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Conscientiousness as a protective factor in the academic success of international university students

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ABSTRACT: *This study examines the role of conscientiousness as a protective factor in the academic success of international undergraduate students, who often face distinct academic and cultural adjustment challenges. Using a cross-sectional design, data were collected from a sample of international students enrolled in Australian universities. Participants completed an online questionnaire assessing conscientiousness and reported their weighted average mark (WAM) as an indicator of academic performance. The findings revealed a statistically significant positive relationship between conscientiousness and academic achievement, suggesting that higher levels of conscientiousness are associated with better academic outcomes among international students. These results highlight the importance of personality traits as consistent predictors of academic success across cultural contexts and suggest that universities and educators should foster learning environments and interventions that promote conscientious behaviors to enhance both academic performance and student well-being.*

Keywords: conscientiousness, academic performance, international students, higher education,

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INTRODUCTION

The internationalization of Australian higher education has accelerated in recent years, with a growing number of students choosing to pursue their studies in Australia (Hellstén, 2002). International students are defined as individuals who relocate from their home country to another for the purpose of higher education, typically at the university level (Lin & Guo, 2025). They represent a substantial portion of the student population, comprising up to 30% of enrollments in Australian universities (Lin & Guo, 2025). Beyond their academic presence, international students contribute significantly to both the educational and economic landscapes of universities. Their inclusion in university settings enhances the learning experience by introducing diverse cultural perspectives, which better prepares domestic students for globalized workplaces (Trice, 2003). Additionally, international student fees account for a considerable share of university revenue, with some institutions deriving nearly one-quarter of their total income from this source (Baklashova & Kazakov, 2016; Cantwell, 2015).

Despite these benefits, international students face distinct challenges, including language barriers, social isolation, and difficulties adapting to new cultural and academic environments (Baklashova & Kazakov, 2016; Kaya, 2020; Xue et al. 2025). Academic concerns are particularly prominent, with 74% of international students reporting academic difficulties, compared with 65% of domestic students (Grayson, 2008). Research also suggests that international students tend to achieve lower academic outcomes than their domestic peers (He & Banham, 2009). Academic success is typically defined as consistent performance in coursework, including written assignments and examinations (Trapmann et al., 2007).

This disparity in academic achievement has implications not only for the individual well-being of international students but also for the financial health of universities. Academic underperformance has been linked to a lack of engagement (Koca & Karadağ, 2025), leading to increased vulnerability to mental health

issues such as depression and anxiety (Bantjes et al., 2020). Feelings of stress, disappointment, and diminished self-worth often accompany poor academic outcomes, placing a heavy psychological burden on students (Ivanova et al. 2025). A lack of cultural sensitivity training in teaching staff can also impact academic performance (Bi, 2025). These factors can collectively result in universities facing financial losses when struggling students discontinue their studies, reducing institutional revenue (Fass-Holmes, 2016). In an increasingly competitive and economically constrained environment, retaining international students is essential for institutional sustainability (Trapmann et al., 2007).

Understanding the factors that contribute to academic success among international students is therefore critical. While cognitive ability has long been recognized as a predictor of academic performance (Deary et al., 2007), recent research suggests that noncognitive factors, such as personality traits, also play a significant role (Ackerman et al., 2001; Furnham et al., 2003a, 2003b). Cognitive ability reflects inherent capabilities, whereas noncognitive traits encompass behavioral tendencies and personality characteristics (Furnham & Chamorro-Premuzic, 2004; Morris et al., 2021; Koyuncuoglu, 2020). This shift in focus has prompted researchers to explore the complex relationship between personality and academic success in university settings.

Conscientiousness

Personality refers to the behavioral and cognitive patterns shaped by an individual's experiences in both personal and educational contexts (Krueger & Johnson, 2008). Various psychological theories have sought to understand personality by categorizing observable traits (Budeav & Brown, 2011). Among these, the Big Five personality traits model developed by McCrae and Costa (1987) has emerged as the most widely studied and validated framework. The Big Five traits include openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism and have been shown to reliably capture individual differences across cultures (Costa & McCrae, 1992; Schmitt et al., 2007).

While each trait contributes uniquely to individual behavior and outcomes, conscientiousness has been consistently linked to academic performance (Chamorro-Premuzic & Furnham, 2003). Conscientious individuals tend to be organized, responsible, and goal-oriented qualities that are conducive to academic success. By examining conscientiousness specifically, researchers can gain deeper insight into how this trait influences the academic outcomes of international students.

