

THE INFLUENCE OF SOCIAL MEDIA PLATFORMS ON STUDENTS' ACADEMIC PERFORMANCE IN MALAYSIAN PRIVATE UNIVERSITIES: THE MEDIATING EFFECT OF PERSONALITY TRAITS

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Abstract

Keyword:

Social Media Platforms, Academic Performance, Personality Traits, Malaysian Private Universities, Mediation, SmartPLS.



The increasing integration of social media platforms into higher education has transformed how students communicate, access information, and engage in learning activities. In Malaysia, platforms such as YouTube, TikTok, WhatsApp, and Facebook have become central to academic collaboration, information sharing, and self-directed learning, yet prior research reports inconsistent findings on the relationship between social media use and academic performance, and the mediating role of personality traits in this relationship remains under-explored, particularly within Malaysian private universities. This study therefore examined the influence of social media platforms on students' academic performance and investigated the mediating effect of personality traits, guided by the Uses and Gratifications Theory and the Big Five Personality Theory. A quantitative, cross-sectional survey design was employed, with data collected from 330 undergraduate and postgraduate students across five private universities in Malaysia (INTI International University, Sunway University, Monash University Malaysia, Geomatika University College, and Taylor's University) using a structured questionnaire. Data were analysed descriptively using SPSS version 29 and inferentially using SmartPLS 4 for Partial Least Squares Structural Equation Modelling (PLS-SEM). The measurement model demonstrated satisfactory internal consistency reliability and convergent validity, although discriminant validity between Social Media Platforms and Personality Traits was not fully established. The structural model showed that Social Media Platforms did not have a statistically significant direct effect on Academic Performance ($\beta = 0.953$, $t = 1.491$, $p = 0.136$), but had a strong, significant effect on Personality Traits ($\beta = 0.997$, $t = 3503.934$, $p < 0.001$). Personality Traits did not significantly predict Academic Performance ($\beta = -0.322$, $t = 0.500$, $p = 0.617$) and did not mediate the relationship between Social Media Platforms and Academic Performance (indirect $\beta = -0.321$, $t = 0.500$, $p = 0.617$). The model explained 39.9% of the variance in Academic Performance and 99.5% of the variance in Personality Traits. The findings suggest that social media exposure alone is not a direct determinant of academic success; rather, its educational value depends on how purposefully students engage with these platforms. The study contributes to theory by integrating the Uses and Gratifications Theory with the Big Five Personality Theory, and offers practical implications for higher education institutions, academic staff, students, and policymakers in Malaysia seeking to promote responsible and academically productive social media use.



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Introduction

Social media has become deeply woven into everyday life, and its influence on the student community is now a well-established area of concern in higher education research (Abbas, 2019). Platforms such as YouTube, WhatsApp, TikTok, and Facebook offer novel ways for people to communicate, share knowledge, and access information instantly, regardless of geography (Nerur, 2017; Umar & Idris, 2018). For university students in particular, social media has moved beyond entertainment to become an integral part of how they study, collaborate, and manage their academic lives (Lau, 2017).

In Malaysia, this shift has been especially pronounced. Supported by national initiatives such as the Malaysia Digital Economy Blueprint (MyDIGITAL) and the Higher Education Digitalisation Agenda, Malaysian universities have accelerated the adoption of digital platforms to enhance learning accessibility and student engagement. Malaysian students are among the most active social media users in Southeast Asia, and platforms such as YouTube, WhatsApp, TikTok, and Instagram now function as central channels for academic communication, collaborative learning, and information seeking. Yet this same pervasiveness raises legitimate concerns about digital distraction, reduced attention span, and dependency on online interaction, all of which may work against, rather than for, academic success.

The relationship between social media use and academic performance reported in the literature is far from settled. Some studies find that social media enhances learning outcomes by facilitating access to resources and peer collaboration, while others find that excessive or poorly directed use undermines concentration and academic achievement. This inconsistency suggests that the relationship is not direct, but is instead shaped by other psychological factors. Personality traits are one such factor: because they are relatively stable dispositions that shape how individuals behave, communicate, and regulate themselves, they may determine whether a student's social media engagement translates into academic benefit or academic distraction. Despite this plausible mechanism, empirical research examining personality traits as a mediator between social media platform use and academic performance remains limited, particularly within the context of Malaysian private universities.

This study therefore set out to examine the influence of social media platforms on students' academic performance in Malaysian private universities, and to investigate whether this relationship is mediated by personality traits. The specific research objectives were to: (RO1) identify the social media platforms most frequently used by students; (RO2) identify students' primary reasons for using social media platforms; (RO3) examine the effect of social media platforms on academic performance; (RO4) examine the effect of social media platforms on personality traits; (RO5) examine the effect of personality traits on academic performance; and (RO6) examine the mediating effect of personality traits on the relationship between social media platforms and academic performance. Correspondingly, the study asked: what platforms are most frequently used, and why; to what extent do these platforms influence academic performance and personality traits; to what extent do personality traits influence academic performance; and do personality traits mediate the social media–academic performance relationship among students in Malaysian private universities?

