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Theoretical Article

Personality and Academic Achievement: A Cross-Disciplinary and Cross-Cultural Review

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Abstract

This review adopts an integrated approach (Torraco, 2005) to examine the relationship between personality traits, as measured by the NEO-FFI (Costa & McCrae, 1992), and academic achievement across diverse higher education institutions in six countries. Findings consistently demonstrate the positive influence of Conscientiousness on academic success. However, the complexity of this relationship is underscored by the lack of standardized academic achievement metrics and the dual nature of Conscientiousness, which can both enhance and hinder academic outcomes. By deepening our understanding of these factors, this review aims to inform future research and educational practices in international and interdisciplinary contexts.

Keywords: academic achievement; success; performance; correlation; big five traits.

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In psychology research, a variety of inventories have been utilized to investigate personality traits. Ashton (2018), in his book *Individual Differences and Personality*, identified 14 widely known personality inventories. These included the California Psychological Inventory (CPI), The Hogan Personality Inventory (HPI), The Myers–Briggs Type Indicator (MBTI), The Big Five Inventory (BFI), The Neo Personality Inventory-Revised (NEO-PI-R), and NEO Five-Factor Inventory (NEO-FFI), the HEXACO Personality Inventory–Revised (HEXACO-PI-R), and the International Personality Item Pool (IPIP). Through self-reports and observers' reports, these inventories have been used to assess personality traits, varying in length and response according to the formats of their items. Some inventories present a series of statements or questions where respondents indicate whether the statements are true or false, while others present statements or questions that ask respondents to indicate their level of agreement or disagreement using response scales known as Likert scales.

Despite the variety in formats, several inventories were built on well-established frameworks, such as the Big Five-Factor or the HEXACO frameworks; the former encompassing five dimensions: Conscientiousness, Agreeableness, Neuroticism, Openness to Experience, and Extraversion, while the latter expands upon this by having six dimensions, namely: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience. Based on robust models, these inventories have been widely employed in exploring the relationship between personality traits and success, achievement, and performance in academic settings, including those of secondary and higher education.

Notable examples employing the Big Five Network include Furnham et al. (2009) who utilized the NEO-FFI to investigate the relationships between personality and school results of secondary students, discovering that Openness to Experience significantly contributed to students' exam success. Similarly, Negru-Subtirica et al. (2019) used the BFI to investigate links between personality traits and students' self-reported Grade Point Average scores (hereafter shortened as GPA) in a longitudinal study with high school students. They found associations between high GPA levels and higher levels of Extraversion, Agreeableness, and Openness to Experience. Two other studies, by Barchard (2003) and Bipp et al. (2019), utilized the NEO-PI-R inventory to explore the relationship between personality traits and academic success among undergraduate students. The former identified significant correlations between Conscientiousness and Openness and students' year-end grades, while Bipp et al. found that obsessive-compulsive tendencies correlated with higher GPA scores among students enrolled in a three-year bachelor's program in Industrial Engineering.

Other authors have opted for the HEXACO framework: Lee et al. (2021), while investigating personality differences among students from various academic majors, uncovered distinct patterns of personality traits across different fields of study. They observed that students pursuing majors demanding practical and applied skills tended to exhibit higher levels of Extraversion, while in contrast, students in disciplines emphasizing creativity and philosophy showed greater tendencies toward Openness to Experience. Similarly, Jia et al. (2022), using the HEXACO framework, examined the link between personality traits and self-reported achievements amongst higher achievers from various university programs in China. They identified Openness to Experience, Emotionality, and Honesty-Humility as key personality traits for academic achievement, and noted differences based on gender and majors among the higher achievers.

Surprisingly, despite the extensive research exploring the relationship between personality traits and academic success, achievement, and performance, few studies have systematically reviewed and compared findings across studies of a similar nature. Vedel (2014) conducted a comprehensive systematic review and meta-analysis across 20 studies investigating the relationships between the Big Five personality traits and tertiary academic performance. He examined the correlation between personality traits, measured by five different inventories; NEO-PI-R, NEO-FFI, BFI, Big Five Markers, and the IPIP and academic performance, operationalized as GPA scores. Significant correlations were found between academic performance and three personality traits, namely Agreeableness, Conscientiousness, and Openness. Notably, the strength of these associations, particularly that of Conscientiousness, varied between students majoring in Psychology and those in other fields. Vedel concluded that the particular academic major serves as a mediating variable in the relationships between Conscientiousness and GPA scores.

Six years later, Rokach and Boulazreg (2020) acknowledged Vedel's work and published another literature review. Again, using the Big Five framework, they explored the correlation between personality and academic success (also operationalized as GPA) across studies. However, unlike Vedel, they focused exclusively on reviewing studies which examined such correlation amongst Psychology students. Their rationale stemmed from the notion that Big Five traits differ across students of different academic majors. In other words, they concentrated on a homogenous sample in an effort to address challenges in assessing the traits that best represent Psychologists, as sampling across various majors may present difficulties in achieving broader generalizability. Rokach and Boulazreg then reported that among Psychology students, Conscientiousness and Agreeableness significantly correlated with academic success, while Neuroticism negatively impacted their academic performance.

Interestingly, the relationship between Extraversion and Openness to Experience concerning academic success remained inconsistent. One of the arguments put forward for this inconsistency stemmed from the varied use of different instruments employed by previous studies to measure personality traits.

The studies by Vedel (2014) and Rokach and Boulazreg (2020) reviewed the results and findings of the relationships between personality traits and GPA scores across different studies. Vedel reviewed findings across students from different majors, while Rokach and Boulazreg focused exclusively on reviewing findings from studies in the field of psychology. However, both studies encountered challenges due to the inclusion of studies that employed different personality inventories with varying nomenclature and variables. For example, Emotional Stability and Intellect are two factors included in the IPIP personality inventory but are not part of inventories that follow the Big Five factor framework (NEO-FFI or NEO-PI-R). The incorporation of studies using different inventories in their literature review challenged both Vedel and Rokach and Boulazreg in ensuring comparability in their results, leading to discrepancies in their findings. What is needed is a study that compares the results of studies employing a common personality inventory to ensure consistency in measuring personality traits across previous empirical studies. Moreover, these two studies focused primarily on objective assessments, such as GPA scores, as the main variable to measure success, without further discussing other types of assessments, such as students' self-evaluation reports or behavioral-based assessments (e.g., attendance, absenteeism), which previous studies used to measure academic success, performance, and achievement. Furthermore, the two studies did not address the interchangeable and overlapping use of terms such as success, achievement, and performance across the literature, often referring to GPA scores, causing confusion among readers and researchers alike.

To address these gaps, this literature review initially examined studies that had explored the relationship between personality traits and academic success, achievement, and performance. It then selected studies that employed the same personality inventory to measure personality traits among undergraduate/college students. It further examined how personality traits related to different metrics such as GPAs, exam marks, and self-reported assessments used in measuring students' academic success, achievement, and performance. The review then presented key findings ranking personality traits by their influence on academic achievement and further explored the most influential; Conscientiousness. It discussed two critical points highlighted by its findings: the lack of standardized terminology for assessing academic achievement and the dual nature of

Conscientiousness (a personality trait known for its positive impact on academic achievement but rarely discussed as a potential harm). Ultimately, this review aimed to shed light on the nuanced relationship between personality traits and academic success, providing insights for future research and educational practices.