Conscientiousness and Academic Success

Among the Big Five personality traits, conscientiousness consistently demonstrated the strongest association with academic performance (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Diseth, 2003). Conscientious students are typically characterized by their organized, structured, and methodical approach to learning (Widiger & Oltmanns, 2017). In contrast, students with low

levels of conscientiousness often exhibit traits such as poor planning, low perseverance, impulsivity, and a lack of self-discipline (Settles et al., 2012).

The link between conscientiousness and academic success is thought to be mediated by motivation, a key factor influencing academic outcomes (Richardson & Abraham, 2009), and conscientiousness is also a moderating factor between psychological capital and academic success (Meng & Chan, 2025). Research has shown that domestic university students who demonstrate resilience and persistence tend to perform better academically, suggesting that conscientiousness fosters behaviors conducive to academic achievement (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Diseth, 2003).

Traditionally, academic success has been measured using examination grades (Chamorro-Premuzic & Furnham, 2003; Diseth, 2003). However, recent studies have highlighted limitations in this approach, arguing that exam results alone may not accurately reflect students' academic capabilities (Barrows et al., 2013). Factors such as test anxiety, personal circumstances, and health issues can affect exam performance, thereby reducing the reliability of grades as a sole indicator of academic achievement.

The Present Study

Although extensive research has examined the impact of conscientiousness on academic success among domestic university students, there remains a notable gap in the literature regarding its effects on international university students. Conscientiousness, often associated with diligence, discipline, and structured work habits, has consistently been linked to academic performance (Chamorro-Premuzic & Furnham, 2003; Widiger & Oltmanns, 2017; McCrae & Costa, 1987). A recent study by Boonyapison et al. (2025) found that conscientiousness is the only documented personality trait to be significantly associated with academic achievement in international high school students. Despite these well-established associations, the role of conscientiousness in predicting academic success among international university students is underexplored.

Given that international students often experience lower academic achievement than their domestic counterparts (He & Banham, 2009), it is essential to investigate the contributing factors. This study aims to address this gap by examining the noncognitive abilities of international students, with a specific focus on the personality trait of conscientiousness. Understanding this relationship may not only enhance academic outcomes but also reduce the psychological distress associated with academic underperformance and mitigate the financial impact on universities due to student attrition.

Previous research has frequently relied on examination grades as the sole measure of academic performance. However, this approach may not fully capture the breadth of students' academic capabilities, particularly for international students who face additional challenges such as language proficiency and cultural adjustment (Barrows et al., 2013; He & Banham, 2009). Therefore, a more comprehensive assessment of academic success is necessary that includes various forms of coursework, such as written assignments and semester-long evaluations.

This study focuses on undergraduate international students who have progressed beyond their first year of university. These students are more likely to have developed effective study habits, formed social connections, and adapted to the academic environment, making them an appropriate cohort for investigating the influence of personality traits on academic success (Lowe & Cook, 2003).

The primary objective of this study is to build upon existing research by investigating conscientiousness as a predictor of academic success among undergraduate international students. Furthermore, it seeks to expand prior work by assessing the influence of conscientiousness across multiple dimensions of academic performance, thereby contributing to a more nuanced understanding of the factors that support international students' success in higher education.

Hypotheses

The following aims and hypotheses were proposed:

- Aim 1: To examine the relationship between conscientiousness and academic success in international university students.
- Hypothesis 1: It was hypothesized that higher conscientiousness scores as measured by the Big Five Inventory (BFI) would be positively correlated with academic success as measured by the weighted average mark (WAM) in undergraduate international university students.
- Aim 2: To examine whether conscientiousness predicts academic success in international university students.
- Hypothesis 2: It was hypothesized that higher conscientiousness scores as measured by the BFI will predict higher academic success as measured by the WAM in undergraduate international university students.

METHOD

This study employed a correlational, cross-sectional, within-subjects design to examine the relationship between conscientiousness and academic success among international students. For both hypotheses, the predictor variable was conscientiousness, measured using the Big Five Inventory (BFI), and the outcome variable was academic success, measured by students' weighted average mark (WAM).

Participants

A total of 63 international students from Monash University participated in the study. Participants ranged in age from 19 to 28 years ($M = 20.97$, $SD = 1.44$). The sample included 55 participants (87%) who identified as female, 7 (11%) as male, and 1 (2%) as nonbinary. Eligibility criteria required participants to be (1) international students, (2) enrolled in their second or third year of undergraduate study, and (3) free from any serious, chronic, or life-threatening diseases,

illnesses, or mental health disorders that would significantly impair their daily functioning, well-being, or quality of life. Domestic students and first-year students were also excluded from participation.