The term 'social media' encompasses a broad range of online resources, from photo- and video-sharing sites such as YouTube and Instagram to social networking platforms such as Facebook, as well as microblogging and messaging services (Uma et al., 2021). According to Digital Malaysia (2019), a substantial share of the Malaysian population uses social media on a daily basis, placing the country among the most active social media markets in Southeast Asia. Despite this scale of adoption, research on its effect on higher-education outcomes in Malaysia remains comparatively early-stage (Moorthy et al., 2019), which underscores the timeliness and relevance of the present study.

The study is significant on three fronts. Theoretically, it integrates the Uses and Gratifications Theory (UGT) with the Big Five Personality Theory within a single structural model, extending both frameworks into the context of Malaysian higher education. Practically, it offers evidence-based guidance for universities, lecturers, and students on how to approach social media as a learning tool rather than assuming that access alone drives outcomes. Contextually, it addresses a clear gap in the literature by focusing specifically on private university students in Malaysia, a population that has been comparatively under-studied despite its high engagement with digital platforms.

Background of the Study

Multitasking on social networking sites has become increasingly common, and the association between students and social media has grown correspondingly tighter (Wihbey, 2013). Social media has visibly influenced every level of education by opening up new avenues for learning: students now use mobile devices and social platforms to create, customise, and share course material in text, video, and audio form (Selwyn, 2011), giving rise to learning cultures built around group discovery and peer engagement (Jamal & Nawab, 2020). On one hand, this offers students a genuinely powerful means of communication and collaboration; on the other, it introduces a persistent source of distraction, so that students must actively balance social media use against academic demands rather than assume the two will naturally coexist (Sperling, 2021; Kolan & Dzandza, 2018).

The COVID-19 pandemic accelerated this shift further, as students came to rely heavily on social media to exchange course information and participate in virtual group meetings (Talaue et al., 2018). University students routinely use Facebook and similar platforms to supplement formal instruction, while YouTube tutorials support self-directed learning across disciplines ranging from architecture to nursing and the performing arts (Moghavvemi et al., 2021). Digital Malaysia (2019) reported that roughly one in four Malaysians uses social media daily, placing Malaysia among the most socially-networked nations in Southeast Asia. Given this scale of adoption, and the mixed evidence on its academic consequences, understanding the psychological mechanisms, particularly personality, that shape how social media translates into learning outcomes has become a pressing concern for Malaysian higher education.

Problem Statement

The rapid advancement of digital technology has fundamentally reshaped how students access information, communicate, and engage in learning. Social media platforms such as YouTube, WhatsApp, TikTok, Instagram, Facebook, and LinkedIn have evolved well beyond their original social-networking function to become genuine educational tools that facilitate collaborative learning, knowledge sharing, and immediate access to academic resources. Following the COVID-19 pandemic, this integration deepened further, and social media is now an essential component of students' academic experience rather than merely a leisure activity.

Despite this, the empirical picture remains unsettled. Some studies report that social media enhances learning outcomes through improved access to resources and peer collaboration, while others report that excessive or poorly directed use undermines concentration, encourages procrastination, and reduces academic performance. This inconsistency points to the likely presence of a mediating mechanism rather than a simple direct relationship, and personality traits are a theoretically compelling candidate: as relatively stable dispositions, they plausibly shape whether a student's social media engagement is channelled toward productive learning behaviour or toward distraction. Yet research examining personality traits explicitly as a mediator between social media platform use and academic performance remains scarce, and is almost absent within the specific context of Malaysian private universities, which serve a large and highly digitally-engaged share of the country's student population. This gap motivates the present study.

Definition of Key Terms

Social Media Platform refers to the wide variety of social networking sites, platforms, and applications collectively known as social media, accessible via internet-enabled devices such as smartphones, laptops, and tablets, which give users access to a large volume of information from diverse sources and a space in which to discuss and debate that information (Kanwar & Tapia, 2012; Manning, 2014).

Academic Performance is defined as the knowledge gained and reflected in the grades awarded by instructors, or as the outcome of education relative to how well an individual has met their educational goals within a given time frame (Narad & Abdullah, 2016); common indicators include CGPA and the number of courses successfully completed.

Personality Traits are enduring patterns of thought, feeling, and behaviour that characterise an individual and remain relatively stable over time, allowing prediction of how a person is likely to behave across different situations, including how they use social media and how that use relates to their academic performance.

Significance of the Study

Academically, this study responds to the reality that college students' use of social media for research and coursework has grown sharply over the past decade, to the point where it is now a routine part of academic life rather than an incidental behaviour (Al-Rahmi et al., 2015). Understanding how this engagement relates to performance is therefore important not only for individual students but for the institutions that increasingly build their teaching around digital platforms. Practically, although Malaysian university students are increasingly active on social media, the academic literature has, until recently, given comparatively little attention to how these

platforms affect academic achievement specifically within the private higher-education sector. By examining the features and patterns of social media use among students in Malaysian private universities, this study aims to help close that gap and to provide an evidence base that institutions, lecturers, and students can draw on directly.

