

Does academic procrastination mediate the link between Facebook addiction and academic satisfaction?

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KEYWORDS

Academic procrastination
Academic satisfaction
University students
Facebook addiction
Mediation

ABSTRACT

Purpose: Earlier studies suggested a link between Facebook addiction and life satisfaction among university students, but the association between it and academic satisfaction and their inner influencing mechanisms still needs to be clarified. This study investigated a mediation model between Facebook addiction and academic satisfaction, with academic procrastination as a mediator. **Methods:** A sample of 710 students ($M = 18.80$, $SD = 0.8$; 61.5% are female) from a university in Vietnam completed measures of Facebook addiction, academic procrastination, and academic satisfaction. Simple mediation analyses were conducted using PROCESS (Model 4) to calculate the indirect effects of Facebook addiction on academic satisfaction through academic procrastination. **Findings:** The results indicated that Facebook addiction was positively associated with academic satisfaction among university students, and academic procrastination partially mediated the association between Facebook addiction and academic satisfaction among university students. **Conclusion:** These findings provide a better understanding of the relationship between Facebook addiction, academic procrastination, and academic satisfaction, which may guide targeted interventions to improve academic satisfaction among university students.

¿La procrastinación académica media el vínculo entre la dependencia de Facebook y la satisfacción académica?

PALABRAS CLAVE

Procrastinación académica
Satisfacción académica
Estudiantes universitarios
Dependencia de Facebook
Vietnam

RESUMEN

Propósito: Previos estudios han sugerido un vínculo entre la dependencia de Facebook y la satisfacción con la vida entre los estudiantes universitarios, pero aún debe aclararse la asociación entre esta y la satisfacción académica y su mecanismo de influencia interno. Este estudio investigó un modelo de mediación entre la dependencia de Facebook y la satisfacción académica, con la procrastinación académica como mediadora. **Métodos:** Una muestra de 710 estudiantes ($M = 18.80$, $DT = 0.8$; 61.5% fueron mujeres) de una universidad de Vietnam completó medidas de dependencia de Facebook, procrastinación académica y satisfacción académica. Se realizaron análisis de mediación simples utilizando PROCESS (Modelo 4) para calcular los efectos indirectos de la dependencia de Facebook en la satisfacción académica a través de la procrastinación académica. **Resultados:** Los resultados indicaron que la dependencia de Facebook se asoció positivamente con la satisfacción académica entre los estudiantes universitarios, y la procrastinación académica medió parcialmente la asociación entre la dependencia de Facebook y la satisfacción académica entre los estudiantes universitarios. **Conclusión:** Estos hallazgos proporcionan una mejor comprensión del impacto de la dependencia de Facebook y la procrastinación académica en la satisfacción académica, lo que puede guiar intervenciones específicas para mejorar la satisfacción académica entre los estudiantes universitarios.

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Given that Facebook is still the most widely used social network online, numerous studies have shown that an excessive use might result in Facebook dependence, particularly among young people (Busalim et al., 2019). Facebook addiction is a term that coexists with other terms (e.g., Facebook dependence or problematic Facebook use). Facebook addiction is a type of Internet addiction, and its primary symptoms include undisciplined use of Facebook and excessive online activity, which cause difficulties with day-to-day functioning (Tomaszek & Muchacka-Cymerman, 2021).

Facebook use was found to be positively and negatively associated with university students' life satisfaction. On the one hand, high levels of Facebook use can reduce life satisfaction as users replace social relationships with online relationships (Chan, 2014; Kross et al., 2013). On the other hand, using Facebook can increase users' life satisfaction by reducing anxiety and depression (Grieve et al., 2013) and enhancing social capital (Valenzuela et al., 2009). In the world, as well as in Vietnam, there are no studies investigating the relationship between Facebook use and academic satisfaction.

