The Conscientiousness and Neuroticism traits: How those personalities are related to academic success among undergraduate students

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Abstract

Personality is the set of a person's behavioural and cognitive characteristics that develop in the home and educational environment. Based on the five factors, the Big Five personality traits seeks to analyze the dimensions of each personality trait of an individual. (Conscientiousness, Openness, Extroversion, Agreeableness, and Neuroticism). Conscientiousness and Neuroticism have shown opposite results in various surveys related to academic performance. A quantitative study aimed to investigate whether levels of Conscientiousness and Neuroticism are associated with academic performance and success. Two questionnaires were administrated to participants (n=49). First, the BFI-44 Questionnaire was applied to measure the students' levels of Conscientiousness and Neuroticism. Second, the ASCIS was applied to measure the academic success (general skills) of the students. Findings from two multiple regression analyses revealed that students with higher levels of Conscientiousness were correlated with higher grades and higher levels of academic skills. Neuroticism has shown a non-significant and weak correlation to academic performance and success. Furthermore, findings from a Pearson's correlation revealed that higher levels of academic skills were correlated to higher grades. The findings of this study can benefit the educational sector and the psychological field in terms of student assessment.

Keywords: personality, BFI, ASICS, academic performance, academic success

Table Content

Literature review

Different approaches, such as observation or interview, can be used to analyse an individual's personality and evaluate tools such as questionnaires, and assessment methods, such as self-report tests, personality inventories, and many more (Howitt & Cramer, 2014). This article was based on the big five personality traits model (Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism), which will be evaluated based on a theoretical model that researchers have previously developed from various decades. This article will use existing literature to assess the dimensions of Conscientiousness and Neuroticism in relation to academic performance and success.

The Big Five Personality Traits

Personality is a person's set of behavioural and cognitive characteristics that emerge through the home and educational environments (Krueger & Johnson, 2008). As a result of these traits, learning becomes more adaptable (Bandura, 1999).

Several theories have been developed to describe and explain what the human personality is, some of which have gained prominence in the field of psychology, such as trait theory (Allport & Odbert, 1936), factors theories (Cattell, 1946; Fiske, 1949; Eysenck & Eysenck, 1969) and, more recently, the study of the big five personality traits (McCrae & Costa, 1987).

Gordon Allport (1897 - 1967), a psychologist, developed a list of 4500 adjectives to analyse personality and then grouped it into three sorts of traits: cardinal, central, and secondary. Cardinal traits influence a person's perception of themselves, as well as their emotional and behavioural characteristics. The generic features that comprise the basic foundations of personality are referred to as central traits. Secondary qualities are those that are related to attitudes or preferences (Ewen, 2010). However, according to Cattell, Allport's personality list was extensive and difficult to manage. Cattell constructed a list by deleting all synonyms,

yielding a total of 171 adjectives, which he then matched using a component analysis yielding a list of 16 primary factors of personality (Ewen, 2010).

Cattell's concepts and methods were critical in the development of personality evaluation. Through this reanalysis of numerous sets of data collected by the author, the first evidence of a simpler model, such as Eysenck's, to describe human personality was achieved.

The theory of personality by Eysenck, who first attributes three characteristics to the personality, such as Extroversion, Neuroticism, and Psychoticism each with its polar opposite, Introversion, Emotional Stability, and Normality (Eysenck & Eysenck, 1969). Extraversion is frequently characterized by sociability and impulsiveness, vivacity, and optimism; in other words, extroverts enjoy interpersonal relationships. Neuroticism is characterized by intense emotional reactivity, as well as anxiety, depression, and low self-esteem. Psychoticism is characterised by a tendency to be lonely and insensitive, as well as a tendency to be self-centered, frigid, and impulsive (Eysenck & Eysenck, 1969; Ewen, 2010).

Some research (Digman & Inouye, 1986; Digman, 1997), however, claims that Cattell's theory of 16 primary personality components overstated the dimensions for personality evaluation. However, these same results show that Eysenck's approach devalued the dimensions for personality evaluation. Different theoretical models of personality have been investigated and analyzed (Allport & Odbert, 1936; Cattell, 1946; Fiske, 1949; Eysenck & Eysenck, 1969) the model that has recently been emphasized in multiple studies and is widely recognized is the model given by McCrae and Costa (1987), the big five personality traits.

The big five personality model has been developed over the years by some psychologists such as Fiske, (1949), McCrae and Costa, (1987), Goldberg, (1990). McCrae and Costa (1987) revised Fiske's theory of personality and classified it into five big traits: Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism. Openness demonstrates a

personality trait in which a person is willing to try new things, is innovative, and does not express fear when making a decision (Kaufman et al., 2016). Conscientiousness is a personality trait characterized by a strong sense of organization, planning, and impulse control, as well as a focus on results (Robert et al., 2014). Extroversion is a personality trait in which the individual has a lot of energy, talks a lot, has positive emotions, and is always the centre of attention (McCabe & Fleeson, 2012). Agreeableness demonstrates traits of trust, generosity, kindness, and empathy (McCrae & Costa, 1987). Neuroticism manifests as a foul mood and emotional instability, perfectionism, worries (Dunkley et al., 2014). Individuals with this mentality are more bothered and frustrated by mundane occurrences (Brown & Moskowitz, 1997; Widiger & Oltmanns, 2017).

Conscientiousness and Neuroticism

Neuroticism is a persistent state of emotional adjustment and instability that represents individual differences in emotional pattern experience related with psychological discomforts, such as anguish, distress, and suffering among others (McCrae and Costa, 1987; Lahey, 2009; Ormel et al., 2013).

Individuals with a high level of Neuroticism are more prone to feel significant emotional anguish. It also involves erroneous beliefs, excessive worry, or trouble enduring the frustration induced by the failure to satisfy an ill-adapted urge and coping reaction. Individuals with low degrees of neuroticism may not always have good mental health, but they are calm, relaxed, steady, and less disturbed (Costa & Widiger, 1994).