Scope of the Study

The study focuses on undergraduate and postgraduate students enrolled in selected Malaysian private universities who actively use social media for academic and/or personal purposes. Three constructs are measured: Social Media Platforms as the independent variable, Personality Traits as the mediating variable, and Academic Performance as the dependent variable. Data collection was carried out through a structured questionnaire administered at a single point in time, and findings are intended to reflect the experiences of students within Malaysian private higher education specifically; they are not automatically generalisable to public universities or to institutions outside Malaysia.

Literature Review

Academic Performance

Academic performance is commonly defined as the knowledge a student has gained, as reflected in grades or in how well the student has met their educational goals within a given period (Narad & Abudullah, 2016). Indicators such as cumulative grade point average (CGPA), course completion rates, and year-on-year progression are widely used to monitor academic growth (Kim et al., 2017). As a multidimensional outcome, academic performance is shaped not only by digital behaviour but also by motivation, study habits, teaching quality, family support, and the broader learning environment.

Social Media Platforms in Higher Education

Social media refers collectively to the networking sites, platforms, and applications accessible via internet-enabled devices that allow users to create, share, and exchange content (Kanwar & Tapia, 2012). In higher education, students use these platforms to access instructional videos, e-books, and virtual conferencing tools, and to exchange course-related information with peers (Selwyn, 2011). University students use Facebook and similar platforms to augment formal instruction and locate study-related information, while YouTube in particular is widely used across disciplines such as architecture, nursing, medicine, and the performing arts to support self-directed learning (Moghavvemi et al., 2021). At the same time, the same platforms that support learning also compete for students' attention with entertainment and social content, which is the crux of the mixed findings reported in the literature.

Personality Traits: The Big Five

Personality traits are enduring patterns of thought, feeling, and behaviour that are relatively stable over time and that help predict how a person will act across situations. The Big Five Personality Theory organises these dispositions into five dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. These traits are theorised to shape not only how a student engages with digital platforms, but also how effectively they translate that engagement into academic outcomes; for instance, a conscientious student may be more likely to use social media for academic purposes, while an extraverted student may lean toward its social functions.

Social Media Domains

Social media platforms can be grouped into several functional domains that together explain their varied role in student life. Communication and networking platforms (e.g., Facebook, WhatsApp) support direct interaction and group coordination; content creation and sharing platforms (e.g., YouTube, Instagram) allow students to produce and consume instructional and creative material; collaboration and community platforms support group-based knowledge building; microblogging and real-time update platforms (e.g., X/Twitter) provide rapid access to news and trending information; and messaging platforms enable private, low-friction exchange of course material and peer support. Because a single platform, such as WhatsApp or YouTube, can serve several of these functions simultaneously, students' motivations for use are rarely purely academic or purely recreational, which helps explain why platform usage alone is a poor predictor of academic outcomes.

Empirical Evidence and Research Gap

Empirical work on social media and academic performance in Malaysia points in different directions. Ting et al.

(2024) found that Malaysian undergraduates increasingly favour YouTube and TikTok for both academic and social purposes, and that these platforms play a genuine dual role as entertainment and informal learning tools. Mohammed, Ibrahim, and Yunus (2021) similarly found that social media use was positively associated with academic performance through enhanced academic self-efficacy, and that multitasking on social media could even support learning outcomes when students possessed strong self-efficacy. In contrast, Chua, YiRong, Yang, and Zhi (2020) found that excessive TikTok use was linked to social media addiction and poorer academic adjustment, while Ahmad Nizam, Mohd Azaman, and Ibrahim (2022) reported that the impact of social media on performance depended heavily on how well students managed distraction.

On personality and academic performance, Komarraju, Karau, Schmeck, and Avdic (2011) found that conscientious students tend to achieve better academic outcomes because of stronger self-discipline and time management, a pattern broadly consistent with earlier meta-analytic evidence that personality traits, and conscientiousness in particular, are associated with academic achievement (Poropat, 2014). Richardson, Abraham, and Bond (2012), however, argued that personality's influence on academic performance is often indirect, operating through more proximal factors such as motivation and self-regulated learning rather than acting independently.

Taken together, the literature suggests three things: first, that platform preference and frequency of use provide only a descriptive picture of student engagement rather than a predictor of outcomes; second, that the academic value of social media depends on how it is used rather than whether it is used; and third, that personality traits are a theoretically plausible but empirically inconsistent mechanism linking social media use to academic performance. This is the specific gap the present study addresses: limited research has tested personality traits as a mediator of the social media–academic performance relationship among students in Malaysian private universities specifically.

