

The impact of the big five personality traits on academic performance

Personality psychology attempts to create understanding of how differences among individuals affect our life daily, within thoughts and decision-making (Maltby, 2022). Most of the psychology experiments that are done, focus on how people behave in a certain situation, not necessarily the difference in responses that a participant gives (Cooper, 2021). The word personality originates from Latin affectation, meaning mask (Cervone, 2022). The term 'personality' describes the psychological distinctions between people, which includes their differences in emotion, thought and motivational factors (Ashton, 2022). An individual's personality is located by a continuous pattern of features they display, these continuous patterns are known as traits. These reflect their preferences and the ways in which they are different (Bergner, 2020). A trait is a further area of personality, which is used to categorise people, according to the amount to which they favour a particular characteristic of personality (Diener & Lucas, 2019). The main point of focus of this essay will discuss the trait theory and its impact on the Big Five model, discussing how the five personality traits within this model affect academic performance.

Two key assumptions within the theory of traits, is that they continue to be stable through time and secondly, stay stable through several settings (Maltby, 2022). The Big Five model as well as several others attempt to locate different areas of human personality (Saucier & Srivastava, 2015) Cattell defined traits as the units of personality, labelled under different specific categories (Cattell, 1943). Most importantly unique and common traits. Those that are common, are shared by several people, these include sociability, intelligence and extraversion. Those which are unique are less prevalent, are more specified to individuals. These unique traits could be a reason someone decides to collect a certain item for example (Maltby, 2022). Allport and Odbert were one of the first to attempt to link the qualities of personality to descriptors using dictionary searches, firstly finding 18000 words but managing to reduce it to a more controllable amount (Gunter, 2019). Continued by Raymond Cattell, who reduced the number of fundamental personality traits from 4500 features to just 16 (Haslam, 2017). However, due to Cattell methods being highly influenced by his own judgement, it was criticised a lot. It wasn't often scientific and often was based on his unique perception or thought of the meaning of words. Through a much more statistical method, the traits in which remained, led to the development of the five-factor model (Barańczuk, 2019). On another hand, Eysenck had a theory of three dimensions of personality, which included neuroticism catered for guilt feelings and general emotions. Extraversion which led a person to be sociable and lively, and finally Psychoticism which Eysenck developed after studying people with mental illness, which was a trait people stored to be egocentric, aggressive, impulsive and tough-minded (Claridge, 2013). Eysenck thought that some traits such as liveliness, sociability and sensation seeking are highly correlated and similar with each other. This meant if an individual's scores on each of these traits, they have the higher chances to have similarities, which led to these collections of traits to be formed as super traits or certain personality type (Deak et al, 2024). A super trait is the display of a pattern with individuals and where they are put in the categories of personality, this is dependent on the degree of the trait attribute that the individual possesses. Eysenck originally stated two super traits, firstly being the measure of sociability with extraversion, having two types of people being extraverts who are sociable and impulsive and then introverts who are quiet and prefer a well ordered lifestyle. The second personality type is neuroticism, he saw these people which possess this trait to be unstable and that these people had a lot of fears, but on the other hand those with neuroticism who were free from anxiety, he saw as psychopaths, which behave in an antisocial manner (Maltby, 2022).

Both Cattell's and Eysenck's theories have been done with considerable research, however it was believed that Cattell consisted of too many traits in the theory and Eysenck didn't have enough within his theory (Boyle et al, 2016). Consequently, a new theory was developed known to be the "Big Five" Model by Costa and McCrae (1992) often known as OCEAN (Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism). Although similar to the three proposed by Eysenck, this theory combines a large quantity of factors into only five broader trait categories (Goldberg, 2013). Someone scoring high on extraversion may be outgoing and often likes gaining attention to themselves, likely to be confident and has a dominant personality style. Someone high in agreeableness is often altruistic and tends to follow others, someone scoring high on conscientiousness will likely to be organised and be self-disciplined, as well as often thinking before they act at any time, with a high score on neuroticism they likely to be driven by emotions, which are often negative, associated with anxiety and self-consciousness, and those high in openness are often imaginative, creative and have an appreciation for art but can be quite sensitive individuals (Cooper, 2021).

However, it was argued by Lee and Ashton (2018) that even though there were five traits there was one missing, this was known to be honesty-humility, with support with their assumption, there was a noticeable lower link with the trait agreeableness. Although, these five distinct categories are said to display a build up of everyone's personality (Haslam, 2017). This model is a data-derived hypothesis, which is not theoretically based (Maltby, 2022) with the Five Factor model not accounting for biological factors influencing one's personality and behaviour (Corr, 2015). However, according to a biological framework of personality, these traits are influenced by the physical structures in our brain. For example, the process of anticipation and planning things are handled by the frontal lobes, while the process of information that is visual is handled by the occipital lobes (Jaber et al, 2022). Further evidence showcases that if an individual showcases lower levels of serotonin, that it can be related to symptoms and actions of depression and aggression in an individual, which leads to higher levels of neuroticism, with openness being influenced by higher levels of dopamine (Awino, 2023). A person will act like others in the same situations according to the big five model, but contradictory, the within-person differences do play a factor, and everything is dependent on the present situation (Leikas et al, 2012).