Neuroticism is important in the coping process because it has a predictive value in relation to events related to everyday stress. According to Watson and Hubbard (1996), neurotic individuals tend to attract bad things to themselves, as well as make negative assessments of their surroundings and interpret all kinds of situations in a negative or threatening way.

However, Neuroticism has its good side, as there is evidence that individuals with high levels of Neuroticism at high levels of Conscientiousness are associated with health, happiness, negative affect, and longevity in the middle ages (DeNeve & Cooper, 1998; Friedman, 2019). Furthermore, research on mortality conducted by Weiss & Costa (2005) with a sample of 1444 elderly people found that neurotic individuals lived longer and were healthier, as neuroticism was protective.

Conscientiousness is concerned with self-discipline, order, deliberation, competence, and duty orientation. It is characteristic of people who prefer to prepare everything, manage their impulses, and are responsible, structured, and careful (McCrae and Costa, 1987; Benet-Martínez & John, 1998; Widiger & Oltmanns, 2017). However, individuals with a low score on this dimension, on the other hand, are untrustworthy, irresponsible, lazy, and out of control (Roberts et al., 2014; Widiger & Oltmanns, 2017).

These personality components have a predictive power of outcomes in various spheres of life. For example, according to Ozer, Benet, and Martínez (2006) and Roberts et al. (2007) indicate individual-type outcomes, such as happiness, well-being, and psychopathologies; interpersonal, such as satisfaction in relationships; and social, such as attitudes, values, social involvement. Furthermore, Conscientiousness will provide for increased life satisfaction due to the individual's tendency to confront ongoing obstacles, allowing for a continuous update of their talents, resulting in a subjective sensation of having a meaningful life in this way, they will be more satisfied with their lives (DeNeve & Cooper, 1998).

Conscientiousness may also be defined as the ability to manage one's impulses such that one's decisions are oriented toward socially acceptable aims. Someone with high levels of conscientiousness is more likely to excel academically and advance to positions of leadership, whereas the contrary generates impetuous and impulsive persons (Judge et al., 1999; Soldz & Vaillant, 1999).

Academic performance and personality traits. Academic performance has a significant impact on the lives of graduates and can be influenced by the individual's personality (Chamorro-Premuzic & Furnham, 2003). Therefore, researchers have attempted to identify the characteristics influencing students' academic performance. Characteristics such as motivation, engagement at class (Weber et al., 2016), teacher perception, classroom behaviour (Alvidrez & Weinstein, 1999), hours of sleep (Zeek et al., 2015), the quantity of reading outside of school (Ng et al., 2014), psychological variables, such as optimism, resilience (Popa-Velea et al., 2021), intelligence (Poropat, 2009) and personality (Chamorro-Premuzic & Furnham, 2003; 2003a), have a deep impact on academic performance.

According to the researchers Chamorro-Premuzic & Furnham (2003), Conrad (2005), Hazrati-Viari et al. (2012) personality is directly related to academic performance. Even though multiple studies have shown no evidence that personality impacts academic success (Green et al., 1991; Allik & Realo, 1997). Some personality traits, based on the Big Five Personality Factors (Openness, Conscientiousness, Extroversion, Agreeableness, Neuroticism), can play an important role in relation to academic success (Chamorro-Premuzic & Furnham, 2003; 2003a). However, according to Poropat (2009), previous studies that associate personality with academic success have a bias due to the use of variable methodology, and intelligence is a characteristic that should be included.

According to researchers, the personality attribute that best predicts academic success is conscientiousness (Chamorro-Premuzic & Furnham, 2003; 2003a; Conrad, 2005), which relates to an individual's achievement, effort, organization, and academic achievement. The significance of consciousness in the educational setting suggests that being organized, disciplined, and determined to achieve positive impacts students' study habits, influencing their level of effort and devotion during the academic period. (Komarraju et al., 2011; Hazrati-Viari et al., 2012; Koseoglu, 2016). Additionally, Conscientiousness is present in academic

achievement due to personality facets such as organization and planning (Busato et al., 2000; O'Connor and Paunonen, 2007). According to Poropat (2009), Conscientiousness is significantly correlated with academic performance, but Agreeableness is indirectly correlated with academic performance since it is linked to conscientiousness.

According to Papageorgiou et al. (2020), Russian students with more Agreeableness are more likely to complete the year and receive higher grades. According to the same study, more agreeableness teachers tend to be more satisfied, engaged in their profession, and have more interaction and collaboration with their peers, resulting in better development and, as a result, higher academic success for students. Studies by Papageorgiou et al. (2020) and Vermetten, Lodewijks, and Vermunt (2001) corroborate and Raad & Schouwenburg (1996) that Agreeableness has a positive impact on academic performance because it facilitates cooperation with learning processes and that teachers' instructions, effort, and persistence of concentration in learning tasks. However, according to Chamorro-Premuzic & Furnham (2003a), Agreeableness is unrelated to academic success and indicates that Agreeableness is unrelated to the intellectual part (Zeidner & Matthews, 2000).

Academic success is also connected to the effect of the other four key personal traits (Extroversion, Agreeableness, Neuroticism, and Openness). Extroversion, for example, has a negative (Hakimi et al., 2015; Nichita, 2015) and a non-significant (Conard, 2006) influence on academic achievement. Extroversion individuals have a lot of energy, talks a lot, is outspoken, and is always the centre of attention (McCrae & Costa, 1987), they tend to perform poorly academically as a result of these factors (Rolfhus & Ackerman, 1996; Banai & Perin, 2016). However, some research implies that Extroversion has a significant association with academic results (Chamorro-Premuzic & Furnham, 2003; Matthews, 2019).