Empirical Studies on Social Media and Personality Traits

A separate body of research has examined how personality shapes, and is shaped by, digital engagement. Marengo et al. (2020) found that personality traits influence how individuals interact with digital technologies, with these interactions in turn affecting subsequent behavioural outcomes, while Kircaburun et al. (2020) suggested that personality characteristics shape online behaviour and digital engagement patterns more broadly. These studies support the plausibility of a Social Media–Personality Traits pathway, though, as noted below, they focus primarily on behavioural adaptation rather than direct academic outcomes, meaning their findings cannot be assumed to generalise automatically to academic performance.

Empirical Studies on Personality Traits and Academic Performance

Evidence on the direct link between personality and academic performance is genuinely mixed. On one side, Poropat's (2014) meta-analytic work and Komarraju et al.'s (2011) findings support conscientiousness and openness as meaningful, positive predictors of academic achievement, largely because conscientious students exhibit stronger self-discipline, time management, and persistence. On the other side, Richardson, Abraham, and Bond (2012) argue that personality's contribution to academic performance is often indirect, transmitted through more proximal factors such as motivation and self-regulated learning, a view reinforced by evidence that study habits and academic self-regulation tend to be stronger direct predictors of achievement than personality traits alone. This tension in the literature is precisely what the present study's structural model was designed to probe empirically within the Malaysian private university context.

Conceptual Framework

The proposed conceptual framework positions Social Media Platforms as the exogenous (independent) construct, Personality Traits as the mediating construct, and Academic Performance as the endogenous (dependent) construct. The framework specifies a direct path from Social Media Platforms to Academic Performance, a direct path from Social Media Platforms to Personality Traits, a direct path from Personality Traits to Academic Performance, and an indirect (mediated) path from Social Media Platforms to Academic Performance through Personality Traits. This structure allows the study to test not only whether social media use is associated with academic performance, but whether that association operates through, or independently of, students' personality characteristics, which is the central theoretical question the study set out to answer.

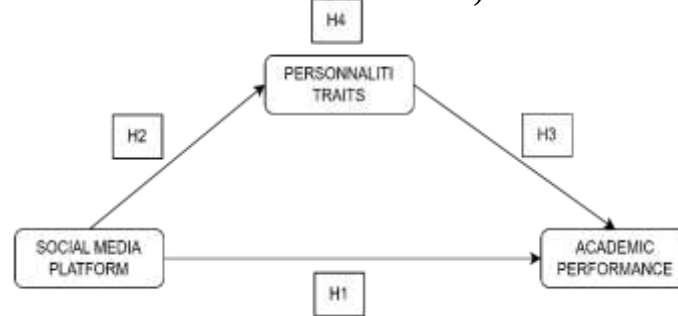


Figure 1 Conceptual Framework of the study

Theoretical Framework and Hypotheses

The study is underpinned by the Uses and Gratifications Theory (UGT), which explains why individuals actively select particular media to satisfy cognitive, social, and affective needs, and the Big Five Personality Theory, which explains how stable individual differences shape behaviour. Integrating these two theories, the study proposes that students' motivations for using social media shape both their personality-related behavioural tendencies and, potentially, their academic outcomes. Based on the literature and this integrated framework, the study tested the following hypotheses:

- H1: Social Media Platforms have a significant relationship with Academic Performance.
- H2: Social Media Platforms have a significant relationship with Personality Traits.
- H3: Personality Traits have a significant relationship with Academic Performance.
- H4: Personality Traits mediate the relationship between Social Media Platforms and Academic Performance.

Methodology

This study adopted a positivist research philosophy and a deductive research approach, consistent with its aim of testing established theoretical relationships using empirical, quantitative evidence (Saunders et al., 2023; Creswell & Creswell, 2023). A quantitative, cross-sectional survey design was used, in which data were collected from respondents at a single point in time using a self-administered structured questionnaire distributed electronically via Google Forms. All items were measured on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

The target population comprised undergraduate and postgraduate students enrolled in selected Malaysian private universities, chosen because of their rapid digital transformation and extensive integration of social media into teaching and learning. Data collection took place across five institutions: INTI International University, Sunway University, Monash University Malaysia, Geomatika University College, and Taylor's University. Eligible respondents were full-time students aged 18 years or older who actively used one or more social media platforms and who voluntarily consented to participate. A total of 350 questionnaires were distributed, of which 330 were returned complete and usable, yielding a response rate of 94.3%, well above the 30% threshold generally considered acceptable for survey research (Sekaran & Bougie, 2016).