Participants were recruited voluntarily and were informed of their right to withdraw at any time. As compensation for their time, participants received a $15 gift card upon completion of the questionnaire. Ethical approval for this study was granted by the Monash University Human Research Ethics Committee (Approval Number: 38164).

Demographic information regarding participants' country of origin and university degree is presented in Table 1 and Table 2, respectively.

Table 1: Summary of Country Demographics (*N* = 63)

Country	*N (%)*
China	15 (23)
Malaysia	7 (11)
India	11 (17)
Singapore	6 (9)
Vietnam	5 (8)
Philippines	1 (2)
South Africa	1 (2)
Sri Lanka	3 (5)
South Korea	1 (2)
Brunei	1 (2)
Indonesia	5 (8)
Cambodia	2 (3)
Japan	2 (3)
Thailand	1 (2)
Taiwan	2 (3)

Table 1: Summary of University Degree Demographics (*N* = 63)

Degree	*N (%)*
Psychology	12 (19)
Law	2 (3)
Commerce	4 (6)
Nursing	5 (8)
Arts	6 (9)
Engineering	2 (3)
Medicine	4 (6)
Occupational Therapy	1 (2)
Information Technology	2 (3)
Business	3 (5)
Biomedical Science	2 (3)
Psychological Science	5 (8)
Science	2 (3)
Pharmaceutical Science	1 (2)
Computer Science	2 (3)
Food Science & Technology	1 (2)
Media & Communication	2 (3)
Finance	1 (2)
Unknown	6 (9)

Power

An a priori power analysis was conducted using G*Power v3.1.9.6. For a correlation analysis, a minimum sample size of 23 was required to achieve 80%

power to detect a moderate effect size (Cohen's d = .50) at an alpha level of .05 (one-tailed). For a linear regression analysis, a minimum sample size of 55 was required to detect a moderate effect size (Cohen's $f^2 = .15$) at an alpha level of .05 (two-tailed). The final sample size of 63 participants was deemed sufficient to meet the statistical power requirements for both analyses.

Materials

Demographic information was collected using a brief five-item questionnaire. Participants provided details including age, gender, university course, country of origin, and current residency status in Australia.

Conscientiousness was measured using the conscientiousness subscale of the Big Five Inventory (BFI; John & Srivastava, 1999). The conscientiousness subscale uses a 5-point Likert scale where participants rate how much they agree or disagree with statements, typically ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Participants responded to nine items, each beginning with the stem "I see myself as someone who…" Sample items included statements such as "does a thorough job." Scores on the conscientiousness subscale ranged from 9 to 45, with higher scores indicating greater levels of conscientiousness. The BFI has demonstrated acceptable reliability and validity, with internal consistency coefficients of $\alpha = .73$ and $\alpha = .83$ for conscientiousness (John & Srivastava, 1999; Fossati et al., 2011). The scale also shows strong convergent validity with the other Big Five instruments.

Academic success was assessed using each participant's weighted average mark (WAM), obtained from their university records. The WAM represents the average mark across all completed units in a student's course, scored out of 100. These units typically include a range of assessments, such as exams, essays, assignments, projects, presentations, and other coursework. Higher WAM scores reflect greater academic success, while lower scores indicate poorer academic performance.

Procedures

Participants were recruited using convenience sampling methods. Recruitment strategies included posting study advertisements around the Monash University campus, sharing posts in second- and third-year Monash Facebook groups, and distributing advertisements via email to international student organisations. Interested participants accessed the study by scanning a QR code, which directed them to the questionnaire hosted on Qualtrics, a secure web-based survey platform.

Informed consent was obtained through the completion and submission of the questionnaire, ensuring participant anonymity. Data collection occurred between 18 May 2023 and 27 May 2023. Participants completed the survey on their own devices at their convenience. The questionnaire took approximately 20 minutes to complete and included an explanatory statement, demographic items, the BFI conscientiousness subscale, and a prompt to report their WAM score.

Data Analysis

Raw data were collected via Qualtrics and exported to Microsoft Excel for cleaning and handling. Statistical analyses were conducted using JASP v0.15. No missing data were present. The alpha level was set at .05 for all statistical tests. A visual inspection of boxplots and z score analysis (scores > ±3.29) indicated no significant univariate outliers (Pernet et al., 2013). Descriptive statistics and data visualization were used to summarize demographic characteristics.