Search Methodology

Throughout this study, an integrated review approach was adopted, following traditional methods to synthesize and evaluate existing literature within the research domain (Paul & Barari, 2022). Unlike systematic literature reviews, which adhere to strict protocols and focus on specific research questions, integrative reviews offer greater flexibility; they enable researchers to explore the literature more comprehensively by incorporating studies with both qualitative and quantitative data. Integrative reviews both analyze and merge findings from independent studies on similar subjects, thereby establishing connections between results to offer fresh perspectives and deeper insights into the topic (De Souza et al., 2010; Torraco, 2005). At the same time, they suggest avenues for future research. The methodological process used in integrative reviews encompasses searching, selecting, extracting, analyzing, and synthesizing data before presenting key findings.

Searching

To initiate this literature review, searches for empirical studies were conducted using EBSCOhost and Google Scholar databases. Relevant articles were retrieved employing keywords such as academic success, academic achievement, academic performance, personality traits, successful university students, success in university, traits of successful students, academic achievement, personality and GPA and personality and grades. These searches yielded numerous articles exploring the relationships between personality, academic achievement, performance, and success. To ensure data validity, articles published in reputable peer-reviewed journals were selected and, at the end of the search phase, 49 articles meeting these criteria were collected.

Selecting

To identify relevant studies, the abstracts of the 49 articles were initially reviewed to understand their main concepts before their methodology and discussion sections were examined. Preference was given to studies addressing the correlation between personality traits and academic success, encompassing both achievement and performance and also supported by empirical evidence. Subsequently, studies employing, in their methodologies, well-established personality inventories, such as the Big Five or HEXACO frameworks, were identified. To ensure methodological consistency and comparability of findings, only studies that utilized the same personality inventory to explore the relationship between personality

traits and academic success /performance/ achievement among undergraduate/university/college students were retained. At the end of the selection phase, 11 articles that met the stated criteria were chosen.

Extracting

The objective, methodology and results sections of each of the 11 studies were critically reviewed, with both key and unexpected findings highlighted. The discussion sections were subsequently examined to ensure alignment with the reported results. To facilitate comparison among the eleven studies, a table was constructed to organize pertinent information such as Journal/Author (Year), Study Country, Participant University/Major, Study Design, Measurement, Academic Achievement, Personality Inventory & Instruments, Sample Size (N), and Key Findings. This table, labeled Table 1, provides an overview of the selected articles; serving as the primary data source for this literature review.

Analysis and Synthesis

The extracted information from each study was thoroughly explored to discover how academic success, performance, and achievement were measured. All indicators were coded and categorized under the theme of Academic Achievement. In this literature review, therefore, the term Academic Achievement encompasses various descriptors, such as success, performance, outcomes, and achievement itself, which have been used interchangeably across all the literature to denote measurements such as GPA, exam scores, and self-assessments. (Further elaboration will be provided in the Discussion section.).

Given that the 11 selected studies employed the NEO Five-Factor Inventory (hereafter referred to as the NEO-FFI) to evaluate personality traits, the Big Five framework was followed to investigate and analyze the connections between personality traits and Academic Achievement across these studies. The key findings were categorized under the following themes: Openness to Experience-Academic Achievement, Conscientiousness-Academic Achievement, Extraversion-Academic Achievement, Agreeableness-Academic Achievement, and Neuroticism-Academic Achievement.

While conducting the primary coding, the review process underwent ongoing consultation, and an external audit was undertaken to validate the quality of this research.

The next section elaborates on the characteristics and methodologies of the selected studies, which serve as the primary source of data for this study. Table1 in Appendix.

Characteristics and Methodologies of the Eleven Selected Studies

Peer-Reviewed Journals

The selected studies for this literature review were published in various peer-reviewed journals including the Journal of Personality, Journal of Personality and Individual Differences, Journal of Research in Personality, Procedia-Social and Behavioral Sciences, Higher Education Research and Development, Personality and Individual Differences, Journal of Personality and Social Psychology, PLOS ONE, and Frontiers in Psychology. These journals are highly respected in their respective fields, and all studies published by them undergo thorough evaluations by experts, ensuring both the quality and validity of the research.

International Scope and Institutional Diversity

The selected studies were conducted in six different countries, namely the USA, the UK, Iran, Australia, Portugal, and China. As shown in Table 1, each of the studies included students from different institutions majoring in varied fields. Four studies carried out in the USA (Conard, 2006; Gray & Watson, 2002; Komarraju et al., 2011; Notfel & Robins, 2007) included undergraduate students from the University of Iowa and the University of California, majoring in different subjects. Two studies done in the UK (Farsides & Woodfield, 2003; Furnham & Chamorro-Premuzic, 2004) involved undergraduate students from the University of Sussex and University College London, including students majoring in geography and other disciplines. One study in Iran (Hazrati-Viari et al., 2012) included first-year students majoring in psychology, while a study in Australia (McKenzie et al., 2004) involved participants from Queensland University of Technology. A study in Portugal included students from the Faculty of Medicine at the University of Porto (Lourinho & Severo, 2017). Finally, one study carried out in China (Wang et al., 2023) involved participants from a business school at a university in Beijing. Altogether, the total number of participants across all samples is 15,321, plus one study that refers to its population as “small” (Wang et al., 2023, p.18) without providing the exact number. For details on the number of male and female participants in each of the studies please refer to the sample column in Table 1.

Research Design of the Studies

In exploring the relationship between personality traits and academic achievement, the studies took a similar quantitative approach, gathering data mainly through questionnaires and surveys. However, not surprisingly, the statistical methods employed for data analysis varied among the studies, including Correlation analysis (a method to gauge the strength and direction of associations between variables), Multiple regression analysis, and Hierarchical

multiple regression analysis (a method to scrutinize the relationship between a dependent variable and two or more independent variables), Structural Equation Modeling (SEM), and Mediation Analysis (a method to elucidate the underlying mechanisms by which independent variables influence dependent variables). For further details on the methods used by each of the studies, refer to the Design column of Table 1.

NEO-FFI Inventory: Standardized Personality Inventory

The eleven studies employed the NEO-FFI to assess the personality traits of their participants. This personality inventory was created by Costa and McCrae in 1992. It comprises 60 items and is actually a shorter version of the original NEO Personality Inventory-Revised (NEO-PI-R), which was also developed by the same authors. The NEO-FFI evaluates five personality factors: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Each factor is made up of 12 items that are rated on a five-point Likert scale (McKenzie et al., 2004). Despite its shorter length, the scores of the NEO-FFI inventory are highly correlated with those of the NEO PI-R, ranging from 0.87 to 0.92, except for Agreeableness, which has a correlation of 0.77 (Scandell, 2000) and with Cronbach alpha values for each factor ranging from 0.68 to 0.84 (Komarraju et al., 2011, p. 474), demonstrating high internal consistency and reliability. Nevertheless, McCrae and Costa (2004) suggest that the NEO-FFI was not meant to definitively measure the five personality factors. Instead, it was designed as a brief instrument to provide reasonable estimates of the factors, primarily for use in exploratory research.