Data were analysed in two stages. IBM SPSS Statistics version 29 was used for data screening, descriptive statistics, and reliability checks, while SmartPLS 4 was used to evaluate the measurement and structural models through Partial Least Squares Structural Equation Modelling (PLS-SEM), following the guidelines of Hair, Hult, Ringle, and Sarstedt (2022). The measurement model was assessed for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity (using the Heterotrait–Monotrait ratio and the Fornell–Larcker criterion), while the structural model was assessed through path coefficients, the coefficient of determination (R^2), effect size (f^2), and bootstrapped mediation analysis with 5,000 resamples. Ethical approval and institutional consent were obtained prior to data collection, and respondents were assured of anonymity and confidentiality throughout the study. Participation was entirely voluntary, informed consent was obtained electronically before respondents proceeded to the substantive questionnaire items, and no personally identifying information was collected or retained, consistent with standard ethical practice for survey-based educational research.

Ethical Considerations

In addition to voluntary participation and informed consent, respondents were informed of the purpose of the

study, their right to withdraw at any stage without penalty, and the measures taken to store data securely. Approval to conduct the study was sought from the researcher's institution, and cooperation was formally obtained from the administration of each participating university prior to distributing the questionnaire, in keeping with standard research-ethics practice for survey-based studies involving human participants.

Sampling and Instrumentation

A purposive, cross-institutional sampling technique was used to select respondents from the five participating universities, ensuring representation across institutions with differing student profiles and levels of digital learning maturity. Sample size was determined with reference to established guidelines for PLS-SEM, which recommend a minimum sample well in excess of ten times the largest number of structural paths directed at any single construct; the achieved sample of 330 comfortably exceeds this benchmark and is also consistent with general survey research conventions for models of this complexity.

The questionnaire comprised four sections: (i) respondent demographics (gender, age, CGPA, education level); (ii) Social Media Platform usage, covering platform choice, frequency, and purpose of use; (iii) Personality Traits, operationalised through the five Big Five dimensions; and (iv) Academic Performance, operationalised primarily through self-reported CGPA. Items were adapted from previously validated instruments used in prior social media, personality, and academic performance research, and were refined following a pilot study conducted with a small sample of students prior to full-scale data collection to check clarity, reliability, and face validity.

Findings

Respondent Profile and Platform Usage

Of the 330 valid respondents, gender distribution was nearly balanced (49.7% male, 50.3% female). The majority of respondents were aged 21–25 years (62.4%), followed by 26–30 years (20.6%), below 20 years (12.7%), and above 30 years (4.3%). In terms of academic standing, 43.3% reported a CGPA between 3.50 and 3.79, 26.7% between 3.00 and 3.49, 23.3% between 3.80 and 4.00, and 6.7% below 3.00. Most respondents were degree students (73.9%), with the remainder pursuing diploma programmes (26.1%).

Table 1. Respondent Profile and Social Media Usage (N = 330)

Variable	Category	%
Gender	Male	49.7
	Female	50.3
Age	Below 20 years	12.7
	21–25 years	62.4
	26–30 years	20.6
	Above 30 years	4.3
CGPA	Below 3.00	6.7
	3.00–3.49	26.7
	3.50–3.79	43.3
	3.80–4.00	23.3
Education Level	Diploma	26.1
	Degree	73.9
Most-used Platform	YouTube	32.7
	WhatsApp	28.2
	TikTok	27.6
	Facebook	11.5
Primary Purpose	Academic content only	36.4
	Academic + entertainment + news	33.3
	Entertainment only	17.6
	News and information	12.7

YouTube was the most frequently used platform (32.7%), followed by WhatsApp (28.2%), TikTok (27.6%), and Facebook (11.5%), indicating a preference for video-based and messaging platforms over traditional social

networking. Regarding purpose, 36.4% of respondents used social media exclusively for academic content, and a further 33.3% used it for a mix of academic content, entertainment, and news; together these two categories accounted for nearly 70% of responses, suggesting that academic engagement is a primary, though not exclusive, driver of social media use among this sample. This addresses RO1 and RO2 directly: video-centric and messaging platforms dominate usage, and academic engagement, whether exclusive or combined with entertainment and news, is the leading motivation for that usage.

These descriptive patterns also help contextualise the structural results that follow. Because most respondents reported blending academic and non-academic motivations for social media use, the model's inability to detect a significant direct effect of Social Media Platforms on Academic Performance is consistent with the idea that the academic and recreational functions of these platforms tend to offset one another at the aggregate level, even where individual students may benefit substantially from purposeful use.

Measurement Model

All constructs demonstrated satisfactory indicator reliability, internal consistency reliability, and convergent validity, with loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) values within recommended thresholds, and variance inflation factor (VIF) values below the common cut-off of 3.0, indicating no concern with multicollinearity. However, the discriminant validity assessment (HTMT) indicated that the ratio between Social Media Platforms and Personality Traits exceeded the recommended threshold, pointing to conceptual overlap between the two constructs. This finding is treated as a boundary condition on the structural results reported below and is revisited in the Discussion.