University students frequently use Facebook for academic as well as social goals (Yotyodying et al., 2022). University students use Facebook to discuss course contents, share information, post questions, engage in online learning, and discuss with classmates when preparing assignments or struggling academically (Al-Dheleai & Tasir, 2017; Yotyodying et al., 2022). In Vietnam, due to the impact of COVID-19, many universities have switched from face-to-face teaching to online teaching. During the academic year 2021-2022, the university students in this sample used social networking sites (Facebook, Zalo, Zoom, Google Meet, etc.) to conduct online learning activities. Students use online Facebook groups to exchange class schedules, course information, lesson content, and learning difficulties with classmates and teachers. Therefore, Facebook becomes one of the main tools for students to conduct online learning activities. In addition, previous studies have demonstrated that using Facebook for learning purposes (educational usage of Facebook) can help students better understand the course content and thus improve academic achievement (Ainin et al., 2015; Al-Dheleai & Tasir, 2017; Al-Rahmi & Zeki, 2017; Junco, 2012). However, Facebook usage for socializing purposes can reduce student academic achievement (Bou-Hamad, 2020). Previous studies indicated that Facebook addiction was positively associated with academic procrastination (Meier et al., 2016; Przepiorka et al., 2016; Üztemur, 2020) and negatively associated with academic achievement (Busalim et al., 2019; Khan, 2018; Vashishtha et al., 2017); while academic achievement and academic procrastination were related to academic satisfaction (Balkis, 2013; Dhaqane & Afrah, 2016; Jamshidi et al., 2017). According to previous studies, excessive use of Facebook or spending too much time on Facebook causes students to have less time for studying, increasing bad study habits such as procrastinating on study tasks and leading to poor academic performance (Dule et al., 2023). Subsequently, delaying academic tasks causes students to experience high levels of academic stress due to the pressure to complete academic tasks in a short time, thereby

reducing students' academic satisfaction (Balkis, 2013; Bhat & Jan, 2023). Furthermore, poor academic achievement causes students to experience negative emotions and attitudes toward learning activities, whereas good academic achievement causes students to have positive emotions and attitudes toward learning activities (Dos Santos et al., 2013).

Academic procrastination as a mediator

The concept of procrastination involves delaying tasks that are essential for finishing projects on time (Lay, 1986). When a student puts off doing homework or other academic-related responsibilities, it is considered academic procrastination (Schouwenburg, 2004; Steel, 2007). Academic procrastination is a form of irrational delay because the conduct is being done against one's better judgment (Svartdal et al., 2020). The procrastination of academic work is a common complaint among students. The prevalence of academic procrastination among university students ranged from 14% (Ali, 2013) to 55.1% (Daryani et al., 2021). Individuals who procrastinate often experience unpleasant feelings (such as regret and anxiety) as a result of their procrastination tactics (Przepiorka et al., 2016). General procrastination (Meier et al., 2016; Przepiorka et al., 2016) and academic procrastination (Caratiquit & Caratiquit, 2023; Kurker & Surucu, 2024; Taïpe et al., 2023) were also negatively related to Facebook use and Facebook addiction/social media addiction. In addition, academic procrastination was also negatively related to academic satisfaction among university students (Balkis, 2013; Bhat & Jan, 2023).

Data from cross-sectional studies have demonstrated that there is a strong relationship between social media addiction and general procrastination (Anierobi et al., 2021; Lian et al., 2018; Üztemur, 2020). According to Lian et al. (2018), Social Networking Sites (SNS) addiction can impact directly and indirectly (through SNS fatigue) on procrastination among Chinese university students. SNS addiction was found to be associated with increased academic procrastination in a sample of pre-service social studies teachers in Turkey (Üztemur, 2020). Recently, similar results were found in a sample of university students in Nigeria (Anierobi et al., 2021) and Spain (Suárez-Perdomo et al., 2022). As the largest social networking site, Facebook addiction was found to be related to procrastination (Przepiorka et al., 2016) among Facebook users. Excessive use of Facebook can distract individuals from completing planned tasks, increasing the tendency to delay until tomorrow what the individual should do today –procrastination– (Przepiorka et al., 2016). In fact, Facebook use was associated with procrastination on tasks, and procrastination was associated with academic stress and well-being among university students in Germany (Meier et al., 2016). However, the link between Facebook addiction and academic procrastination among university students still has a lot of gaps in the literature.