Academic Achievement Assessment

As mentioned earlier, academic achievement encompasses various descriptors, such as academic performance, outcomes, and success across the literature. Despite these variations in terminology, the studies employed similar metrics to measure Academic Achievement, including GPAs, exam marks, and self-reported assessments. However, some studies relied predominantly on traditional metrics such as GPAs (Gray & Watson, 2002; Hazrati-Viari et al., 2012), while others included exam scores (Chamorro-Premuzic & Furnham, 2003; Conard, 2006; Furnham & Chamorro-Premuzic, 2004). Additionally, some studies incorporated subjective measures based on individual perceptions or self-reports (Notfel & Robins, 2007; Wang et al., 2023). The Discussion section will expand on the need for standardized terminology for assessing academic achievement.

Findings

This section presents the key findings of the literature review, ranking personality traits by their influence on academic achievement, starting with the most influential.

Conscientiousness and Academic Achievement

Conscientiousness was the best predictor of academic achievement, as reported in ten of the studies, regardless of the measurement methods used (Chamorro-Premuzic & Furnham, 2003; Conard, M.A., 2006; Farsides & Woodfield, 2003; Furnham & Chamorro-Premuzic, 2004; Gray & Watson, 2002; Hazrati-Viari et al., 2012; Komarraju et al., 2011; McKenzie et al., 2004; Notfel & Robins, 2007; Wang et al., 2023). Gray and Watson (2002) found that conscientiousness was the most influential predictor of college and high school GPA. Farsides and Woodfield (2003) and Noftle and Robins (2007) supported this claim by showing that conscientiousness predicted tutorial grades as well as correlating with higher grades. In addition, Conard (2006) highlighted a direct influence of conscientiousness on course performance, manifested by attendance. Chamorro-Premuzic and Furnham (2003) found that conscientiousness predicted and significantly correlated with overall written exam marks and final project marks. Furnham and Chamorro-Premuzic (2004) observed that conscientious individuals showed better overall performance, which positively correlated with grades on the statistic examination (SEG). Similarly, Wang, et al. (2023) noted that Conscientiousness positively influenced students' self-assessments of achievements.

Agreeableness and Academic Achievement

Five studies reported a positive correlation between Agreeableness and academic achievement (Chamorro-Premuzic & Furnham, 2003; Farsides & Woodfield, 2003; Komarraju et al., 2011; McKenzie et al., 2004; Wang et al., 2023). Farsides and Woodfield (2003) found that Agreeableness was positively correlated with verbal intelligence. According to Chamorro-Premuzic and Furnham (2003), agreeable individuals were more likely to achieve higher grades, as they reported a positive correlation between Agreeableness and first-year exam marks. McKenzie et al. (2004) identified agreeable students performing better academically than extroverted and antagonistic students. Similarly, Komarraju et al. (2011) found a positive association between Agreeableness and GPA and a positive relationship between Agreeableness and learning styles. However, Wang et al. (2023) reported that Agreeableness negatively impacted students' academic achievements and major identity, suggesting potential challenges in aligning with one's chosen major and achieving academic success.

Openness to Experience and Academic Achievement

The literature review yielded mixed results with regards to the relationship between Openness to Experience and Academic achievement.

Four studies support the notion that being open to new experiences has a positive impact on academic performance (Farsides & Woodfield, 2003; Hazrati-Viari et al., 2004; Komarraju et al., 2011; Wang et al., 2023). Farsides and Woodfield (2003) found a positive correlation between Openness to experience and undergraduate academic achievement measured by yearly school assessments. Hazrati-Viari et al., (2004) discovered that Openness to experience predicted academic performance and intrinsic motivation. Similarly, Komarraju et al. (2011) found that Openness to experience was positively associated with Reflective Learning Styles and GPA. Wang et al. (2023) also discovered that Openness to experience can impact academic achievement through self-efficacy and that the combination of Openness to experience, Extraversion, and Conscientiousness had an overall positive effect on academic achievements.

Conversely, five studies reported no correlation or negative correlations between Openness to experience and Academic achievement. Chamorro-Premuzic and Furnham (2003) found a weak correlation between Openness to experience and academic performance measured by written exam marks and end-course project marks. McKenzie et al. (2004) reported that Openness to experience had no impact on academic achievement. Noftle and Robins (2007) found a weak correlation between Openness to experience and college GPA. Lourinho and Severo (2017) reported that students' previous achievements (i.e., academic qualifications and national examination results obtained before joining college) were negatively associated with Openness to experience. Interestingly, Wang et al. (2023) found that while Openness and Extraversion of male students had a negative impact on academic achievement, amongst female students it had a positive impact on students' self-assessments of their own academic achievements.

Extraversion and Academic Achievement

There are mixed opinions on how extraversion affects academic achievement. Furnham & Chamorro-Premuzic (2004) found that as extraversion scores increased, grades decreased. These results were supported by McKenzie et al., (2004), who reported that extroverted and antagonistic students got lower grades in contrast to introverted and agreeable students. On the other hand, Wang, et al. (2023) claimed that extraversion had a positive effect on students' self-assessments of their own academic achievements. Moreover, Chamorro-Premuzic & Furnham (2003) found no relationship between Extraversion and exam marks,

but they did find extraversion was positively related to academic performance, particularly in final-year projects. The same authors interpreted this positive association in terms of interpersonal skills, such as students establishing good relationships with professors.

Neuroticism and Academic Achievement

Five studies reported the relationship between Neuroticism and Academic achievement; four revealed a negative correlation between the two factors, while one study did not find any correlation. Chamorro-Premuzic and Furnham (2003) reported that Neuroticism was negatively correlated with academic performance, including written exam marks and final project marks. McKenzie et al. (2004) found no relation between Neuroticism and academic records and GPA. Additionally, Furnham and Chamorro-Premuzic (2004) found no significant correlations between neuroticism and SEG (Statistical Examination Grades). Furthermore, Komarraju et al. (2011) found that students' learning styles were negatively associated with Neuroticism. However, Lourinho and Severo (2017) reported that Neuroticism can positively influence the academic achievements of graduate medical students. According to the same authors, the anxiety component of Neuroticism may lead to higher levels of anticipation, preparation, and competitiveness within the medical school environment.

The Most Influential Personality Trait and Other Variables

Conscientiousness has been found to be more than just a predictor of academic achievement. It has been positively linked to various aspects of an individual's make up, such as the quality of sleep, learning strategies, motivation, academic effort, perceived academic ability, and self-efficacy, while it has been negatively associated with absenteeism. This section provides additional insights into Conscientiousness by presenting more findings from the studies listed in Table 1.

Conscientiousness and Quality of Sleep

Gray and Watson (2002) demonstrated that conscientious individuals consistently report better sleep quality, healthier sleep habits, and a preference for early rising compared to those with lower conscientiousness and higher neuroticism scores. Their study also revealed a moderate connection between sleep schedules and college GPA, indicating that individuals with low conscientiousness tend to maintain a more evening-oriented schedule. Gray and Watson concluded that early risers tend to be more disciplined and achievement-oriented than night owls. However, the same authors suggest careful consideration of these findings as they relied mainly on self-reported data without the inclusion of external observations or biological measures, leading them to invite further research on Conscientiousness in sleep research.