Table 3. Measurement Model Summary

Construct	Cronbach's Alpha	Composite Reliability	AVE	HTMT vs. other construct
Social Media Platforms	0.90–0.92	> 0.90	0.63–0.69	Above threshold vs. Personality Traits
Personality Traits	0.90–0.92	> 0.90	0.63–0.69	Above threshold vs. Social Media Platforms
Academic Performance	0.90–0.92	> 0.90	0.63–0.69	Within acceptable range

Structural Model and Hypothesis Testing

Path coefficients and bootstrapped significance tests ($t > 1.96$, $p < .05$) were used to test the four hypotheses. Social Media Platforms did not have a statistically significant direct effect on Academic Performance ($\beta = 0.953$, $t = 1.491$, $p = 0.136$); H1 was therefore not supported. Social Media Platforms had a strong, positive, and highly significant effect on Personality Traits ($\beta = 0.997$, $t = 3503.934$, $p < 0.001$); H2 was supported. Personality Traits did not have a statistically significant effect on Academic Performance ($\beta = -0.322$, $t = 0.500$, $p = 0.617$); H3 was not supported. The specific indirect effect of Social Media Platforms on Academic Performance through Personality Traits was likewise not significant ($\beta = -0.321$, $t = 0.500$, $p = 0.617$); H4 was not supported, indicating that Personality Traits did not mediate the relationship.

Table 2. Summary of Hypothesis Testing

Hypothesis	Path	β	t-value	p-value	Decision
H1	Social Media Platforms $\rightarrow$ Academic Performance	0.953	1.491	0.136	Not Supported
H2	Social Media Platforms $\rightarrow$ Personality Traits	0.997	3503.934	< 0.001	Supported
H3	Personality Traits $\rightarrow$ Academic Performance	-0.322	0.500	0.617	Not Supported
H4	SMP $\rightarrow$ Personality Traits $\rightarrow$ Academic Performance (indirect)	-0.321	0.500	0.617	Not Supported

Table 4. Total Effects (Direct + Indirect)

Structural Relationship	Total Effect (β)	t-value	p-value	Decision
Personality Traits $\rightarrow$ Academic	-0.322	0.500	0.617	Not Significant

Structural Relationship	Total Effect (β)	t-value	p-value	Decision
Performance				
Social Media Platforms → Academic	0.631	15.526	< 0.001	Significant
Performance				
Social Media Platforms → Personality	0.997	3503.934	< 0.001	Significant
Traits				

The model explained 39.9% of the variance in Academic Performance ($R^2 = 0.399$, adjusted $R^2 = 0.397$) and 99.5% of the variance in Personality Traits ($R^2 = 0.995$, adjusted $R^2 = 0.995$). Effect size (f^2) analysis showed that Social Media Platforms exerted an exceptionally large effect on Personality Traits ($f^2 = 187.236$), while the direct effects of both Social Media Platforms ($f^2 = 0.008$) and Personality Traits ($f^2 = 0.001$) on Academic Performance were negligible. Interestingly, the total effect of Social Media Platforms on Academic Performance, combining direct and indirect paths, was positive and significant ($\beta = 0.631$, $t = 15.526$, $p < 0.001$), even though neither the direct nor the specific indirect path reached significance individually a pattern that, together with the discriminant validity concern noted above, suggests the structural estimates should be interpreted with caution and warrant replication with more clearly differentiated measures of Social Media Platforms and Personality Traits.

Discussion

Consistent with RO1 and RO2, students in this sample gravitated toward video-based and messaging platforms, and used them predominantly, though not exclusively, for academic purposes. This aligns with Ting et al. (2024) and Mohammed et al. (2021), who similarly found that Malaysian undergraduates favour YouTube, TikTok, and WhatsApp for a blend of academic and social use. At the same time, the fact that platform frequency and purpose did not translate into a significant direct effect on academic performance (H1) echoes the caution raised by Chua et al. (2020) and Ahmad Nizam et al. (2022): heavy or frequent platform use is not, by itself, a marker of academic benefit. Rather, the educational value of social media appears to depend on how purposefully and selectively students engage with it, since these same platforms simultaneously serve entertainment, social, and informational functions that can just as easily distract as support learning.

Social Media Platforms and Academic Performance (H1)

The insignificant direct relationship between Social Media Platforms and Academic Performance indicates that access to, or frequent use of, these platforms is not sufficient on its own to raise academic achievement. Students may spend considerable time on YouTube, TikTok, WhatsApp, or Facebook without this translating into stronger academic outcomes, because these platforms simultaneously serve educational, social, and entertainment functions. This finding is consistent with Ting et al. (2024), who found that although Malaysian undergraduates were extensive social media users, the direct influence of usage on academic performance was inconsistent once mediating behavioural factors were taken into account. It contrasts, however, with Mohammed et al. (2021), who found a positive association between social media use and academic performance through enhanced academic self-efficacy, and with Ahmad Nizam et al. (2022), who reported a significant relationship where students effectively managed distraction. The most plausible explanation for this divergence is that the educational benefit of social media is conditional on self-regulation and purposeful use, a behavioral layer that a simple usage-frequency measure does not capture. From a UGT perspective, students appear to use social media to satisfy multiple, often competing gratifications simultaneously, which dilutes any single, uniform effect on academic performance.