For the first hypothesis, assumptions of linearity were met, but normality was violated. Therefore, a Spearman's rank-order correlation was conducted to assess the relationship between conscientiousness (BFI scores) and academic success (WAM scores). The Spearman correlation coefficient (ρ) was used to determine the direction and strength of the relationship.

For the second hypothesis, assumptions of normality and linearity were met. Although the Shapiro–Wilk test indicated a violation of normality for conscientiousness ($p < .05$), visual inspection of the Q–Q plot showed that data points followed a straight line, suggesting approximate normality (Pallant, 2013). Additionally, the central limit theorem supports the assumption of normality given that the sample size exceeded 30 (Kwak & Kim, 2017). Assumptions of homoscedasticity, linearity, multicollinearity, and independence were also met, with variance inflation factor (VIF) values below 10 and tolerance values above 0.1 (Lin, 2006).

To test the second hypothesis, a linear regression analysis was conducted with conscientiousness as the predictor and WAM scores as the outcome variable. Cohen's f^2 was used to estimate effect size, interpreted as small (~0.02), medium (~0.15), and large (~0.35) (Cohen, 1992).

RESULTS

Descriptive statistics for the three key variables in the study, conscientiousness and weighted average mark (WAM) scores, which served as a measure of academic success, are presented in Table 3.

Table 3: Descriptive Statistics of Key Variables

Variables	*M (SD)*	Range
WAM	73.08 (8.46)	59 – 91
Conscientiousness	28.65 (6.79)	14 – 42

Hypothesis 1: Association Between Conscientiousness and Academic Success

A Spearman's rank-order correlation was run to determine the relationship between international students' conscientiousness scores and academic success as measured through WAM scores. There was a moderate, positive correlation between conscientiousness and academic success, *rho* (61) = .34, p = .007 (see Figure 1).

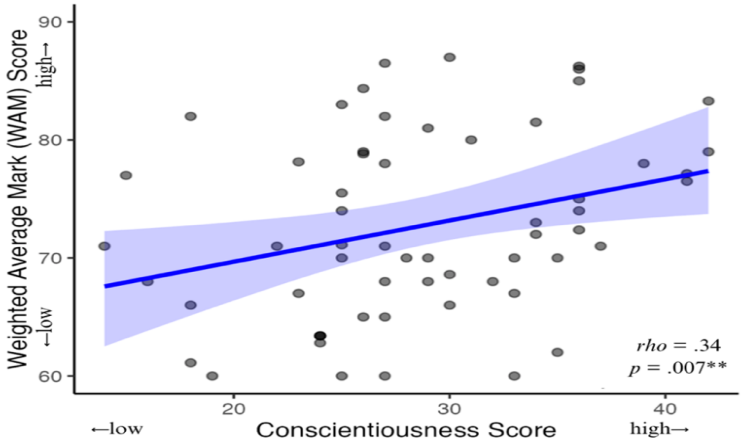

Figure 1. Spearman correlation between conscientiousness and academic success *p < .05, ** p < .01

Note. N = 63; higher scores on the y-axis (WAM score) indicate higher levels of academic success; higher scores on the x-axis (conscientiousness score) indicate higher levels of conscientiousness; shaded region indicates the 95% confidence interval; the black solid line indicates the monotonic correlation between conscientiousness and academic success.

Hypothesis 2: Relationship Between Conscientiousness and Academic Success

To test whether conscientiousness accounts for significant variance in academic success, a linear regression model was analyzed. The results showed that 1.1% of the variance in academic success can be accounted for by conscientiousness, F (1, 61) = 337, p =.030, adjusted R^2 = 0.08. Looking at the unique individual contributions of the predictor, conscientiousness, the results show that there was a statistically significant association between conscientiousness and academic success in international students. Each one-unit higher conscientiousness score was associated with a 0.15 increase in the WAM score (95% CI [0.06, 0.67], p = .022), which constituted a medium effect (f^2 = 0.21) (see Figure 2a) (see Table 4).