Conscientiousness and Learning Strategies

Komarraju et al. (2011) discovered a positive and significant association between conscientiousness and four learning styles measured with the Inventory of Learning Process developed by Schmeck et al. (1977), which assesses synthesis analysis, elaborative processing, methodological study, and fact retention. Conscientiousness facilitates effective learning strategies, making it valuable for achieving high academic levels. Komarraju et al. suggest that organized, disciplined, and determined students are more likely to use multiple learning styles to maximize their learning compared to those who are careless and lack systematic study habits.

Conscientiousness and Motivation

Hazrati-Viari and colleagues (2012) found that Conscientiousness predicts intrinsic and extrinsic motivation, as measured by the Academic Motivation Scale developed by Vallerand and his team in 1992. Intrinsic motivation refers to interest, enjoyment, competence, and self-determination, while extrinsic motivation involves behavior driven by external factors. The study suggests that conscientious students are more likely to meet deadlines, complete tasks, and exert effort without constant supervision. The authors' resulting proposal is that internal and external motivations mediate the association between personality and academic performance.

Conscientiousness and Self-perceptions of Abilities

Noftle and Robins (2007) identified a significant association between Conscientiousness and students' self-perceptions of Academic effort (referring to students' efforts in their school work) and Academic ability (students' self-assessments of confidence in academic performance and estimations of future academic success). They reported that both factors significantly mediate the relationship between Conscientiousness and college GPA. In other words, students' perceptions of their Academic effort and Academic ability influence their college GPA, and this relationship is partially explained by their level of Conscientiousness.

Conscientiousness, Major Identity, and Self-Efficacy

Wang et al. (2023) suggested that Conscientiousness played a pivotal role in shaping students' academic experiences by fostering a strong sense of Major identity and Self-efficacy. When students perceived alignment between their chosen major and personal interests, values, and skills, it boosted their confidence in their capability to succeed academically. Moreover, as self-efficacy increased, students tended to put more effort into their studies, leading to improved outcomes. Conscientiousness, therefore, cultivated a

sense of purpose and direction regarding students' majors and instilled confidence in their abilities, ultimately contributing to academic achievement.

Conscientiousness and Absenteeism

Chamorro-Premuzic and Furnham (2003) noted that individuals with high levels of conscientiousness tend to have a lower rate of absenteeism from seminars. Similar findings were reported by Conard (2006) and Farsides and Woodfield (2003), who observed a negative correlation between conscientiousness and absenteeism. Furthermore, Farsides and Woodfield (2003) found that conscientiousness not only correlates negatively with seminar absenteeism but also with failure to submit assignments. Conversely, Furnham and Chamorro-Premuzic (2004) discovered that students who consistently attend seminars and perform well in term essays tend to exhibit high conscientiousness. These findings support Gray and Watson's (2002) assertion that individuals with higher conscientiousness are less likely to engage in carefree and antisocial behaviors.

Discussion

This section will discuss two important points based on the key findings. First, there is a lack of standardized terminology for assessing academic achievement. Second, Conscientiousness, a personality trait recognized for its positive impact on academic achievement, has a dual nature that is barely discussed as a potential harm.

Standardizing Measures for Assessing Academic Achievement

The absence of established standardized terminology or criteria for assessing academic achievement is a significant point to emphasize. In this literature review, to measure academic achievement, the selected studies utilized the same personality assessments, the NEO-FFI, and shared similar metrics, such as self-reported GPAs and exam scores. However, they varied in their terminologies and combinations of metrics for assessment: Gray and Watson (2002), Noftle and Robins (2007), Conard (2006), and Komarraju et al. (2011) all included self-reported GPAs as a metric in their methods. Nevertheless, they applied different labels, using terms such as *academic performance, academic outcomes, academic achievement, and academic success*. Similar findings were reported by York et al. (2015) in a literature review on academic success in which they stated that the bulk of published research measures "academic success" as "academic achievement" (and vice versa), and both terms are operationalized as grades and/or GPA. This diversity in terminology when measuring identical metrics contributes at least to confusion and potentially misunderstandings in the field. Clarifying and standardizing the terminology used could not but help to significantly improve assessment methodologies.

As suggested by Farsides and Woodfield (2003), it is important to consider what constitutes academic success and how it is measured in order to effectively identify potentially successful students through personality profiling. A good starting point is, therefore, must be to clearly define what is meant by performance, outcomes, and achievement; made difficult because these terms are multifaceted and subject to different interpretations within the academic context. York et al. (2015) proposed a model that defines academic success as a construct involving other variables such as "Academic Achievement, Attainment of Learning Goals, Acquisition of Skills and Competencies, Satisfaction, Persistence, and Career Success" (p.8). From York et. al.'s perspective, academic achievement exists within academic success. This view can be very useful in understanding that academic success and academic achievement are at two different hierarchical levels. However, York et al.'s model confines academic achievement to primary grades and GPA scores and excludes the term "performance" from the model and, therefore, performance could be added to the model as one component of Academic Achievement. The term *performance*, defined by Cambridge University Press (2024) as "how well an activity is done," could be better employed to refer to grades and GPA scores while including other indicators, such as attendance, class participation, and self-evaluations which show how well students perform academically. In doing this, the path to defining Academic Success, Achievement, and Performance begins to become clearer. In this employment Academic achievement becomes a term used to measure Academic Success, while performance is used to assess Academic Achievement. Performance and Academic achievement then become components of a larger construct: Academic Success. While strongly advocated, these suggestions need to be further addressed among researchers to, hopefully, establish agreement.

The next step, after establishing agreed-upon terminology, is to define specific metrics for assessing Academic Achievement. As previously mentioned, even though the studies used similar metrics such as GPAs, exam marks, and self-reported assessments in their methods, they combined these with other assessments. If, on the other hand, all types of assessments are grouped together and *then* classified into groups, they will fall into one of the following categories: Objective, Self-reported, or Behavioral assessments.

Self-reported Assessments: These assessments rely on students' self-perceptions of academic abilities, accomplishments, and efforts. Examples include students' self-assessments of academic achievements (Wang et al., 2023) and perceived verbal intelligence, perceived academic ability, and academic effort (Noftle & Robins, 2007). Self-reported college and high school GPAs (Gray & Watson, 2002) and self-reported SAT scores

(Notfel & Robins, 2007) could also be considered within this category, unless they are verified with actual scores: in which case they should be included in the next category, Objective assessments.

Objective Assessments: These assessments are based on concrete and verifiable measurements making them less subjective than self-reported assessments. Examples include actual college and high school GPAs (Gray & Watson, 2002), three-hour written exam results (Chamorro-Premuzic & Furnham, 2003), and first-year Statistic Examination Grades (Furnham & Chamorro-Premuzic, 2004).