Academic achievement is connected to the trait of Openness to new experiences. According to (Chamorro-Premuzic & Furnham, 2003a) high exam performance corresponds to

the Openness facets of intellect. Poropat (2009) suggested the facets of Openness, such as, creativity, sociability and intelligence are associated positively with academic outcomes. Furthermore, openness is associated with motivation for learning, which has a significant impact on academic performance (Diseth, 2003; Tempelaar et al., 2007). Thus, the aspects of openness are linked to learning, new ideas, and dedication to completing tasks, as well as communication and connection with others, all of which result in academic achievement (Tempelaar et al., 2007). However, not all aspects of Openness appear to be connected to academic achievement, intellect is no longer a prevalent component (Noftle & Robins, 2007).

Some scholars argue that high levels of Neuroticism can be detrimental to academic performance since its features, such as anxiety (Gilles & Bailleux, 2001; Dutke, & Stöber, 2001), impulsiveness (Chamorro-Premuzic & Furnham, 2003a), and worry (Owens et al., 2008), might impair performance during academic tests. (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003), as Eysenck (1992) states that a high degree of anxiety can interfere in affecting cognition. However, neurotic traits such as worry and perfectionism might influence greater preparation and, as a result, a higher academic outcome (Bratko, Chamorro-Premuzic, & Saks, 2006). Furthermore, McKenzie (1989) studied 204 students to see if there was a link between Neuroticism and academic achievement and found that students with a neurotic personality and a high degree of intellect did better academically. Additionally, Rosander et al. (2011) proposed that intelligence and personality are correlated and that Neuroticism had a significant and positive impact on university preparation program tests.

Academic success and personality traits. Academic performance and success have been evaluated based on the Grade Point Average (GPA), the average of course grades that contribute to the final evaluation, or on performance tests established as a measure of cognition (Kuncel et al., 2005; Heckman & Kautz, 2013). Researchers have attempted to explore the impact of several psychological elements on academic achievements, such as personality,

self-organization, and planning, on academic performance (Prevatt et al., 2011). However, studies have offered varying perspectives on the primary characteristics that influence performance, either positively or negatively (Chamorro-Premuzic & Furnham, 2003; 2003a; Lew & Schmidt, 2011; Grass et al., 2017). Furthermore, some research involving university students has examined intrinsic or behavioural variables, which are thought to be the strongest predictors of academic performance and success (Harackiewicz et al., 2002; Prevatt et al., 2011).

The Current study

Existing evidence suggests that personality factors have an impact on academic performance. Conscientiousness and Neuroticism are the two extremes in terms of academic performance, both positive and negative (Chamorro-Premuzic & Furnham, 2003; 2003a). As a result, the purpose of this study is to compare student academic performance with two of the traits described in the literature, Conscientiousness, and Neuroticism. Furthermore, academic performance will be analyzed by the researcher based on the students' planning and organization during the school year. Also, investigate whether personality is related to planning and organization. The finding of this work can shed some light and serve as a foundation for future studies on personality traits.

The study aims to investigate whether levels of Conscientiousness and Neuroticism are associated with academic performance and success. In order to achieve that, it will be required to measure the levels of Conscientiousness and Neuroticism, utilizing the BFI 44 questionnaire (See appendix A), which will indicate both personality levels. In addition, the study will also investigate whether academic skills, measured by the ASICS (See appendix C), are associated with academic performance (measured by average grade). These aims lead to the study research questions and hypotheses indicated below.

Research question 1: Do personality traits (Conscientiousness and Neuroticism) predict academic performance among undergraduate students?

Hypothesis 1 (H1): Levels of Conscientiousness and Neuroticism will predict higher academic performance (Grade).

Research question 2: Do personality traits (Conscientiousness and Neuroticism) predict academic success (ASICS)?

Hypothesis 2 (H2): Levels of Conscientiousness and Neuroticism will predict academic success (ASICS).

Research Question 3: Is academic success (ASICS) associated with higher academic grade?

Hypothesis 3 (H3): Levels of academic success (ASICS) will be associated with higher academic grades.

Methods

Participants

The present study's research sample included 49 students. Snowball sampling was used to recruit participants using the researcher's social media sites such as LinkedIn, Facebook, Instagram, Twitter, and WhatsApp. It included Male students (N = 20) and Female students (N = 28) and Non-Binary (N = 1). The participant's ages range from 18 to 49 years old. Participants must be at least 18 years old and undergraduates from Irish universities to participate due to ethical reasons. Before completing the questionnaire, they were also needed to offer informed permission. There were no incentives used to recruit participants, and all participants were informed that they might withdraw from the research at any moment before submitting their data (See appendix D).

The sample size for this investigation was determined using a G*Power: Statistical Power Analyses calculator (Faul et al., 2009). A preliminary descriptive analysis was conducted for a standard multiple regression: fixed model, R^2 deviation from zero, f-tests (Test family). Input parameters for effect size = 0.15, α err prob = 0.05, power (1-β err prob) = 0.95, no. of predictors = 3. This resulted in a total sample size of 119.

Material

The researcher used three questionnaires. The first was the researcher's demographic questionnaire (See Appendix B), which collected information about age, gender, college course, college year, and grad band. The survey includes five questions.

The second questionnaire used was The Big Five Inventory (BFI – 44). The Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five dimensions. It is pretty brief for a multidimensional personality inventory (44 items total) and consists of short phrases with relatively accessible vocabulary (John & Srivastava, 1999). However, for this study, the BFI questionnaire was reduced from 44 to 17 questions to determine levels of two

personality traits: Conscientiousness and Neuroticism. The BFI-44 were assessed as follows: *"Respond to each statement… I see myself as someone who…"*, all questions were rated on a Likert scale with the following stems: 1. Disagree strongly, 2. Disagree a little, 3. Neither agree nor disagree, 4. Agree a little, 5. Agree strongly. Items 2, 4, 5, 9 (Conscientiousness), 11, 14, and 16 (Neuroticism) needed to be reserve scored (See appendix A). High scores indicated higher levels of a personality trait, whereas low scores suggest lower levels of that trait.