Personality Traits and Academic Performance (H3)

The insignificant, negatively-signed relationship between Personality Traits and Academic Performance suggests that personality alone was not a sufficient predictor of achievement in this sample. This diverges from Passport's (2014) meta-analytic conclusion that traits such as conscientiousness and openness are meaningfully associated with academic performance, and from Komarraju et al. (2011), who linked conscientiousness to stronger self-discipline and better outcomes. It is, however, consistent with Richardson, Abraham, and Bond (2012), who argued that personality's influence on performance is usually indirect, operating through more proximal factors such as motivation and self-regulated learning rather than as an independent predictor. Two study-specific factors may also help explain this result: the relatively homogeneous digital learning environment shared by students across the five participating private universities may compress the variance that personality differences would otherwise explain, and the discriminant validity concern between Social Media Platforms and Personality Traits reported in the measurement model means the structural estimate should be interpreted cautiously rather than as

Mediating Effect of Personality Traits (H4)

Because Personality Traits did not significantly predict Academic Performance, the proposed indirect pathway from Social Media Platforms through Personality Traits to Academic Performance also failed to reach significance, and mediation was not established. This contrasts with studies such as Mohammed et al. (2021), who found that academic self-efficacy mediated the relationship between social media engagement and academic performance in Malaysian higher education, and with Al-Rahmi et al. (2018), who reported that collaborative learning and engagement mediated the effect of educational social media use on learning outcomes. It also diverges from behavioural-adaptation studies such as Marengo et al. (2020) and Kircaburun et al. (2020), which linked personality to digital behaviour, though those studies did not measure academic performance directly and so are not fully comparable. Taken together, the unsupported mediation suggests that Personality Traits, at least as measured here, are not the mechanism through which social media translates into academic outcomes; more proximal, learning-specific mediators, such as self-regulated learning, academic motivation, or digital literacy, are likely to offer a more direct explanatory pathway and are a natural next step for future research.

The strong, highly significant effect of Social Media Platforms on Personality Traits (H2) is the most robust finding in the model, and is consistent with the Uses and Gratifications Theory's premise that sustained, motivated engagement with media shapes users' behavioural tendencies over time. However, the subsequent link in the proposed mediation chain broke down: Personality Traits did not significantly predict Academic Performance (H3), and did not mediate the relationship between Social Media Platforms and Academic Performance (H4). This is at odds with meta-analytic evidence that traits such as conscientiousness are meaningfully associated with academic achievement (Poropat, 2014; Komarraju et al., 2011), but it is consistent with Richardson, Abraham, and Bond (2012), who argued that personality's influence on academic performance is typically indirect, working through more proximal variables such as motivation, self-regulated learning, and study habits rather than operating as an independent predictor.

Two contextual factors help explain these unsupported paths. First, students across these five private universities are exposed to broadly comparable digital learning infrastructure and institutional support, which may compress the variance that personality differences would otherwise explain. Second, and more directly, the discriminant validity concern between Social Media Platforms and Personality Traits suggests the two constructs may not have been sufficiently distinct as measured in this study; where two constructs overlap conceptually, structural path estimates involving them should be treated as indicative rather than conclusive. Together, these findings suggest that the Uses and Gratifications Theory and the Big Five Personality Theory each explain part of the picture, students' motivations shape their digital behavioural tendencies, but neither theory, nor their combination as tested here, is sufficient on its own to explain academic achievement. Constructs more proximal to learning itself, such as self-regulated learning, academic motivation, digital literacy, and academic self-efficacy, are more promising candidates for future mediation models.

Theoretical, Methodological, and Practical Contributions

Theoretically, the study's main contribution is its integration of UGT and the Big Five Personality Theory within a single structural model, a combination that prior studies have typically applied separately. The findings offer partial support for this integration: UGT is supported through the strong link between Social Media Platforms and Personality Traits, showing that students' motivations for engaging with social media do shape behavioural tendencies, but the Big Five Personality Theory receives only limited support as a predictor of academic performance in this digital context, suggesting that future integrated models should incorporate additional learning-specific constructs.

Methodologically, the study demonstrates the value of PLS-SEM for simultaneously evaluating measurement and structural models involving a mediator, and it also illustrates the importance of reporting statistically non-significant paths: an unsupported mediation hypothesis is not a null result in the everyday sense, but a substantive finding that narrows the field of plausible explanatory mechanisms and helps prevent a bias in the literature toward only publishing significant findings. Practically, the results signal to universities that expanding access to digital platforms is not, by itself, an academic performance intervention. Institutions should instead invest in structured digital pedagogy, staff should design social-media-integrated learning activities with explicit academic objectives, and students should be supported in building self-regulated learning skills, since these appear to be more proximal levers on academic achievement than platform access or personality alone.