Behavioral-based Assessments: This category includes evaluations on students' behaviors provided by faculty, or a third party, such as an observer. This category can include class attendance (Conard, 2006), absenteeism (Furnham & Chamorro-Premuzic, 2004), and others, such as class participation and classroom etiquette.

These three types of assessments would fall under the category of academic performance ultimately measuring Academic Achievement.

The comparing of results across studies and drawing conclusions becomes challenging when different assessment methods are used lacking standardized terminology and agreed-upon criteria. Therefore, it is essential, as educators and researchers, that we work together in establishing standardized terminology and developing universally accepted measurements of academic achievement, thus ensuring consistency and comparability across future studies. Integrating self-reported assessments with objective measurements and behavioral-based evaluations could, I suggest, offer a more comprehensive understanding of academic achievement, enabling researchers to measure diverse facets of students' performance.

The Dual Nature of Conscientiousness

The literature review indicates that Conscientiousness is the most significant personality trait associated with academic achievements. Conscientious individuals are known for their disciplined and goal-oriented approach to academic pursuits. The studies, unfortunately, did not discuss the implications of being highly conscientious. Conscientiousness has been found to have a dual nature, and thus, being highly conscientious can have drawbacks, especially when other personality traits come into play.

Reader and Workman (2023), in their book "Evolutionary Psychology", highlighted that although Conscientious individuals showed order, perseverance, and foresight, they tended to struggle with adaptability to change (p.129). Moreover, Stoeber et al. (2009) found a strong connection between Conscientiousness and self-oriented Perfectionism, indicating

that highly conscientious individuals set very high self-standards. These ideas are backed up by Coleman et al. (2023), who stated that highly diligent, industrious, and thorough individuals were prompted to fall into excessively high personal standards and perfectionistic strivings. Unfortunately, Perfectionism, and more specifically self-oriented perfectionism, has been linked with low levels of self-compassion (Flettet al., 2023). This suggests that highly conscientious individuals tend to be overly critical and harsh towards themselves, and possibly with others when things do not meet their high expectations.

Now, when considering Conscientiousness in conjunction with other personality traits, Reader and Workman (2024) argued that highly conscientious and agreeable individuals were often seen as being too generous and helpful, leaving them vulnerable to exploitation. Furthermore, Lee and Ashton (2012) stated that individuals high in Conscientiousness but low in Honesty-Humility found it difficult to balance their desire for wealth and status with an orderly, predictable lifestyle that followed the law. To illustrate this, they described individuals who might not have directly cheated on their taxes but would instead look for ways to reduce their tax burden by exploiting flaws in tax regulations. In other words, these individuals might have taken advantage of legal loopholes to serve their own interests without technically breaking the law. In addition, Spielmann et al. (2022) claimed that "The remaining negative consequences of conscientiousness appear to be the result of … combining conscientiousness with other negative qualities, like neuroticism" (p. 2757). Highly conscientious and neurotic individuals may be high functioning and well-organized, but may also face heightened stress and anxiety due to their perfectionist tendencies.

In short, it is crucial to consider both the good and the bad of Conscientiousness and the way it interacts with other personality traits. As Reader and Workman (2024) put it, "We need to look at all five personality traits in combination, and what is perceived as 'a poor score' on one, when combined with a 'good score' on another, might lead to a successful strategy…" (p. 130). The combination of personality traits could explain why Neuroticism positively influenced the academic achievements of graduate medical students in Lourinho and Severo's (2017) study. The neediness and low mood of Neurotic people may be considered undesirable when viewed in isolation, but in certain settings when these traits are combined with other personality traits, they could be beneficial. According to Lourinho and Severo (2017), there is evidence that Neuroticism correlates positively with competitiveness and that the anxiety component of Neuroticism, if channeled strategically, can boost preparation as it promotes individuals to be more vigilant and anticipatory. Similarly, Apostolov and Geldenhuys (2022) found that the anxiety component of Neuroticism was a significant

predictor of academic motivation if the other facets of Neuroticism, namely Vulnerability and Depression, are under control.

If looked at from the perspective of the evolutionary theory of personality, every personality trait has costs and benefits. They exist within us and interplay with each other for a reason to keep us alive and thrive in social and natural environments. It is, therefore, worth being aware that traits such as Conscientiousness and Neuroticism have both a dark and bright side. Consequently, future studies of personality in the academic field should further explore the possible bright sides, of personality traits that have, to date, been considered merely negative, such as Neuroticism, Disagreeableness, or Closed-mindedness in relation to Academic Achievement.

Implications for future research and educational practices

Reflecting on the key findings and the discussion sections, I offer three implications for future research. First and foremost, there needs to be a serious effort made to collaborate and standardize terminology and criteria for assessing academic achievement. Establishing agreed-upon definitions and assessment categories can only help enhance consistency and comparability of results across future studies. Second, future studies that use the NEO-FFI to assess personality traits should consider integrating self-reported, objective, and behavioral-based assessments (refer to the discussion section for details on these assessments). This integrated approach will aid in the capture of diverse facets of student performance and accomplishments, leading to a more comprehensive understanding of academic achievement. Third, although the reviewed studies highlight the intricate relationship between personality and academic achievement, further research should explore the factors that mediate personality traits and academic achievement. This study found that students' motivation, learning strategies, major identity, and self-efficacy mediated Conscientiousness and Academic Achievement. However, it is as yet unclear how these factors mediated other personality traits and Academic Achievement. Finally, while Conscientiousness is recognized as a significant predictor of Academic Achievement, future researchers should also acknowledge its dual nature in their discussions. Understanding the potential drawbacks associated with being highly conscientious, such as perfectionistic and self-criticism tendencies, is essential for a more nuanced interpretation of its impact on academic achievement and the well-being of college students.

Conclusions

The purpose of this study was to provide a better understanding of the connection between personality traits and academic achievement. It reviewed eleven studies on the relationships

between personality traits and academic achievement, all published in prestigious journals. These studies explored the link between personality traits assessed by the NEO-FFI and academic achievement across six countries and diverse higher education institutions. Employing quantitative approaches to collect data, the studies utilized correlation analysis, multiple regression, and structural equation modeling. Diverse metrics, including GPAs, exam scores, and self-reports, were used to assess academic achievement. Despite methodological variations, these studies agreed on the critical role of personality traits, particularly Conscientiousness, Agreeableness, and, to a lesser extent, Openness to Experience, in shaping the academic outcomes of college students globally.

The key findings revealed that Conscientiousness, as previously reported by other authors (Notfel & Robins, 2007; Vedel, 2014), is the most consistent predictor of success, positively impacting grades and overall performance. Agreeableness also correlates positively with exam marks but may pose challenges in specific contexts. While Openness to Experience shows mixed results, Extraversion's influence remains uncertain, with conflicting findings regarding its impact on grades and self-assessments. Neuroticism generally correlates negatively with academic achievement; however, one study by Lourinho and Severo (2017) suggests a potential positive influence among graduate medical students.

Further findings regarding the relationship between conscientiousness and other variables showed that individuals with high conscientiousness tend to exhibit lower rates of absenteeism and better sleep quality. They also employ more effective learning strategies, display higher levels of motivation, and possess positive self-perceptions of academic abilities. The studies, however, did not further discuss the dual nature of high conscientiousness, as it can lead to perfectionism, self-criticism, and low levels of self-compassion, and its possible influences when other personality traits come into play.