The scale has shown good reliability and validity. Cronbach's alpha was used to estimate the reliability of this scale, which John & Srivastava (1999) reported internal consistency of Cronbach's alpha .82 and .87 respectively for Conscientiousness and Neuroticism. Additionally, Benet-Martinez and John (1998) reported internal consistency of Cronbach's alpha of .79 and .83, respectively, for Conscientiousness and Neuroticism. Therefore, the Cronbach's alpha for the current study was ($\alpha = .73$) and ($\alpha = .83$) respectively for Conscientiousness and Neuroticism. According to DeVilles (2003), a Cronbach alpha is a number between 0 and 1; the higher is the number, the greater is the reliability. Additionally, according to DeVilles (2003), a Cronbach's alpha should be >=.70 for respectable reliability.

The third questionnaire was The Academic Success Inventory for College Students (ASICS), a self-report instrument designed to evaluate academic success in college students consisting of 50 items divided into ten subscales (Prevatt et al., 2011). However, the researcher used only one subscale for this study, consisting of 12 questions to measure general academic skills, such as effort expended, study skill, and self-organizational strategies. First, the students were asked to think about the most challenging class within the past year. Then they were asked to answer the questions, as an example: *"I worked hard to prove I could get a good grade"*, and then to choose one of the statements from a Likert scale: 1 - Strongly Disagree, 2 - Moderately Disagree, 3 - Slightly Disagree, 4 - Neutral, 5 - Slightly Agree, 6 - Moderately Agree, and 7 - Strongly Agree (See Appendix C). High scores indicated a higher

level in terms of academic success. Cronbach's alpha was used to estimate the reliability of this scale, which Prevatt et al. (2011) reported internal consistency of Cronbach's alpha .93. Therefore, the Cronbach's alpha for the current study was (α = .95) it means excellent reliability (DeVilles, 2003).

Design

A quantitative approach was applied for the present study with a cross-sectional design. A standard multiple regression was used to test the first and the second hypotheses, which examined the association between Conscientiousness and Neuroticism in relation to academic performance and success. There were two predictor variables (PVs), Conscientiousness and Neuroticism, and two continuous variables (CV), academic performance and academic success. A Pearson's correlation was used to analyze the relationship between academic success and academic performance for the third hypothesis.

Procedure

The current study's data was gathered via online self-report questionnaires. The researcher's social media profiles, such as LinkedIn, Facebook, Instagram, Twitter, and WhatsApp, were used to publish a summary of the study's survey and a link to the questionnaires. Participants were directed to the first page of the questionnaire, which contained the participation information sheet, through the study link (see appendix D). The information leaflet explained the nature and objective of the study, the eligibility criteria, and what taking part entailed. The contact information for the researcher and supervisor was also included on the information page, in case potential participants had any queries before the study began. Before opting to complete the questionnaire, participants were asked to read the information page thoroughly.

The following page was the demographic questionnaire, which collected demographic information such as gender, age, the current study, year enrolled, and grade band (See appendix B). Then, the subsequent questionnaire was the BFI – 44 with 17 questions to measure personality traits (See appendix A). The last questionnaire was the ASICS with 12 questions to measure general skills (See appendix C). All questionnaire items needed an obligatory answer; however, participants were clearly informed that they were free to withdraw from the research at any time, without penalty. Participants were debriefed at the end of the questionnaire, which included contact information for the researcher and supervisor, and contact information for many support agencies in the event that the items in the questionnaire caused distress (See appendix F).

Result

Descriptive statistics

  Descriptive statistics for demographic variables are present in Table 1. The present study consisted of 49 students (n=49). The sample consisted of 20 males (n=20), 28 females (n=28), and one Non-Binary (n=1), which ages range from 20 to 49 years old.

Table 1

Frequencies for demographic variables (N=49)

Variable	Frequency	Valid %
Sex		
Male	20	40.8
Female	28	57.1
Non-Binary	1	2.0
Age		
Lowest thru 20	3	6.1
21 thru 30	27	55.1
31 thru 40	14	28.6
Thru highest 41	5	10.2

  Descriptive statistics for each of the continuous variables are presented in Table 2, which shows the means, standard deviations (SD), medium, and ranges for the variables of the present study. Non-significant results (Kolmogorov-Smirnov, $p > .05$) were found for all continuous variables, indicating that the data were normally distributed, except for the Grade variable ($p < .000$), indicating that the variable in non-normally distributed.

Table 2

Descriptive statistics for all continuous variables (n = 49)

Variable	*M* [95% CI]	Medium	*SD*	Range
Grade	68.37 (65.37 - 71.38)	68.0	10.48	50-99
ASICS	58.29 (53.62 – 62.95)	60.0	16.24	19-84
Conscientiousness	32.82 (31.31 – 34.32)	33.0	5.25	23-45
Neuroticism	24.45 (22.55 – 26.35)	24.0	6.61	8-37

Inferential statistics

Standard multiple regression analysis was conducted to test the first hypothesis, which predicts that the higher grades levels could be explained by personality traits (Conscientiousness and Neuroticism). Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a moderate positive correlation between one of the predictor variables, which was significantly correlated with the criterion variable, r = .42, p < .001 (see Table 3).

Table 3

Correlations between variables included in the model

Variable	Grade	Conscientiousness	Neuroticism
Grade	-	-	-
Conscientiousness	.42*	-	-
Neuroticism	.02	-.22	-

Note: *Correlation is significant at the level of 0.01. *p<.001*

Additionally, Multicollinearity was analyzed, and the coefficients for Tolerance and VIF values indicated no violation, suggesting that the data analysis was adequate for regression analysis. The model explained 19.10 % of the criterion variable, F (2, 46) = 2.43, p =

.08. However, one of the predictor variables made a unique, statistically significant contribu-

tion to the prediction of higher grades, β = .45, *p = .002.* (See Table 4).