Academic satisfaction refers to the expected satisfaction in a students' life in school by the fulfillment of their significant academic aspirations or goals (Balkis, 2013; Kumar et al., 2006). Academic satisfaction among students is an important

determinant of their academic success in school and general well-being (Nogueira, 2018). According to Balkis (2013), academic procrastination is negatively correlated with academic satisfaction, and a high degree of academic procrastination is associated with a low degree of academic satisfaction among university students. When students can complete assignments or projects on time, they can be more satisfied with their academic life; in contrast, when students procrastinate on academic tasks, they may experience academic stress (Meier et al., 2016), frustration, or anger, thereby reducing their academic satisfaction due to working under time pressure (Balkis, 2013). In addition, working limited hours can negatively affect focus, cognition, and efficiency, which can increase physical fatigue and feelings of discomfort (Balkis & Duru, 2009), thereby reducing academic satisfaction. Furthermore, students who procrastinate on academic tasks suffer the negative consequences of procrastination, such as poor academic performance (Balkis, 2011; De Paola & Scoppa, 2015; Goroshit & Hen, 2021) and reduced rational beliefs about studying (Balkis, 2013), which in turn leads to reduced academic satisfaction (Balkis, 2013). Therefore, academic procrastination is one of the risk factors associated with academic satisfaction among university students.

The purpose of this study

The existing literature has demonstrated the link between Facebook addiction and academic procrastination (Balkis, 2013; Przepiorka et al., 2016) and between academic procrastination and academic satisfaction (Balkis, 2013) among university students. These findings are important in establishing the theoretical framework and building hypotheses for this study. However, there is still a lack of research investigating the direct and indirect relationship between Facebook addiction and academic satisfaction among university students. In Vietnam, a modest number of studies have investigated academic satisfaction (Nguyễn Thị Hà et al., 2022), academic procrastination (Hò et al., 2023), the relationship between Facebook addiction and mental health problems (Hò et al., 2021), and the relationship between academic motivation and academic satisfaction (Pham

et al., 2024) among university students. However, to the best of our knowledge, there is still a lack of research investigating the relationship between Facebook addiction and academic satisfaction as well as the mechanism of this relationship. This study aimed to investigate the relationship between Facebook addiction and academic satisfaction as well as the mediating role of academic procrastination in this relationship. Based on previous studies, we propose the following hypotheses: H1: Facebook addiction is negatively related to academic satisfaction; H2: Facebook addiction is positively related to academic procrastination; H3: Academic procrastination is negatively related to academic satisfaction; and H4: Academic procrastination mediates the link between Facebook addiction and academic satisfaction (see Figure 1).

Method

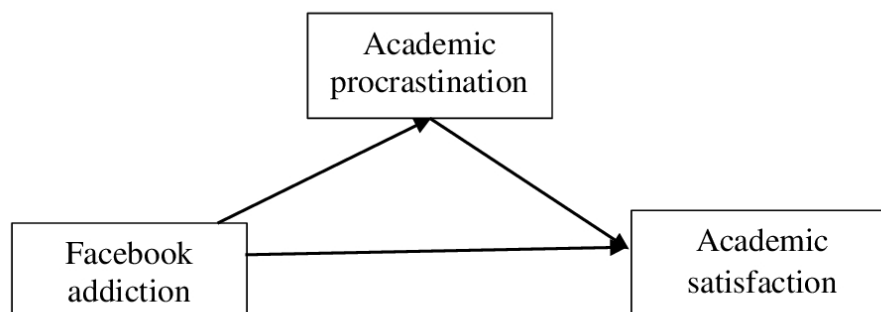
Participants

The online survey was conducted in July 2022. The Hue University's ethics committee authorized this research. Informed consent was obtained from all participants. All participants are from a university in Vietnam. The sample size was determined according to Slovin's formula, with $N = 44,647$ and $e = 0.05$. In order to conduct the survey smoothly, we enlisted the help of school leaders and subject teachers. To collect data, we asked for help from subject teachers. Through them, students were informed of the purpose and how to participate in research. Then, through teachers, we had a list of students volunteering to participate in the research. A survey link (Google Form) was sent to teachers, who then sent it to students through class groups. After collecting data, we asked the teachers to send each participant a gift worth 50,000 VND as a token of gratitude for participating in the study.