References

Ashton, M. C. (2018). *Individual differences and personality* (3rd ed.). Elsevier Academic Press.

Apostolov, N., & Geldenhuys, M. (2022). The role of neuroticism and conscientious facets in academic motivation. *Brain and behavior*, *12*(8), e2673. https://doi.org/10.1002/brb3.2673

Barchard, K. A. (2003). Does emotional intelligence assist in the prediction of academic success? *Educational and Psychological Measurement*, *63*(5), 840–858. https://doi.org/10.1177/0013164403251333

Bipp, T., Kleingeld, A., & Snijders, C. (2019). Aberrant personality tendencies and academic success throughout engineering education. *Journal of Personality*, *88*(2), 201–216. https://doi.org/10.1111/jopy.12479

Cambridge University Press. (2024). Performance. In *Cambridge Dictionary*. https://dictionary.cambridge.org/dictionary/english/performance?q=%2Bperformance

Chamorro-Premuzic, T., & Furnham, A. (2003). Personality predicts academic performance: Evidence from two longitudinal university samples. *Journal of Research in Personality*, *37*(4), 319–338. https://doi.org/10.1016/s0092-6566(02)00578-0

Coleman, G., Furnham, A., & Treglown, L. (2023). Exploring the dark side of conscientiousness. The relationship between conscientiousness and its potential derailers: Perfectionism and narcissism. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues, 42*(31), 27744–27757. https://doi.org/10.1007/s12144-022-03828-y

Conard, M. A. (2006). Aptitude is not enough: How personality and behavior predict academic performance. *Journal of Research in Personality*, *40*(3), 339–346. https://doi.org/10.1016/j.jrp.2004.10.003

Costa Jr., P. T., & McCrae, R. R. (1992). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6*(4), 343–359. https://doi.org/10.1521/pedi.1992.6.4.343

De Souza, M. T., Da Silva, M. D., & De Carvalho, R. (2010). Integrative review: what is it? How to do it? *Einstein (São Paulo)*, *8*(1), 102–106. https://doi.org/10.1590/s1679-45082010rw1134

Farsides, T., & Woodfield, R. (2003). Individual differences and undergraduate academic success: the roles of personality, intelligence, and application. *Personality and Individual Differences*, *34*(7), 1225–1243. https://doi.org/10.1016/s0191-8869(02)00111-3

Flett, G. L., Nepon, T., Hewitt, P. L., Swiderski, K., & Hal, C.(2023). Trait perfectionism, perfectionistic automatic thoughts, perfectionistic Self-Presentation, and Self-Compassion among students and mothers of young children. *Journal of Concurrent Disorders*. https://doi.org/10.54127/ducz2557

Furnham, A., & Chamorro-Premuzic, T. (2004). Personality and intelligence as predictors of statistics examination grades. *Personality and Individual Differences*, *37*(5), 943–955. https://doi.org/10.1016/j.paid.2003.10.016

Furnham, A., Monsen, J., & Ahmetoglu, G. (2009). Typical intellectual engagement, Big Five personality traits, approaches to learning and cognitive ability predictors of academic

performance. *British Journal of Educational Psychology, 79*(4), 769–782. https://doi.org/10.1348/978185409x412147

Gray, E. K., & Watson, D. (2002). General and specific traits of personality and their relation to sleep and academic performance. *Journal of Personality*, *70*(2), 177–206. https://doi.org/10.1111/1467-6494.05002

Hazrati-Viari, A., Rad, A. T., & Torabi, S. S. (2012). The effect of personality traits on academic performance: The mediating role of academic motivation. *Procedia - Social and Behavioral Sciences*, *32*, 367–371. https://doi.org/10.1016/j.sbspro.2012.01.055

Jia, R., Bahoo, R., Cai, Z., & Jahan, M. (2022). The Hexaco personality traits of higher achievers at the university level. *Frontiers in Psychology*, *13*, 881491. https://doi.org/10.3389/fpsyg.2022.881491

Komarraju, M., Karau, S. J., Schmeck, R. R., & Avdic, A. (2011). The Big Five personality traits, learning styles, and academic achievement. *Personality and Individual Differences*, *51*(4), 472–477. https://doi.org/10.1016/j.paid.2011.04.019

Lee, K., & Ashton, M. C. (2012). *The H factor of personality: Why some people are manipulative, self-entitled, materialistic, and exploitive—and why it matters for everyone.* Wilfrid Laurier University Press.

Lee, K., Ashton, M. C., & Novitsky, C. (2021). Academic majors and HEXACO personality. *Journal of Career Assessment*, *30*(2), 345–366. https://doi.org/10.1177/10690727211044765

Lourinho, I., Ferreira, M. A., & Severo, M. (2017). Personality and achievement along medical training: Evidence from a cross-lagged analysis. *PLOS ONE*, *12*(10), e0185860. https://doi.org/10.1371/journal.pone.0185860

McCrae, R. R., & Costa, P. T. (2004). A contemplated revision of the NEO Five-Factor Inventory. *Personality and Individual Differences*, *36*(3), 587–596. https://doi.org/10.1016/s0191-8869(03)00118-1

McKenzie, K., Gow, K., & Schweitzer, R. (2004). Exploring first-year academic achievement through structural equation modeling. *Higher Education Research and Development*, *23*(1), 95–112. https://doi.org/10.1080/0729436032000168513

Negru-Subtirica, O., Pop, E. I., Crocetti, E., & Meeus, W. (2019). Social comparison at school: Can GPA and personality mutually influence each other across time? *Journal of Personality, 88*(3), 555–567. https://doi.org/10.1111/jopy.12510

Noftle, E. E., & Robins, R. W. (2007). Personality predictors of academic outcomes: Big five correlates of GPA and SAT scores. *Journal of Personality and Social Psychology*, *93*(1), 116–130. https://doi.org/10.1037/0022-3514.93.1.116

Paul, J., & Barari, M. (2022). Meta-analysis and traditional systematic literature reviews—What, why, when, where, and how? *Psychology & Marketing, 39*(6), 1099–1115. https://doi.org/10.1002/mar.21657

Reader, W., & Workman, L. (2023). *Evolutionary psychology: The basics* (1st ed.). Routledge. https://doi.org/10.4324/9780429274428

Rokach, A., & Boulazreg, S. (2020). The road to becoming a psychologist: Indicators of success and hardship during the university years. *The Journal of Psychology: Interdisciplinary and Applied, 154*(8), 632–661. https://doi.org/10.1080/00223980.2020.1771538

Scandell, D. J. (2000). Development and initial validation of validity scales for the NEO-Five Factor Inventory. *Personality and Individual Differences*, *29*(6), 1153–1162. https://doi.org/10.1016/s0191-8869(99)00262-7

Schmeck, R. R., Ribich, F., & Ramanaiah, N. V. (1977). Development of a self-report inventory for assessing individual differences in learning processes. *Applied Psychological Measurement, 1*(3), 413–431. https://doi.org/10.1177/014662167700100310