Table 4

Summary of standard multiple regression analysis for variables predicting higher levels of academic performance (Grades).

Variable	R^2	Adj. R^2	B	SE	β	t	p
	19.1	15.6					
Conscientiousness			.89	.27	.45	3.3	.002
Neuroticism			.18	.22	.12	.85	.40

Note: R^2 = R-squared; Adj. R^2 = Adjusted R-squared; B = unstandardized beta value; SE = Standard errors of B; β = standardized beta value; t = t-value; p = p-value. N = 49;

Standard multiple regression analysis was conducted to test the second hypothesis, which predicts that the higher academic success could be explained by personality traits (Conscientiousness and Neuroticism). Preliminary analyses were conducted to ensure no violation of normality, linearity, and homoscedasticity assumptions. There was a moderate positive correlation between one of the predictor variables, which was significantly correlated with the criterion variable, r = .45, p < .001 (See Table 5).

Table 5

Correlations between variables included in the model

Variable	A. Skills	Conscientiousness	Neuroticism
Academic Skills	-	-	-
Conscientiousness	.45*	-	-
Neuroticism	.01	-.22	-

Note: Correlation is significant at the level of 0.01. *p<.001

Additionally, Multicollinearity was analyzed, and the coefficients for Tolerance and VIF values indicated no violation, suggesting that the data analysis was adequate for regression analysis. The predictor variables explained 21.30 % of variance of the criterion variable, $F(2, 46) = 6.21$, $p = .004$. However, one of the predictor variables made a unique, statistically significant contribution to the prediction of academic success, $\beta = .47$, $p < .001$. (See Table 6).

Table 6

Standard multiple regression analysis for variables predicting academic success levels.

Variable	R^2	Adj. R^2	B	SE	β	t	p
	21.3	17.8					
Conscientiousness			1.46	.42	.47	3.52	.001
Neuroticism			.28	.33	.11	.85	.40

Note: R^2 = R-squared; Adj. R^2 = Adjusted R-squared; B = unstandardized beta value; SE = Standard errors of B; β = standardized beta value; t = t-value; p = p-value. N = 49;

A Pearson's correlation coefficient was performed to explore the correlation between academic success and higher academic performance (grades), to analyze the third hypothesis. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a moderate, positive correlation and statistically significant between the two variables ($r = .39$, $n = 49$, $p = .006$). This indicates that the two variables share approximately 15% of the variance in common. Results indicate that higher levels of academic skills are associated with higher academic performance. (See Table 7).

Table 7

Pearson's correlation between continuous variables

Variable	ASICS	Grades
ASICS	.39*	-
Grades		.39

Note: *Correlation is significant at the level of 0.01. *p=.006. N = 49*

Discussion

As previously stated, academic performance is a phenomenon that is influenced by a variety of circumstances (Alvidrez & Weinstein, 1999; Chamorro-Premuzic & Furnham, 2003; 2003a; Conrad, 2005; Poropat, 2009; Hazrati-Viari et al., 2012; Zeek et al., 2015). However, with the increasing research on the link between academic performance and personality, this study focused on this relationship. A descriptive viewpoint based on attributes has predominated in research exploring the influence of personality on academic performance. As a result, investigations on this relationship have used evaluation tools developed from the model of the big five personality traits, yielding consistent results, particularly when college grades are used (Poropat, 2009). Thus, the study focused on two personality traits; according to the papers reviewed, Conscientiousness and Neuroticism are the most noticeable features in relation to academic performance.

It was hypothesized that (H1) that Conscientiousness and Neuroticism traits predict high academic performance. Results indicated that the overall two-factor model, one out of the two predictor variables, Conscientiousness, was found to predict higher grades to a statistically significant level uniquely. Furthermore, the findings indicated that higher levels of Conscientiousness personality predicted higher college grades. These findings are consistent with previous research and corroborate Chamorro-Premuzic & Furnham (2003) and Busato et al. (2009), suggesting a modest correlation between Conscientiousness and academic performance. Neuroticism showed a weak positive correlation with academic performance at a non-significant level.

It was hypothesized that (H2) that Conscientiousness and Neuroticism traits predict academic success. Results indicated that the overall two-factor model, one out of the predictor variables, Conscientiousness, was found to predict academic success to a statistically sig-

nificant level uniquely. Furthermore, the findings indicated that higher levels of Conscientiousness personality predicted higher levels of academic success. These findings are consistent with previous research and corroborate Busato et al. (2009), suggesting a consistent correlation between Conscientiousness and academic success. On the other hand, Neuroticism showed a weak positive correlation with academic success at a non-significant level.

Lastly, the third hypothesis proposed a correlation between academic success and academic performance. Results from Pearson's correlation was found a moderate, positive correlation between academic success and performance. These findings suggest that high levels of academic success are associated with high grades. These findings are consistent with previous research and corroborate Prevatt et al. (2011), suggesting a positive correlation between academic success and grades.

Findings are consistent with and provide support to previous research which has suggested that Conscientiousness is associated with higher grades and academic skills. Furthermore, this positive association is correlated with the characteristics of this personality (O'Connor & Paunonen, 2007), such as self-discipline, ability to manage impulses (Ozer, Benet, & Martínez, 2006), decision-maker and, consequently, excel academically (Judge et al. ., 1999; Soldz & Vaillant, 1999). In terms of Neuroticism, it was found that there was a positive correlation; however, it was weak and not significant. This finding is consistent with the findings of O'Connor and Paunonen's (2007) study, which concluded that personality is not a determining factor in academic achievement. However, some scholars have linked Neuroticism to poor academic performance because people with high levels of this personality tend to be worried (Owens et al., 2008), anxious, and impulsive (Gilles & Bailleux, 2001; Dutke & Stöber, 2001), and this may be detrimental to academic performance (Chamorro-Premuzic & Furnham, 2003a). However, because the current study's findings are correla-

tional, it is not possible to conclude a causal association between personality traits and academic performance and success. Even though many studies have shown that students with high levels of Conscientiousness tend to do well academically, and students who perform higher on Neuroticism are likely to perform poorly academically, the outcomes are only associations.