Data were collected from 710 university students between 18 and 23 years of age ($M_{age} = 18.8$, $SD = 0.8$). Of the total sample, 437 (61.5%) were female students and 273 (38.5%) were male students. There were 302 (42.54%) first-year students, 258 (36.34%) second-year students, and 150 (21.12%) third-year students.

Figure 1

The proposed mediation model



Instruments

In this study, we used the *Bergen Facebook Addiction Scale*, the *Irrational Procrastination Scale*, and the *Academic Life Satisfaction Scale* to evaluate Facebook dependence, academic procrastination, and academic satisfaction among Vietnamese university students. All of these scales have been used in previous studies in Vietnam (Hò, 2023; Nguyễn Ngọc Quang et al., 2017; Nguyễn Thị Hà et al., 2022).

Bergen Facebook Addiction Scale (BFAS) (Andreassen et al., 2012): The BFAS comprised six items that measure students' Facebook addiction using a five-degree Likert scale ranging from 1 = *Very rarely* to 5 = *Very often*. Total scores ranged from 6 to 30. For the purpose of determining whether a person is at risk of addiction to Facebook, the cut-off value of BFAS is 20 (Ahmed & Hossain, 2018). In our study, the coefficient alpha of this scale was .89.

Irrational Procrastination Scale (IPS) (Steel, 2010): The IPS comprised nine items that measure students' academic procrastination using a five-degree Likert scale from 1 = *Complete disagreement* to 5 = *Complete agreement*. The range of academic procrastination scores was 9 to 45, with higher numbers suggesting more procrastination. In our study, the coefficient alpha of this scale was .77.

Academic Life Satisfaction Scale (ALSS) (Schmitt et al., 2008): A 5-item ALSS was used to measure students' academic satisfaction. The five-degree Likert scale (1 = *Complete disagreement* to 5 = *Complete agreement*) was conducted, and academic satisfaction scores ranged from 5 to 25, with higher scores representing more academic satisfaction. In our study, the coefficient alpha of this scale was .95.

Data analysis

We used IBM SPSS 20.0 and PROCESS macro 3.5 (for SPSS) to analyze the data. In SPSS software, descriptive statistics and correlation analysis were performed for the independent, dependent, and mediator variables. Afterward, we used Model 4 of PROCESS macro 3.5 to test all hypotheses. In the mediation model (model 4), Facebook addiction was entered as an independent variable, academic procrastination was entered as a mediator, and academic satisfaction was entered as the dependent variable. We adhered to Hayes's (2018) criteria for

mediation effects to test the hypothesis that academic procrastination mediates the link between Facebook addiction and academic satisfaction among university students. If the 95% CI (confidence intervals) of the upper and lower bounds do not contain zero, the indirect effect is significant.

Results

Correlation analysis

As shown in Table 1, Facebook addiction was positively associated with academic procrastination and academic satisfaction. There was a low-to-moderate correlation between all of the variables ($r = .09 - .40$). Academic procrastination was not significantly associated with academic satisfaction ($p > .05$). Table 1 also shows that there were no significant differences in Facebook addiction, academic procrastination, and academic satisfaction between student groups in terms of gender and age ($p > .05$).

Mediation analysis

As shown in Table 2, Facebook addiction significantly predicted academic procrastination ($\beta = .33$, $SE = .03$, $CI = [.28, .38]$). Academic procrastination significantly predicted academic satisfaction ($\beta = -.12$, $SE = .04$, $CI = [-.19, -.02]$). Facebook addiction significantly predicted academic satisfaction ($\beta = .12$, $SE = .04$, $CI = [.05, .19]$). The indirect effect of Facebook addiction on academic satisfaction through academic procrastination was significant ($\beta = -.03$, $SE = .02$, $CI = [-.07, -.002]$). The total effect of Facebook addiction on academic satisfaction was significant ($\beta = .08$, $SE = .03$, $CI = [.02, .15]$). These results showed that academic procrastination partially mediates the relationship between Facebook addiction and academic satisfaction.

Discussion

We conceptualized a mediation model to understand the association between Facebook addiction and academic satisfaction among university students in Vietnam. These findings broaden our understanding of the effects of Facebook addiction and academic procrastination on academic satisfaction.