Implications for Practice

For higher education institutions, the findings suggest that simply expanding access to digital platforms will not,

on its own, improve academic outcomes; institutions should instead design structured strategies that integrate social media into teaching around explicit learning objectives, and invest in digital literacy training covering information evaluation, academic integrity, and responsible online communication. For academic staff, the results imply that social media should be embedded into instruction deliberately, through guided discussions, collaborative assignments, and continuous feedback, rather than left to incidental student use, while also recognising that students bring diverse personality profiles and communication preferences that instructional design should accommodate. For students, the findings caution against assuming that frequent social media use automatically supports academic achievement; students are better served by prioritising educational content, limiting multitasking-driven distraction, and building self-regulated learning habits such as goal-setting and progress monitoring. For policymakers and university management, the results support investment in evidence-based digital learning strategies, professional development for lecturers on integrating social media pedagogically, and clear institutional guidelines on digital well-being and responsible platform use.

Limitations and Future Research

Several limitations qualify these findings. The cross-sectional design captures perceptions at a single point in time and cannot speak to how social media use, personality, and academic performance co-evolve over a student's degree programme; longitudinal designs would address this directly. The sample was confined to five Malaysian private universities, which limits generalisability to public universities, polytechnics, and institutions outside Malaysia; broader and more diverse samples would strengthen external validity. Reliance on self-administered questionnaires introduces the possibility of social desirability and common method bias, which could be mitigated in future work by pairing survey data with objective indicators such as academic records or learning-management-system analytics. The study also examined Personality Traits as the sole mediator; given its unsupported role here, future studies should test alternative mediators, including self-regulated learning, academic motivation, digital literacy, academic self-efficacy, and technology acceptance, ideally using mixed-methods designs that pair quantitative modelling with qualitative interviews to better understand students' lived motivations. Finally, the discriminant validity concern between Social Media Platforms and Personality Traits indicates a need for more clearly differentiated measurement instruments in future replications, along with continued attention to emerging platforms and AI-assisted learning tools as the digital learning landscape continues to evolve.

Conclusion

Bringing together the findings, this study set out to answer six research questions concerning the frequency and purpose of social media use, its direct effects on academic performance and personality traits, personality's direct effect on academic performance, and the mediating role of personality traits in the overall relationship. The descriptive results answer RQ1 and RQ2 clearly: video-centric and messaging platforms, led by YouTube and WhatsApp, dominate usage, and academic engagement, whether pursued alone or blended with entertainment and news, is the primary motivation behind that usage. The structural results answer RQ3 through RQ6 with more nuance: social media strongly and significantly shapes personality-related tendencies (RQ4), but its direct effect on academic performance (RQ3), personality's direct effect on academic performance (RQ5), and personality's mediating role (RQ6) were all statistically unsupported in this sample. Read together, these answers reframe the central question of the study: the issue is not whether Malaysian private university students use social media, since virtually all of them do, but whether that use is channelled toward genuine learning gains, a question this study suggests cannot be answered by platform access or personality traits alone.

This study examined the influence of social media platforms on students' academic performance in Malaysian private universities and tested whether personality traits mediate this relationship. Drawing on survey data from 330 students across five institutions, the findings show that social media platform use has no significant direct effect on academic performance, but a strong and significant effect on personality traits; personality traits, in turn, do not significantly predict academic performance and do not mediate the social media–performance relationship. In short, exposure to social media shapes students' behavioural and personality-related tendencies, but this reshaping does not, on its own, translate into measurable academic gains.

The practical implication is straightforward: universities, lecturers, and students should not assume that greater access to, or use of, social media platforms will automatically improve academic outcomes. Instead, institutions should design structured, purpose-driven digital learning strategies; lecturers should embed social media into teaching with clear academic objectives rather than incidental use; and students should be supported in developing self-regulated learning habits, digital literacy, and disciplined time management so that social media functions as a genuine learning aid rather than a source of distraction. Theoretically, the study contributes an integrated test of the Uses and Gratifications Theory and the Big Five Personality Theory, and demonstrates that this combination,

while useful for explaining digital engagement, requires additional learning-related constructs to adequately explain academic achievement.

The study's conclusions should be read alongside its limitations: the cross-sectional design captures a single point in time, the sample was confined to five Malaysian private universities, data were self-reported, and the measurement model showed incomplete discriminant validity between Social Media Platforms and Personality Traits. Future research should adopt longitudinal designs, extend the sample to public universities and other regions, incorporate objective behavioural data alongside self-reports, refine the measurement of overlapping constructs, and test alternative mediators such as self-regulated learning, academic motivation, and digital literacy to build a more complete account of how social media shapes academic success in higher education.

Co-Author Contribution

The authors conceived and designed the study, conducted the literature review, carried out the fieldwork and data collection, performed the statistical analysis using SPSS and SmartPLS, and prepared the manuscript in full.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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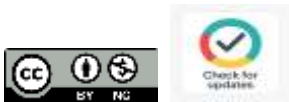
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