoticism shows only limited predictive validity for academic performance (Poropat, 2011) <sup>[18]</sup>.
- Komarraju *et al.* (2009) conducted a study on 308 undergraduate students and interestingly reported a positive relationship between neuroticism and academic achievement. They concluded students enthusiastic to have high performance, might feel some level of achievement anxiety, which will motivate them to study.
- Laidra *et al.* 2007 <sup>[15]</sup> conducted a study which indicate that academic performance is positively associated with openness to experience, agreeableness and extroversion and negatively associated with neuroticism.
- As agreeable people are highly cooperative, supportive and willing to work effectively with others, positive relationships between agreeableness and academic achievement is not far from expectation. Furnham *et al.* (2006) <sup>[13]</sup>; Duckworth & Seligman (2005) <sup>[9]</sup>; and Lounsbury *et al.* (2003) <sup>[16]</sup> concluded more agreeable students tended to have higher GPAs and consequently higher academic achievement.
- In an additional study (Aluja-Fabregat & Blanch, 2004) <sup>[2]</sup> assessing personality with Cattell's High School Personality Questionnaire in adolescents with a mean age of 13.4 years, academic achievement was positively related to Intelligence, Emotional Stability, Conformity and Self-Discipline, and negatively related to Impulsivity. These examples clearly illustrate the diversity of methods and results in previous research, which precludes any conclusions regarding age-related differences in how personality traits relate to academic achievement.
- Hair and Graziano (2003) <sup>[14]</sup> analysed the correlations between high school GPA and Big Five traits assessed by bipolar adjective scales when the participants were in middle school. A significant positive correlation was found for all personality factors except Emotional Stability, which was insignificantly correlated to GPA. Heaven, Mak, Barry, and Ciarrochi (2002) examined how personality variables measured by the Junior Eysenck Personality Questionnaire (JEPQ) and adjective scales for agreeableness and conscientiousness were related to self-rated academic performance in adolescents of 14-16 years of age. They found a negative correlation with psychoticism and positive correlations with agreeableness and conscientiousness.

Using the Five-Factor personality model as a framework to organize previous research, Farsides and Woodfield (2003) <sup>[12]</sup> concluded that empirical evidence is mixed concerning the role each of the five traits plays in determining academic success. They proposed several reasons for this discrepancy, among which are age specificity of the relationship (e.g., Neuroticism is positively related to academic achievement in middle school but negatively at college age; similarly, Extraversion predicts higher grades in middle school but lower grades at the college level, (De Raad & Schouwenburg, 1996; Eysenck, 1996) <sup>[8]</sup>, small sample sizes, varying time lapses between the collection of predictor and criterion data, and the use of different personality measures and different criteria for academic success.

### Objective

The present study was aimed to establish the relationship between personality traits and academic achievement.

### Hypothesis

On the basis of previous studies, following hypothesis was formulated:

There would be a significant correlation between personality traits and academic achievement.

### Method

#### Sample

The sample of this study consisted of 60 college students with age ranging from 17-23 years. Purposive sampling technique is used to select the sample. All respondents were students of B.Sc.in Govt. College Bhiwani, Haryana.

### Tools Used

The following tools were used in the present study for different purposes –

## 1. NEO-FFI

The NEO Five-Factor Inventory (NEO-FFI) developed by McCrae and Costa is most widely used instrument to assess personality on five dimensions namely Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. The instrument consisted of 60 items, 12 items for each of the five domains. It includes self-descriptive responses by the participants using a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale. The reliability of the NEO-FFI had been established by evaluating the Cronbach's-alpha reliability coefficients. The values of the coefficient are 0.90, 0.78, 0.76, 0.86 and 0.90 for the dimensions of neuroticism, extraversion, openness, agreeableness and conscientiousness, respectively.

## 2. Academic Achievement

12<sup>th</sup> class G.P.A. was taken as academic achievement of students.

### Procedure

Participants were contacted personally and rapport were established. They were given a briefing about the aim of present investigation. Instructions were given according to the questionnaire. They were assured that their information would be kept confidential and used only for research purpose, so they are requested to be open and honest in their responding. After that scales were administered and data were collected.

### Statistical analysis

The data were analysed by using Pearson product moment method in SPSS 20 to find the relationship between personality traits and academic achievement.

### Results and Discussion

Table 1 shows that neuroticism is significantly negatively correlated with academic achievement while conscientiousness is significantly positively correlated with academic achievement. Other personality traits (Extroversion, Openness and Agreeableness) don't show any significant correlation with academic achievement.

**Table 1:** Pearson correlation between personality traits and academic achievement

Variables	Academic achievement		
	N	Pearson' correlation	Level of significance
Neuroticism	60	-.320*	.05
Extroversion	60	-.073	N.S.
Openness	60	.025	N.S.
Agreeableness	60	-.009	N.S.
Conscientiousness	60	.534**	.01

Results show that there is a negative correlation between neuroticism and academic achievement (significant at .05 level). It means increase in one factor leads to decrease in other and vice-versa. Neuroticism is a personality trait characterized by anxiety, stress, looking for pity, hostility, obsessive impulse, depression and low self-esteem. Such type of people are emotionally unstable. These things lead to weaken academic performance in students. Chomoro & Furnham (2003) <sup>[4]</sup> have shown neuroticism is related to more classroom absence. This finding is consistent with findings from Duff *et al.* (2004) <sup>[10]</sup> who also found inverse relationship between neuroticism and academic

achievement.

Results also shows that there is a positive correlation between conscientiousness and academic achievement (significant at .01 level). It means increase in one leads to increase in other and vice-versa. Conscientiousness is a personality trait characterized by being organized, neat, efficient, and trustworthy, self-discipline, self-organization, being reasonable and being peaceful. Such characteristics make them determined and resolved to gain high academic attainments. Thus, it is no surprise conscientiousness contributed greatly to the prediction of academic achievement. The finding is consistent with Lounsbury *et al.* (2003) <sup>[16]</sup> study who also found a positive correlation between these two variables.

Other traits of personality (extroversion, openness and agreeableness) don't significantly contribute to academic achievement. Hence, it can be said that neuroticism and conscientiousness are two main personality traits that are significantly related with academic achievement. Neuroticism is inversely related with academic achievement while conscientiousness is positively correlated with academic achievement.

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