The trait of conscientiousness has emerged through many studies, heightening the importance of the factor within academic performance (Vianello et al, 2010). Agreeableness, conscientiousness and openness have found to predict overall academic performance and has been said to predict academic achievement (Köseoglu, 2016). However, neuroticism has been found to negatively influence academic achievement as it is the factor that is most ridden with often negative emotions (MacCann et al, 2020). Moreover, it has been said that other individual factors as well as the ones stated in the big five should be explored further, the depth of processing someone may do academically, is also an influence on achievement, which is not considered in the model, Deep-processing students are more likely to draw conclusions effectively and are more self-regulated and have a higher chance to be conscientious, intellectually curious and extraverted. These students usually tend to also be more emotionally stable, according to the deep-processing theory (Jakupčević et al, 2021). If a student possesses an intuitive way of processing and employs a non structured learning environment, then that student may be prone to more anxiety and worry, leading to these students to be higher in the trait of neuroticism (Köseoglu, 2016). Although, information processing and accruing knowledge are processes that differ from student to student, with extensive investigations it has been concluded that the trait openness is linked to particular learning styles that have been previously correlated with academic success with students (Maltby, 2022).

Considering the complexity of individual personality, the impact it can have on academic performance can be very verse (Cervone et al, 2022). The majority of people think academic achievement is mainly created and based through intelligence levels and exam test results, but personality plays an important role in a lot more than that, this includes within individual differences such as positive thinking , motivation, creativity and emotional intelligence (Britwum, et al, 2022). As explained by Singh (2014) stating students vary by their individual values which is done by having a mixture of personality traits, these are needed in order to excel or develop strong personalities in academic settings.

Furthermore, Sweeney (2023) conducted a study with college students to investigate the link that personality and different style of learning, have on achievement in education through the big-five points of personality. Grade point average (GPA) were factors tested in this study, which found that the personality trait 'extraversion' and 'conscientiousness', were positively correlated with all four learning styles, being methodical study, synthesis analysis, elaborative processing and fact retention. Openness and agreeableness were also positively correlated with synthesis-analysis, with conscientiousness being the only factor of personality attending to GPA directly, supporting the statement of Vianello et al (2010) stating it was the main factor of academic achievement and performance. However, the negatively correlated trait with all different styles of learning was neuroticism, which supports MacCann, et al (2020) stating it negatively affects education performance due to the traits it houses, evolving around negativity. Which may lead students high in neuroticism to find working harder. The Big Five model concluded 9% of variance within GPA and findings suggested that both the style of learning and personality can have an impact on the amount of achievement within education (Sweeney, 2023)

Similarly, Komarraju et al, (2011) detailed a study on how the big-five traits of personality affect academic achievement with 308 undergraduates, in which also agreed that agreeableness and conscientiousness positively linked with the same four styles of learning, with synthesis analysis being the style of analysing data and arranging it in hierarchical order, the methodical type of study, which were using students that are usually stressed in academic settings, fact retention, which is the process of key concepts being retained with intention of doing well in tests and lastly, elaborative processing which is seen as involving new concepts with prior knowledge of subjects. Extraversion and openness related positively to elaborative processing. However, neuroticism similarly to the investigation done by Sweeney (2023) was negatively related to academic achievement. The big five model explained 14% of the variance in (GPA) with results showcasing also that the different type of learning style as well as personality traits contribute to academic performance. They saw factors of conscientiousness being focused on goals and being disciplined, extraversion individuals, having higher amounts of sociability and talking more, as well as higher levels of assertiveness. Neuroticism was seen as symptoms of anxiety and emotional stability, and openness was seen as having a strong factor of creativity and curiosity and agreeableness was being helpful to other people and being cooperative.

Moreover, the relationship between openness and GPA was assisted by reflective learning styles, elaborative processing and synthesis-analysis within this study. However, Bhagat et al (2014) investigated particularly the levels of neuroticism within higher education medical students, and agreed with the negative influence it has on academic achievement, supporting Eysenck's scale of neuroticism, students in which had high neuroticism reacted with higher levels of negatively to academic stress. Further evidence from Chamorro-Premuzic & Furnham (2003) supported the impact of neuroticism on achievement, through conducting a longitudinal study with university participants through 3 years, also stating that extraversion being little linked with academic achievement, through their study, neuroticism was associated with anxiety but they argued that it could be influenced by academic stress not necessarily a personality trait, this was not considered with the studies by Komarraju et al (2011) and Sweeney (2023).