Furthermore, data reveal that students with high general abilities, such as planning, organization, self-discipline, and hard work, can achieve a good result. Such attributes are also associated with the Conscientiousness trait, implying that students with this personality tend to be more organized and planned and can achieve their college goals. The current study's findings support this perspective, suggesting a relationship between Conscientiousness, academic success (general abilities), and high grades. Findings from this study corroborate McIlveen et al. (2013) showing that students with high levels of Conscientiousness are more organized, self-discipline, and committed to their studies.

Overall, findings contribute to previous research, findings that personality traits can positively influence college grades; also, students who demonstrate focus on their study skills, organized and planned tend to get high college grades within an Irish context. However, although interesting results were found regarding students' personality characteristics concerning academic achievement, the findings presented here were inconclusive, demonstrating significant statistical differences between the groups. As a result, it can be stated that there is a relationship between both personalities and academic achievement that is not yet evident, indicating the importance of a large number of new studies on the subject.

Implications

Overall the results of this study are consistent with prior research and demonstrated that personality traits have an influence on students' grades and also on their behavior to-

wards their college goals. According to the study, paying close attention to students' behaviors and attitudes might be incredibly important in preparing them to subsequently adjust to the many scenarios of university life (Hetland et al., 2012; Prevatt et al).

Considering Conscientiousness was the strongest predictor of academic achievement and success, academic institutions should emphasize using evaluation tools during the college admissions process and throughout students' academic years. With the findings of these evaluations, it will be possible to make interventions based on the students' personality characteristics, such as Conscientiousness characteristic (organization, goal orientation, and responsibility), which connect to ASICS characteristics. Regarding Neuroticism, while yielding non-significant results, there is a slight correlation with academic performance and success; possibly, the findings are related to the features of this personality, such as stress and worry. These two characteristics were associated with high grades (Bratko et al., 2006).

Considering both personality characteristics, educational professionals and universities setting could benefit from developing assessment tools for college admission and intervention with programs. These programs are aimed at students with low performance, making them more aware that certain aspects of their personality and behaviour might negatively impact their school performance. It does not mean saying that a particular behavioural activity characteristic of these subjects is good or bad, but rather that in the academic setting, thinking or acting in a certain way may not be as beneficial to a reasonable person's academic achievement.

Furthermore, investing in the behavioural context, analyzing the relationship between personality traits and academic performance, generating a broader reflection to change or create current public policies, establishing new management strategies, and developing activities to improve behaviourally and, consequently, cognitive skills based on the students' personalities.

Strengths and Limitations

Studying college students is necessary to understand their needs and particularity. However, this study revealed gaps in the students' academic grades because it was a self-report. Therefore, during the completion of the questionnaire, students could put any value between 0 and 100, and the results obtained might not be an absolute value. Furthermore, another limitation of the research is associated with the questionnaire used in the research, as only one of the ASICS subscales was analyzed, so, despite the correlations found, a complete analysis that covered all of the subscales of the questionnaire in question, the results would be more conclusive in relation to the academic success of the students.

Another limitation found by the researcher was that only two of the five personalities were analyzed in relation to the Big Five Personality factors. Even though the results provide a good understanding of the students' personalities in terms of Conscientiousness and Neuroticism in relation to academic performance, the study was limited to these two personalities only.

Another limitation of the study is the small sample size. First, although the study focused on the Irish college context, the sample was convenient; despite being considered acceptable in psychological research (Howitt and Cramer, 2020), it resulted in students from only a few universities in the capital. Even though the city is home to the majority of the country's universities, the sample size was insufficient to meet the generalization condition. There is also a limitation in the sample, as data was collected from just undergraduate students, making it impossible to generalize the results to students in general.

The current study's sample size was a limitation because it did not satisfy the minimum required for the study. However, the study provides a clear understanding of how personality might influence student's grades and student behaviour in terms of organization and planning for their studies.

The strength of the current study is the employment of the two subscales of the Big

Five Inventory (John & Srivastava, 1999), which is a valid and reliable tool to measure per-

sonality traits (McCrae & Costa, 1987). The BFI has been widely used and accepted in

worldwide research because the structure is global. After all, personality variables comprise a

factor theory (McCrae & Costa, 1987; John & Srivastava, 1999; Papageorgiou et al., 2020)

In addition, this study also uses one subscale of the ASICS, which is a valid and reliable tool

to measure academic skills (Prevatt et al., 2011). The ASICS is a questionnaire that can be

completed online, allowing it to reach a more significant number of students. In addition, col-

leges can use this tool to evaluate students from the college admissions process, such as iden-

tifying students with poor academic performance (Prevatt et al., 2011).

Conclusion

The literature has found that personality characteristics (Conscientiousness and Neu-

roticism), behaviours, and attitudes of people can be highly relevant to how they prepare for

university life. The study aimed to investigate whether levels of Conscientiousness and Neu-

roticism are associated with academic performance and success. In this context, it was ob-

served through the analysis of the findings that the two traits were positively correlated in all

criteria variables. Neuroticism, on the other hand, yielded non-significant results. In conclu-

sion, the current study's question was answered, which is relevant to students' academic per-

formance. All of the variables in this study were correlated with academic performance and

success. As a result, Conscientiousness predicts more positively and significantly than Neu-

roticism. Many variables, however, must still be addressed, including other variables such as

intelligence, gender, and cognitive and non-cognitive variables.