Table 4: Regression Model Coefficients for Conscientiousness in Predicting Academic Success among University Students

Variables	*B*	*SE*	*t*
Conscientiousness	.36	.15	2.36

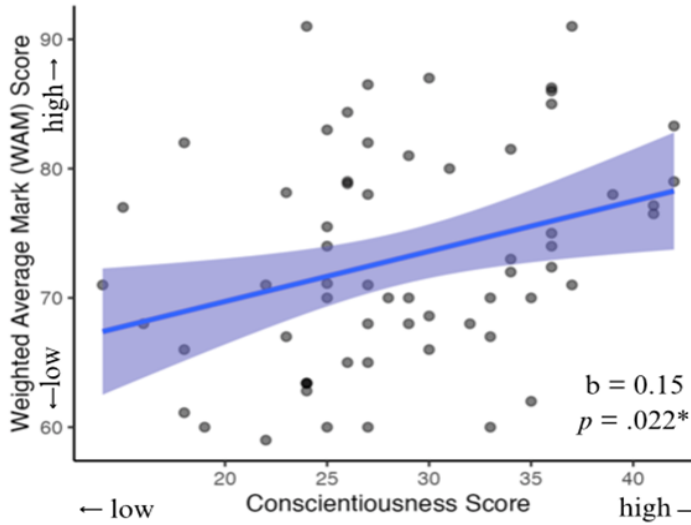

Figure 2 Linear Regression between Conscientiousness and Academic Success *$p < .05$, ** $p < .01$

Note. $N = 63$; higher scores on the y-axis (WAM score) indicate higher levels of academic success; higher scores on the x-axis (conscientiousness scores) indicate higher levels of conscientiousness; shaded region indicates the 95% confidence interval; the black solid lines indicate the linear relationship between conscientiousness and academic success.

DISCUSSION

Academic underachievement among international students has significant implications, affecting both their personal well-being and the financial stability of universities (Bantjes et al., 2020; Trapmann et al., 2007). In light of these concerns, the present study aimed to investigate contributing factors to academic success, with a specific focus on the personality trait of conscientiousness. It was hypothesized that higher levels of conscientiousness would be positively correlated with academic success (H1) and that conscientiousness would significantly predict academic success (H2). Both hypotheses were supported,

with results indicating a significant positive relationship between conscientiousness and academic performance.

Impact of Conscientiousness on Academic Success

The current findings support the hypothesis that higher levels of conscientiousness predict greater academic success among international students and extend the findings of Boonyasipon et al. (2025) to cover international university students. This suggests that individuals who score highly on conscientiousness tend to perform better academically. The observed relationship aligns with previous research conducted on domestic student populations, which consistently demonstrates a positive association between conscientiousness and academic performance (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Diseth, 2003).

Importantly, the results of this study extend the current literature (Boonyasipon et al. 2025) by demonstrating that conscientiousness is a reliable predictor of academic success across diverse cultural backgrounds and academic disciplines. Traits commonly associated with conscientiousness, such as organization, perseverance, responsibility, and impulse control, appear to consistently support academic achievement regardless of students' cultural or educational contexts (Roberts et al., 2014; Geramian et al., 2012). Furthermore, conscientiousness positively influences academic performance across various university degrees (Chamorro-Premuzic & Furnham, 2003; Lounsbury et al., 2003).

This study also highlights that conscientiousness contributes to success across multiple forms of academic assessment, including examinations, written assignments, and other coursework. While previous research has primarily focused on exam performance (Chamorro-Premuzic & Furnham, 2003; Diseth, 2003), the current findings suggest that conscientious traits such as diligence, organization, and achievement motivation also enhance performance in broader academic tasks (Hair & Hampson, 2006).

Beyond academic performance, conscientiousness may play a critical role in helping international students navigate the unique challenges of studying abroad. These challenges include language barriers, social isolation, and cultural adjustment (Baklashova & Kazakov, 2016; Kaya, 2020). Traits such as effective time management and perseverance may empower students to overcome these obstacles and maintain academic success (Shu et al., 2017).

Overall, the findings provide compelling evidence that conscientiousness is a consistent and universal predictor of academic success. It influences performance across assessment types, cultural backgrounds, and academic disciplines while also supporting students in overcoming the challenges of international study. These results reinforce the importance of conscientiousness as a foundational trait in academic achievement and highlight the need for continued research to further explore its role in supporting student success.

Implications

The findings of this study have both theoretical and practical implications for understanding the multifaceted nature of academic success among international students. The consistent influence of conscientiousness on academic performance challenges traditional models that have predominantly emphasized cognitive factors as the primary predictors of academic achievement (Deary et al., 2007). These results underscore the need for a more comprehensive theoretical framework that incorporates noncognitive abilities, particularly personality traits such as conscientiousness, as key determinants of academic success. This shift encourages researchers and educators to develop models that integrate both cognitive and noncognitive factors when examining student achievement.