Comparably to a study done later on done also with undergraduate medical students by Abouzeid et al (2021), which was looking into the affect of overall traits of personality, academic achievement in university. It was completed through an analytical, cross-sectional study, with a sample of 333 undergraduate students. Tests used were the The big five personality traits test and VARK learning styles questionnaires, which was testing students' personality traits as well as their learning styles. Results indicated that students in the kinaesthetic domain were the most positively correlated style of learning, that there was a difference among female and male learning styles and their preferences, as well as a higher relationship with auditory and kinaesthetic learning styles faced with academic achievement. Further indicating that openness and agreeableness traits were also the most prevalent with students. However, no significant relationship was showcased through traits of personality and academic achievement within this study.

Jakupčević et al (2021) conducted research between the relationship of motivation, learning styles and personality traits of primary school students, the study was done with 193 students who filled out three different questionnaires, these being goal orientations, learning strategies and personality traits for children questionnaires. Results of the questionnaires showcased that females had less goals compared to males, as well as having more non academic goals. Females used deep processing more often compared to males and had results of conscientiousness and emotional stability, being the two most important traits with younger students from The Big Five model. Further results from the study showcased that personality traits during childhood and adolescence show higher instability, meaning this time in education has more fluidity compared to adulthood, making personality traits more flexible and more easily changed, this showcases how a personality begins to develop at it's earliest. During the time of early childhood, children aren't aware of what their personality is, it depends on their surroundings, daily encounters and how they learn for how it to develop, also what shapes it, for it to be what it is as adults (Siegel, 2020). This could mean higher levels in a specific trait or too few of them, The impact of Personality traits on education, is dependant on an individuals upbringing and surroundings, in the earliest years of their life (Wood et al, 2018). These experiences also impact their level of self-concept academically.

A person's thought or belief of their own capabilities within a setting that is educational is known as academic self-concept (Hausen et al, 2022). A investigation was carried out by Hausen et al (2022) to study the connection between the Big Five model and academic self-concept. If this is a positive concept, it is the desire for good academic outcomes, and is a consequence of achievement (Prince et al, 2014). Academic self-concept is believed to be a part of an individual in which stays through out a long period of time. However, at a time a pupil transfers education from primary to secondary school, it is seen to decrease (Postigo et al, 2022) . During the study in which this was tested, a convenience sample of 382 secondary school students from Germany which involved six different schools and 18 different classes of students in year 9 and 10, taking five weeks to complete, the experiment had three separate sections, this being background check, using an e-diary on a mobile phone and a post-questionnaire. Findings showcased that openness, conscientiousness and agreeableness, In contrast to the study by Chamorro-Premuzic & Furnham (2003), Hausen et al (2022) saw extraversion have a positive link with academic self-concept, which may initiate that extraversion has a higher impact on the persons perception of their own academic learning and skills, compared to their academic abilities (Jensen, 2015).

Contradictory, Bhatti et al (2018) focused on the affect personality on academic performance, stating that the traits of personality contribute majorly in a students life. These traits are used to handle academic issues, where as (Vianello et al, 2010) states the personality trait of conscientiousness for example, was heightened in the development of academic success. The study was done through a proportionate randomised sample of 384 postgraduate students, the data was then analyzed through SPSS and Structural Equation Modeling (SEM). Results showcased a positive correlation with performance and personality, displaying links with openness, extraversion and neuroticism. However, there was a major difference compared to the previous studies, with Bhatti et al (2018) stating that there was an insignificant relationship between conscientiousness and agreeableness.

When previously these two factors have been the most important. There is no highlighted issue with neuroticism through this study, but previously through Hausen et al (2022) and Jakupčević et al (2021) neuroticism was the main factor affecting negative academic achievement, further Bhagat et al (2014) and older Chamorro-Premuzic & Furnham (2003) which showcased that neuroticism may have been a long-line issue through many years, furthermore, there was a shown link of neuroticism openness with experience of the participant, which may initiate neuroticism and openness is dependant on previous experience of the student, and is also dependent on the affect it has on overall performance.

To conclude, the most used model for understanding our personality is the Big Five, even though it has faced criticism for possibly missing a trait and can help and educate us about the effects personality traits have on academic achievement. Through multiple investigations, results showcase that one's personality and personality traits do have an influence on academic performance, although some studies have stated the importance of different traits. But the most prevalent within the studies to have a positive correlation with performance in education was Conscientiousness, followed by agreeableness and sometimes mentioned extraversion. However, through significant evidence, neuroticism showcased a negative link with academic performance. Personality and personality traits vary from person to person and has been showcased that gender and age can play a role in the activity and severity of these traits that were shown through the big five, with Jakupčević et al (2021) highlighting that both are more fluid earlier on in development, which proposes traits could affect education differently at different times in education.

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