In general, it is clear that the literature is not conclusive in relation to studies that re-

late personality traits to the academic performance and success of undergraduate students,

even though the topic is of such importance for their education. The findings suggest that colleges should have a more comprehensive understanding of the factors that relate, positively or negatively, to personality characteristics, academic performance, and student behaviours and attitudes in terms of commitment to their student goals. Thus, colleges could identify and assist students with difficulties, both in entering college and adjusting to college life. In this manner, and by identifying these variables early on, the likelihood of adverse effects on academic achievement can be minimized. Despite its limitations, the current study highlights the significance of personality in student development. It is thought that the current investigation, although being just correlational, may be viewed as a contribution to a greater understanding of this field because the better the personality traits of the students are known, the better help can be provided to them.

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Appendices

Appendix A

The Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five dimensions. It is quite brief for a multidimensional personality inventory (44 items total), and consists of short phrases with relatively accessible vocabulary (John & Srivastava, 1999).

Describe yourself as you are now, not as you would like to be in the future. Describe yourself as you truly see yourself, in relation to other persons you know of the same sex and around the same age as you. Your responses will be kept completely confidential so that you can describe yourself honestly. Indicate whether each statement whether it is 1. Disagree strongly, 2. Disagree a little, 3. Neither agree nor disagree, 4. Agree a little, 5. Agree strongly as a description of you.

How accurately do you see yourself?

I see myself as someone who…		Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
1	… Does a thorough job	O	O	O	O	O
2	… Can be somewhat careless	O	O	O	O	O
3	… Is a reliable worker	O	O	O	O	O
4	… Tends to be disorganized	O	O	O	O	O
5	… Tends to be lazy	O	O	O	O	O
6	… Perseveres until the task is finished	O	O	O	O	O
7	… Does things efficiently	O	O	O	O	O
8	… Makes plans and follows through with them	O	O	O	O	O
9	… Is easily distracted	O	O	O	O	O
10	… Is depressed, blue	O	O	O	O	O
11	… Is relaxed, handles stress well	O	O	O	O	O
12	… Can be tense	O	O	O	O	O
13	… Worries a lot	O	O	O	O	O
14	… Is emotionally stable, not easily upset	O	O	O	O	O
15	… Can be moody	O	O	O	O	O

| 16 | … Remains calm in tense situations | O | O | O | O | O |
| 17 | … Gets nervous easily | O | O | O | O | O |

Scoring the BFI-44 scales:
Neuroticism: 10, 11R, 12, 13, 14R, 15, 16R, 17
Conscientiousness: 1, 2R, 3, 4R, 5R, 6, 7, 8, 9R
 (R = item is reversed-scored).

Appendix B

Demographic Questionnaire

Please select one of the checkboxes below to respond to the following questions.

1. What is your gender?

O Male

O Female

O Other (Please Specify)

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│                  │
│                  │
└──────────────────┘
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2. What is your age?

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┌──────────────────┐
│                  │
│                  │
└──────────────────┘
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3. What are you currently studying?

O Social Sciences (Economics, Political Science, Psychology, Sociology, Anthropology, History)

O Arts & Humanities (Humanities, Languages)

O Health Sciences (physiological sciences, clinical engineering and medical physics, life sciences)

O Other (Please Specify)

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│                  │
│                  │
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4. In which year are you currently enrolled?

O 1st Year   O 2nd Year   O 3rd Year   O 4th Year

5. On a scale of 0 to 100, what is your average grade based on your current exams?

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Appendix C

The Academic Success Inventory for College Students (ASICS) is a newly-developed, self-report instrument designed to evaluate academic success in college students. You are initially asked to "Select one class that has been the hardest or most difficult for you within the past year." They are then instructed to answer all items with respect to that class (Prevatt et al., 2011).
All items are rated from 1 (Strongly Disagree) to 7 (Strongly Agree).

Academic Success Inventory for College Students - ASICS		Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree
1	I studied the correct material when preparing for tests in this class	O	O	O	O	O	O	O
2	I worked hard to prove I could get a good grade	O	O	O	O	O	O	O
3	I tried everything I could to do well in this class	O	O	O	O	O	O	O
4	I worked really hard in this class	O	O	O	O	O	O	O
5	I kept on a good study schedule in this class	O	O	O	O	O	O	O
6	I worked hard in this class because I wanted to understand the material.	O	O	O	O	O	O	O
7	I studied a lot for this class	O	O	O	O	O	O	O
8	I think I used good study skills when working in this class.	O	O	O	O	O	O	O
9	I made good use of tools such as planners, calendars and organizers in this class	O	O	O	O	O	O	O
10	I used a goal setting as a strategy in this class.	O	O	O	O	O	O	O
11	I was good at setting specific homework goals	O	O	O	O	O	O	O
12	I was well organized.	O	O	O	O	O	O	O

Appendix D

Participant Information Sheet

The Conscientiousness and Neuroticism traits: How those personalities are related to academic success among undergraduate students.

You have been invited to participate in a research project. Please read this document carefully before deciding whether or not to join, since it outlines why the research is being conducted and what your involvement in this study will entail. If you have any questions about the information presented, please contact me using the information provided at the end of this sheet.

What is this study about?

I am a final-year BA in Psychology student at National College of Ireland. As part of our degree we must carry out an independent research project. For my project, I aim to investigate whether the big five personality traits are associated with academic success.

This Project will be supervised by Dr. Caoimhe Hannigan

What will taking part in the study involve?