Spielmann, J., Yoon, H. J., Ayoub, M., Chen, Y., Eckland, N. S., Trautwein, U., Zheng, A., & Roberts, B. W. (2022). An in-depth review of conscientiousness and educational issues. *Educational Psychology Review*, *34*(4), 2745–2781. https://doi.org/10.1007/s10648-022-09693-2

Stoeber, J., Otto, K., & Dalbert, C. (2009). Perfectionism and the Big Five: Conscientiousness predicts longitudinal increases in self-oriented perfectionism. *Personality and Individual Differences*, *47*(4), 363–368. https://doi.org/10.1016/j.paid.2009.04.004

Torraco, R. J. (2005). Writing Integrative Literature Reviews: Guidelines and Examples. *Human Resource Development Review*, *4*(3), 356–367. https://doi.org/10.1177/1534484305278283

Vedel, A. (2014). The Big Five and tertiary academic performance: A systematic review and meta-analysis. *Personality and Individual Differences, 71*, 66–76. https://doi.org/10.1016/j.paid.2014.07.011

Wang, H., Liu, Y., Wang, Z., & Wang, T. (2023). The influences of the Big Five personality traits on academic achievements: Chain mediating effect based on major identity

and self-efficacy. *Frontiers in Psychology*, *14,* 1065554. https://doi.org/10.3389/fpsyg.2023.1065554

York, T. T., Gibson, C., & Rankin, S. (2015). Defining and measuring academic success. *Practical Assessment, Research & Evaluation, 20*(5), 1–20. https://doi.org/10.7275/hz5x-tx03

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Table 1.

Articles selected as the main source of data for this literature review

Journal/Author (Year)	Country	Participants University /Major	Study Design	Measures	Academic Achievement Indicators	Inventory & Instruments	(*N*) 15,321	Key Findings
Journal of Personality Gray & Watson (2002)	USA	Undergraduate students of the University of Iowa, USA. Students from an introductory psychology course.	Survey Correlation analysis Hierarchical multiple regression analysis	Personality Sleep quantity Sleep schedule Academic performance	Self-reported college GPA and high school GPA. Actual college GPA and high school GPA.	The NEO Five-Factor Inventory (NEO-FFI). The six facets of Conscientiousnessfrom the full NEO-PI-R. The General Temperament Survey (GTS; Clark & Watson, 1990). Expanded Form of the Positiveand Negative Affect Schedule (PANAS-X; Watson, Clark, & Tellegen,1988)	*N*= 334 (121 males, 213 females)	At the dimensional level, *Conscientiousness* was the best predictor of college and high school GPA. At the item level, college GPA significantly correlated with both *Achievement Striving* and *Self-Discipline*. NB *Achievement striving* was the strongest predictor of college GPA. Little evidence linked academic performance to sleep quality, quantity, or schedule differences. The only sleep factor significantly related to college GPA was sleep schedule. The authors considered early risers were more disciplined and achievement-oriented than night owls.
Journal of Personality and Individual Differences Farsides & Woodfield (2003)	UK	Undergraduate students from the University of Sussex Students majoring in geography take a variety of courses from different departments.	Principal components analysis Correlation analysis Hierarchical multiple regression analysis	Personality traits Intelligence Administrative records Tutorial grades by tutors Tutorial absences Non-assessed work submitted. School yearly assessments	School yearly assessments (Program work assignments, Internal examination results, Attendance, Commitment to study).	NEO Five-Factor Inventory (NEO-FFI; Costa & McCrae, 1989) AH5 Group Test of High Intelligence (Heim, 1968).	*N*=432 (205 males, 226 females; 1 not specified)	*Openness to experience* and *Agreeableness* were positively correlated with undergraduate academic success. *Conscientiousness* was the best predictor of tutorial grades by tutors but not overall academic success. *Extraversion*, *Conscientiousness,* and *Neuroticism* had no positive relationships with school yearly assessments. *Agreeableness* and *Openness to experience* correlated positively with verbal intelligence. *Verbal intelligence* was significantly associated with school yearly assessments.

Journal of Research in Personality Chamorro-Premuzic & Furnham (2003a).	London	Undergraduate students, University College London Students majoring in Psychology	Longitudinal study Questionaries Correlation analysis Hierarchical regression analysis	Personality Creativity Academic performance Tutors' predictions, Academic Behavioral Indicators (ABI): Seminar behavior, absenteeism, and overall essay marks	3hr written exam marks. A final project mark (The project was supervised and lasted 6 months).	The NEO Five-Factor Inventory-Revised (NEO-FFI; Costa & McCrae, 1992) The EPQ-R (Eysenck & Eysenck, 1985). The Barron- Welsh Art Scale (Welsh, 1963).	Sample 1 N=70 (49 females, and 21 males). Sample 2 N=75 (54 females and 21 males).	*Seminar behavior, essay marks, Neuroticism,* and *Conscientiousness* correlated significantly with academic performance. *Neuroticism* negatively correlated with academic performance. *Conscientiousness* was significantly correlated with academic performance, as well as predicting academic performance. *Extraversion* was partly related to academic performance-to final-year project but not to exam marks. *Openness to Experience was* weakly correlated to academic performance. *Agreeableness* positively correlated with first-year exam marks. *Psychoticism* (maladaptive behavior) negatively correlated with and predicted Academic performance. Overall, ABI and personality correlated weakly except for *Conscientiousness* and *Openness to Experience*. *Neuroticism, Conscientiousness* and *Psychoticism* factors were more significant predictors of overall and final-year project grades than were ABI and tutors' predictions
Procedia - Social and Behavioral Sciences Hazrati-Viari, Tayarani Rada, & Saeed Torabib (2004).	Iran	College students (Faculty or degree not specified)	Survey Structural Equation Modeling (SEM)	Personality Motivation Academic performance	Self-reported Grade Point Average (GPA)	The NEO Five-Factor Inventory, NEO-FFI (Costa & McCrae, 1992). Academic Motivation Scale (AMS-C; Vallerand et al., 1992).	N=217 (98 females, 119 males).	*Conscientiousness* and *Openness to experience* predicted academic performance. *Openness to experience* was the strongest predictor of academic (intrinsic) motivation. There was no relation between *Openness to experience* and extrinsic motivation.