Although previous studies found a negative relationship between Facebook addiction and life satisfaction (Chan,

Table 1

Pearson correlations, mean, and standard deviations among study variables

	<i>M</i>	<i>SD</i>	(1)	(2)	(3)	(4)	(5)
(1) Facebook addiction	16.27	5.21	–				
(2) Academic procrastination	25.46	4.25	.40**	–			
(3) Academic satisfaction	20.03	4.56	.09*	-.05	–		
(4) Age	18.8	0.8	-.04	.01	-.003	–	
(5) Gender	1.38	0.49	-.04	-.003	.02	-.01	–

Note. Gender: 1 = Male; 2 = Female.

* $p < .05$; ** $p < .01$.

2014; Kross et al., 2013), studies investigating the relationship between Facebook addiction and academic satisfaction are still rare. As part of life satisfaction, academic satisfaction is hypothesized to be negatively correlated with Facebook addiction in this study. Not consistent with Hypothesis 1, we found that Facebook addiction is positively related to academic satisfaction among Vietnamese university students. Our findings did not support findings from previous studies (Chan, 2014; Kross et al., 2013). We propose that the online learning context may be related to the positive relationship between Facebook addiction and academic satisfaction. Based on the context of online learning and the relationship between Facebook addiction and life satisfaction, we hypothesize that this relationship can be explained as follows: Many previous studies have shown that Facebook addiction is related to individuals' life satisfaction because it reduces anxiety and depression and enhances their social capital (Grieve et al., 2013; Valenzuela et al., 2009). Life satisfaction is a state of positive emotions and satisfaction with the things an individual experiences and has in life (Diener et al., 1985). It represents satisfaction with every aspect of life, from career, education, relationships, health, and personal interests and goals. Therefore, it can be said that academic satisfaction is an aspect of life satisfaction. In the context of the COVID-19 epidemic, Vietnam implemented social distancing. Universities in Vietnam conducted online teaching. In this context, Facebook has become an important mean to serve online learning activities. Therefore, the online learning context may cause students to become excessive users of Facebook. Using Facebook for learning purposes can help students better understand course content, improve academic performance (Ainin et al., 2015; Al-Dheleai & Tasir, 2017; Al-Rahmi & Zeki, 2017; Junco, 2012), and also create student learning satisfaction through the fulfillment of their academic aspirations or goals. Therefore, Facebook addiction can increase students' academic satisfaction in the context of online learning.

Consistent with Hypothesis 2, we found that there was a positive relationship between Facebook addiction and academic procrastination in a sample of Vietnamese university students. Our findings support findings from previous studies (Caratiquit & Caratiquit, 2023; Dule et al., 2023; Kurker &

Surucu, 2024; Taïpe et al., 2023). The authors have argued that Facebook addiction increases the degree of delay in performing academic tasks (Caratiquit & Caratiquit, 2023; Dule et al., 2023; Kurker & Surucu, 2024; Taïpe et al., 2023). Facebook is viewed as more entertaining and fascinating than rigorous academic duties. Students with low self-control, who cannot resist their impulsive behaviors and instant temptations, delay more often (Przepiorka et al., 2016). Excessive use of Facebook can distract individuals from completing planned learning tasks, increasing academic procrastination (Caratiquit & Caratiquit, 2023; Kurker & Surucu, 2024; Przepiorka et al., 2016; Taïpe et al., 2023).

In addition, a negative relationship between academic procrastination and academic satisfaction was also found in a sample of Vietnamese university students, suggesting the validity of Hypothesis 3. This finding is consistent with previous studies (Balkis, 2013; Bhat & Jan, 2023; Meier et al., 2016). According to previous studies, students who procrastinate on academic tasks may experience stress, frustration, or anger, which in turn reduces their level of academic satisfaction due to working under time pressure (Balkis, 2013; Bhat & Jan, 2023).