If you decide to take part in this research, you will be asked to complete three online questionnaires. Firstly, you will be presented with a demographic questionnaire where you will be asked to indicate your age, gender, college year, course enrolled and grade band. The second questionnaire will measure your academic success. This questionnaire includes 23 questions where you will be asked to rate yourself on a 7 point Likert scale with each statement: 1. Strongly Disagree, 2. Moderately Disagree, 3. Slightly Disagree, 4. Neutral, 5. Slightly Agree, 6. Moderately Agree, and 7.Strongly Agree. The third questionnaire will measure your personality traits, using BFI-10 Big Five Inventory scale. This questionnaire includes 10 questions where you will be asked to rate yourself on a 5-point Likert scale with each state-

ment: choose one of the following options: 11. Disagree strongly, 2. Disagree a little, 3. Neither agree nor disagree, 4. Agree a little, 5. Agree strongly. The entire study should take you no more than 15 minutes to complete, with no need for a break.

Who can take part?

You are eligible to participate in this study if you are over the age of 18, and you are a current undergraduate student enrolled in either part-time or full-time courses in an Irish college.

Do I have to take part?

Participation in this study is entirely voluntary. You do not have to take part, and a decision not to take part will have no consequences for you. If you do decide to participate in this study, you have the right to withdraw and discontinue your participation at any time. However, once you submit your surveys by clicking the "finish and submit" button, you will be unable to withdraw your data from the study because individual responses cannot be identified.

What are the possible risks and benefits of taking part?

There are no direct benefits to you for taking part in this research. However, the information gathered will contribute to research that helps us to understand student personalities and how those personalities can influence on student academic success.

There is a small risk that some of the questions contained within this survey may cause minor distress for some participants. If you experience this, you are free to discontinue participation and exit the questionnaire. Contact information for relevant support services are also provided at the end of the questionnaire.

Will taking part be confidential and what will happen to my data?

The questionnaires are anonymous; it is not possible to identify a participant based on their responses to the questionnaire. All data collected for the study will be treated in the strictest

confidence. The access to the data collected will only be accessible for the researcher and the academic supervisor.

Responses to the questionnaire will be stored securely in a password protected/encrypted file on the researcher's computer. Only the researcher and their supervisor will have access to the data. Data will be retained for 5 years in accordance with the NCI data retention policy

What will happen to the results of the study?

The results of this study will be presented in my final dissertation, which will be submitted to National College of Ireland and may be published in an academic journal.

Who should you contact for further information?

If you have any queries or would like more information about this project, please do not hesitate to contact:

The researcher- Andre Caetano, email: x19119241@student.ncirl.ie and/or

Academic Supervisor: Dr. Caoimhe Hannigan email: caoimhe.hannigan@ncirl.ie

Thank you.

Appendix E

Inform Consent

In agreeing to participate in this research I understand the following:

This research is being conducted by Andre Caetano, an undergraduate psychology student at the School of Business, National College of Ireland. The Title of the current study: The Conscientiousness and Neuroticism traits: How those personalities are related to academic success among undergraduate students.

The method proposed for this research project has been approved in principle by the Departmental Ethics Committee, which means that the Committee does not have concerns about the procedure itself as detailed by the student. It is, however, the above-named student's responsibility to adhere to ethical guidelines in their dealings with participants and the collection and handling of data.

If I have any concerns about participation, I understand that I may refuse to participate or withdraw from participation at any time by exiting the questionnaire, without penalties or consequences, however once I submit my surveys by clicking "finish and submit" button at the end, I will not be able to withdraw any of my data due to the nature of responses that cannot be identified. I have been informed as to the general nature of the study and agree voluntarily to participate.

There is no risk of harm, but participation in the survey may cause some distress due to the nature of the questions.

All data from the study will be treated confidentially. The data from all participants will be compiled, analysed, and submitted in a report to the Psychology Department in the School of Business. No participant's data will be identified by name at any stage of the data analysis or in the final report.

At the conclusion of my participation, any questions or concerns I have will be fully addressed.

I may withdraw from this study at any time, and may withdraw my data at the conclusion of my participation if I still have concerns.

- o By ticking the box and clicking the button below, you agree that: (1) you have read and understood the participant information sheet (2) questions about your participation in this research have been fully answered (3) you are aware of small discomfort that some of the questions within this study may cause some level of distress, and (4) your participation in this study is completely voluntary.

Appendix F

Debriefing Form

Thank you very much for participating in the current study which examined the big five personality traits related to academic performance among undergraduate students. The purpose of the present study was to investigate the relationship between personality traits in relation to academic success. The BFI-44, Based on the Big Five Inventory tool, and the academic success was measured using 12-item of The Academic Success Inventory for College Students (ASICS).

As an undergraduate student, you were requested to participate in this study in the hopes that the findings will improve every student's experience in the classroom by concentrating on their personality and how it influences their success. Your information and findings will be incorporated into my final dissertation, which will be submitted to the National College of Ireland and may be published in an academic journal.

Your questionnaires were completely anonymous and confidential, so once you have completed your survey and submitted your responses, you will not be able to withdraw or delete any of your information because it will be stored in a system that is made up entirely of anonymous data, making it impossible to identify or retrieve any of your responses. According to the regulations of the National College of Ireland, the data acquired will be stored for 5 years, after which it will be destroyed. I would want to convey my sincere gratitude for taking the time to participate in this study once more.

Thank you.

In case you feel some distress caused by or during participating in this research, I advise you to have a chat with your friends or family, however, if you require some additional support and/or helplines, please find them below.

Aware Support Line: +35316766166 / 1800804848 /

https://www.aware.ie/support/support-line

The Aware support line works from 10 am to 10 pm.

The Samaritans: 116 123 (Free phone)

The Samaritans support line works 24 hours a day

Text 50808: Text HELLO to 50808 / 0861800280

The Text 50808 is free and 24 hours a day

Further Contact Information:

If you have any further questions regarding the use of your data or those question-

naires, please

do not hesitate to contact me: Andre Caetano, using my college email:

x19119241@student.ncirl.ie and/or my study supervisor: Dr. Caoimhe Hannigan

through

email: caoimhe.hannigan@ncirl.ie