From a practical standpoint, gaining deeper insight into the predictors of academic success can inform the development of targeted support strategies for international students. Consistent with previous research (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Diseth, 2003), the current findings suggest that international students with higher levels of conscientiousness tend to perform better academically. Universities could consider implementing personality screening tools during the application process, including assessments of conscientiousness, to identify students who may benefit from additional supports. Such proactive measures may help mitigate common challenges faced by international students, including language barriers, social isolation, and academic stress (He & Banham, 2009). Ultimately, this approach could contribute to improved retention rates and facilitate smoother transitions into academic life.

Additionally, these findings have implications for educators and institutions seeking to enhance student outcomes. Although personality traits are generally considered stable, research suggests that young adults' personalities can still be shaped by life experiences (Srivastava, John, Gosling, & Potter, 2003). Given the significance of conscientiousness in predicting academic success, educators can take intentional steps to foster traits associated with conscientiousness such as organization, structured learning approaches, and self-discipline within the learning environment (Widiger & Oltmanns, 2017). By promoting these traits through curriculum design, academic support services, and classroom practices, institutions can help international students develop behaviors that support academic achievement. This not only enhances performance but also addresses the broader consequences of academic underperformance, including its impact on mental health and well-being.

Strengths, Limitations and Future Directions

The present study offers two key strengths. First, its novelty lies in addressing a significant gap in the literature. While previous research has extensively examined the influence of personality traits on academic success among domestic students (Busato et al., 2000; Chamorro-Premuzic & Furnham, 2003; Diseth, 2003; Lounsbury et al., 2003), limited attention has been given to international student populations. This study contributes uniquely by exploring the collective effects of conscientiousness on academic success among international students,

thereby advancing our understanding of how culturally specific expressions of personality traits influence academic performance in diverse educational contexts.

Second, the study demonstrates strength in its approach to measuring academic success. Unlike prior research that often relied solely on examination results, an approach that may be influenced by factors such as test anxiety and personal circumstances (Barrows et al., 2013) this study utilized student's weighted average mark (WAM). The WAM reflects performance across a range of assessments, including written assignments and exams, offering a more comprehensive and reliable measure of academic achievement (Brownfield et al., 2023). This broader assessment provides a nuanced understanding of how conscientiousness influences academic performance across multiple domains.

Despite these strengths, the study is not without limitations. First, the cross-sectional design and use of correlational and regression analyses limit the ability to draw causal conclusions. It remains unclear whether higher conscientiousness leads to greater academic success or vice versa. Future research should employ experimental or longitudinal designs, such as randomized controlled trials, to establish causal relationships and strengthen the empirical foundation of these findings.

Second, the study provides only a partial view of the relationship between personality and academic success, focusing solely on conscientiousness. Future research should expand the scope to include all Big Five personality traits to gain a more holistic understanding of how personality influences academic outcomes among international students.

Finally, the reliance on self-report measures to assess conscientiousness introduces potential bias. Self-report instruments are susceptible to social desirability effects, where participants may respond in ways that reflect societal expectations rather than their true behaviors (Latkin et al., 2017). Additionally, self-perceptions may not accurately reflect actual behaviors in academic contexts. To address this limitation, future studies should incorporate alternative methods such as behavioral observations or peer assessments. A multimethod approach would enhance the validity and reliability of findings by capturing a more accurate representation of personality traits and their impact on academic success.

CONCLUSION

In summary, this study aimed to assess the influence of personality traits, specifically conscientiousness, on the academic success of international students. The findings revealed that higher levels of conscientiousness are significantly associated with greater academic achievement. These results demonstrate the importance of conscientiousness as a consistent predictor of academic success beyond just domestic students and across diverse cultural backgrounds, academic disciplines, and assessment types. The study highlights the need for educators and universities to foster learning environments that promote traits associated with conscientiousness, such as strong organisational skills, self-discipline, and structured approaches to learning. By doing so, institutions can better support international students in achieving academic success and navigating the challenges of studying abroad.

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In the preparation of this manuscript, we utilized artificial intelligence (AI) tools for content creation in the following capacity:

☒ ***None***
☐ *Some sections, with minimal or no editing*
☐ *Some sections, with extensive editing*
☐ *Entire work, with minimal or no editing*
☐ *Entire work, with extensive editing*

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