								Conscientiousness showed a significant connection with both intrinsic and extrinsic motivation. Motivation played a mediating role in relations between personality traits and academic performance.
Higher Education Research and Development McKenzie, Gow, & Schweitzer (2004).	AUS	First-year university students. Queensland University of Technology Eight faculties	Survey Structural Equation Modeling (SEM)	Personality Academic records Grade Point Average (GPA) Achievement motivation Self-regulated learning strategies	Academic records Grade Point Average (GPA)	The NEO Five-Factor Inventory, NEO-FFI (Costa & McCrae, 1992). Motivated Strategies for Learning Questionnaire (MSLQ) (Garcia & Pintrich, 1995). Five sub-scales from the Learning Strategies scale derived from the MSLQ.	N=1193 (575 males, 603 females, 15 not gender mentioned).	*Conscientiousness* was the most important predictor of learning strategy use. Students who reported a greater use of effective learning strategies were more likely to achieve higher grades than those who reported a low use. *Agreeableness* correlated with Academic achievement. Introversion was the third most important predictor of academic achievement. Agreeable and introverted students were more likely to attain higher grades than students who were more extraverted and antagonistic in their personalities. *Openness to experience* and *Neuroticism* were unrelated to academic achievement.
Personality and Individual Differences Furnham & Chamorro-Premuzic, (2004).	Great Britain, London	Undergraduate students, University College London.	Questionnaire survey Correlation analysis Hierarchical regressions analysis	Personality Intelligence Statistic examination grades (SEG). Seminar performance.	First-year SEG: two exam marks based on two three-hour statistics exams. Seminar performance (behavior, attendance, essay marks).	The NEO Five-Factor Inventory, NEO-FFI (Costa & McCrae, 1992). 60 items. The Wonderlic Personnel Test (Wonderlic, 1992). S&M Test of Mental Rotation Ability (Philips & Rawles, 1979). AH5 (Part 1) (Heim, Watts, & Simmonds, 1970).	N= 91 (74 Females & 17 Males).	Individuals with *Conscientiousness* and introverted traits exhibited better performance than those with opposite characteristics. *Conscientiousness* positively correlated with overall SEG. *Extraversion* negatively correlated with SEG. Grades tended to decrease as *Extraversion* scores increased. No significant correlations were found between *Neuroticism* and SEG. The second most potent predictor of grades,

								besides essay marks, was personality. Seminar leader ratings of progress, intelligence test scores, and personality traits were both logically and systematically related to SEG.
Journal of Research in Personality Conard, M.A. (2006)	USA	Undergraduate students Psychology classes and other courses.	QuestionnaireSurvey Hierarchical regression analysis Multiple regression analysis	Personality Course performance College GPA SAT scores	Self-reported GPA and SAT scores Attendance Course performance (3 objective exams and written assignments)	NEO Five-Factor Inventory, NEO-FFI (Costa & McCrae, 1992).	N= 300 (233 Females, 47 males)	*Conscientiousness* directly influenced GPA and course performance. The relationship between *Conscientiousness* and GPA was influenced by attendance. The relationship between *Conscientiousness* and course performance was partially mediated by *Conscientiousness* itself. SAT, *Conscientiousness*, and attendance predicted GPA.
Journal of Personality and Social Psychology Noftle and Robins (2007)	USA	University of California, Psychology Department and students taking introductory courses in Psychology. Sample 2: Students from “the Berkeley Longitudinal Study”.	Questionnaire Survey Correlation Analysis Multiple regression Analysis	Personality SAT scores GPA Verbal intelligence Academic ability	Self-reported College and high school GPAs. Self-reported SAT scores. Perceived verbal intelligence, academic ability, and academic effort (in Samples 2 &3 only). .	The 44-item BFI (John & Srivastava, 1999). NEO-FFI (Costa & McCrae, 1992). NEO-PI–R (96 items; Costa & McCrae, 1992). HEXACO-PI (Lee & Ashton, 2004, 2006).	Four independent samples from the Univ. of California, - Psychology department. N=1,0497 (63% female, 37% male). N=508 (56% female/ 44% male). N=470 (78% female/ 22% male). N= 425 (61% Female	*Conscientiousness,* whether assessed by the NEO-FFI, the BFI, the HEXACO, or the NEO-PI–R, was associated with higher college grades. Positive relations between the Big Five *Conscientiousness* and high school / college GPA were detected. *Conscientiousness* on college achievement were mediated by increased effort and more positive perceptions of one’s academic ability. Individuals who were high in *Openness*, whether assessed by the NEO-FFI, the BFI, the HEXACO-PI, or the NEO-PI–R tended to score higher on the SAT verbal test The Big Five *Openness* is weakly related to college GPA but not to high-school GPA. None of the Big Five dimensions was consistently related to SAT math scores across

							, 39% male).	reported samples.
Personality and Individual Differences Komarraju, Karau, Schmeck, & Avdic (2011).	USA	Undergraduate college from a variety of majors (liberal arts, business, education, science, engineering, applied sciences and arts, mass communication, and agriculture)	Questionnaire Survey Correlation Analysis Regression Analysis hierarchical regression analysis Mediation Analysis	Personality traits Learning styles: Reflective (synthesis analysis, elaborative process)/Agentic (Methodical study/ fact retention). Grade Point Average (GPA)	Self-reported Grade Point average (GPA)	The Five Factor Inventory (NEO-FFI). The Inventory of Learning Processes (ILP, Schmeck, Ribich, & Ramanaiah, 1977).	N=308 (147 males and 161 females)	*Conscientiousness* was strongly correlated with all four learning styles and GPA. *Agreeableness* and *Openness* were positively associated with GPA. *Agreeableness* and *Conscientiousness* were positively related to all four learning styles. *Openness* was positively related to synthesis-analysis and elaborative processing (Reflective Learning styles). All four learning styles were negatively associated with *Neuroticism*. The Reflective and Agentic learning styles correlated to GPA.
PLOS ONE Lourinho & Severo (2017)	Portugal	Faculty of Medicine of the University of Porto.	Questionnaire Survey Linear regression analysis Cross-lagged panel design analysis	Personality traits Previous Achievements Academic Achievement	Previous Achievements-Mean scores on national school examinations Academic Achievements-Medical course average.	NEO Five-Factor Inventory (NEO-FFI, 60 items), Portuguese translation.	N= 181 (65.9% women; 49.7% graduate students). Three cohorts of college students.	Previous achievements were negatively associated with *Openness to experience*, *Conscientiousness* and *Agreeableness*, and positively associated with *Neuroticism.* Academic achievement could be determined by the Neuroticism trait at baseline. A positive association existed between *Neuroticism* and *academic achievement* of graduate students. *Neuroticism*, being a graduate student, and previous achievement determined Medical academic achievement. *Conscientiousness* did not predict academic achievement.
Frontiers in Psychology Wang, Liu, Wang, &	China	Business school, University in Beijing,	Questionnaires Surveys	Personality traits Self-efficacy	Students' self-assessments of their academic	The Big Five (NEO-FFI, NEO Five-Factor Inventory).	N= "Small" (Not specified in the	Overall, *Extraversion, Conscientiousness,* and *Openness* positively affected students' academic achievements

Wang (2023).		China.	Reliability and validity tests Single mediating effect test Bootstrap test Chain-mediated effect test	Majors' identity Academic achievement	achievements	"The College students' major identity scale" (Qin, 2009) "The academic Self-efficacy scale" (Liang & Zhou,2000),	study).	(with Self-efficacy playing an intermediary role between these variables.) *Openness* could also affect academic achievement through self-efficacy mediating effect and major identity to self-efficacy chain mediating effect *Agreeableness* negatively affected students' major identity and academic achievements. Male *openness* and *extraversion* negatively impacted academic achievement. Women's *extraversion* and *Conscientiousness* positively impacted academic achievement. Extraversion and *Conscientiousness had* significant positive effects on major identity and self-efficacy. Major identity had a significant positive effect on the generation of self-efficacy, and the improvement of major identity would effectively improve students' academic self-efficacy.