More importantly, consistent with Hypothesis 4, we found that the relationship between Facebook addiction and academic satisfaction is partially mediated by academic procrastination. This means that Facebook addiction not only directly affects academic satisfaction but also affects academic satisfaction through academic procrastination. Our finding implies that academic procrastination is a factor that explains the relationship between Facebook addiction and academic satisfaction. In this study, we explain the indirect relationship between Facebook addiction and academic satisfaction as follows: Students who are addicted to Facebook tend to procrastinate performing or completing academic tasks (Caratiquit & Caratiquit, 2023; Dule et al., 2023; Kurker & Surucu, 2024; Taïpe et al., 2023). When procrastinating on academic tasks, students may experience negative emotions during learning (such as academic stress, anger, and frustration), thereby reducing their level of academic satisfaction (Balkis, 2013; Bhat & Jan, 2023).

In the context of the lack of studies investigating the link between Facebook addiction and academic satisfaction, as well as the mechanism of the above relationship, this study

Table 2

Direct and indirect effects of Facebook addiction on Academic satisfaction

	β	SE	95% CI
Direct effect			
Facebook addiction → Academic procrastination	.33***	.03	[.28, .38]
Academic procrastination → Academic satisfaction	-.12*	.04	[-.19, -.02]
Facebook addiction → Academic satisfaction	.12**	.04	[.05, .19]
Indirect effect			
Facebook addiction → Academic procrastination → Academic satisfaction	-.03	.02	[-.07, -.002]
Total effect	.08*	.03	[.02, .15]

* $p < .05$; ** $p < .01$; *** $p < .001$.

found a direct and indirect link between Facebook addiction and academic satisfaction in a sample of university students in Vietnam. This study found for the first time a positive effect of Facebook addiction on academic satisfaction and that academic procrastination mediates the path from Facebook addiction to academic satisfaction. Therefore, the findings of this study have important theoretical and practical implications. Theoretically, this study provides a rationale for the relationship between Facebook addiction and academic satisfaction and the mechanism to explain this relationship. In practical terms, these findings can serve as a basis for developing interventions to improve academic satisfaction among university students. According to this study, interventions should focus on reducing academic procrastination.

The present study has several limitations, like all research, that should be considered in future studies. This study implies that the purpose of using Facebook (academic purposes or socialization purposes) and academic achievement may become explanatory factors for the results. Unfortunately, this study did not investigate the role of academic achievement and the purpose of using Facebook in the relationship between Facebook addiction and academic satisfaction. Therefore, future studies should investigate this topic to explain this relationship. Our sample only includes university students who use Facebook, so the results may need to be more generalizable to young adults not enrolled in college and older adults. Therefore, future studies need to extend this relationship to participants of different ages. The relationship between Facebook dependence, academic procrastination, and academic satisfaction was investigated in the context of students having to perform online learning activities. The nature of the relationships may change in other situations (like face-to-face learning). Therefore, future studies need to extend this relationship in the context of face-to-face learning. This study has the limitations of a cross-sectional study. Therefore, a longitudinal study design may be essential to knowing the exact direction of the relationships.

Conclusions

In a sample of 710 students at a university in Vietnam, this study found an association between Facebook addiction and academic satisfaction. It can be seen that not only does there exist a direct link between Facebook addiction and academic satisfaction, but there is also an indirect link between them through academic procrastination. Based on the findings of this study, we propose the following recommendations: First, schools need to raise students' awareness of issues related to Facebook addiction (signs of Facebook addiction and possible consequences) and academic procrastination. Second, schools need to have specific measures to prevent and reduce the rate of Facebook addiction (e.g., instructions for using Facebook safely and effectively) and academic procrastination among students (e.g., teaching students better time management skills, goal-setting skills, and clear study plans). Third, schools need to provide timely support to help students reduce the negative consequences caused by Facebook addiction.

Author contributions

Conceptualization: T.T.Q.H, T.T.H.P., T.H.N., T.H.N.
 Data curation: T.T.Q.H.
 Formal analysis: T.T.Q.H.
 Investigation: T.T.H.P., T.H.N., T.H.N.
 Methodology: T.T.Q.H.
 Supervision: T.T.Q.H.
 Visualization: T.T.H.P.
 Writing – original draft: T.T.Q.H, T.T.H.P.
 Writing – review & editing: T.T.H.P.

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Declaration of interests

The authors declare that there is no conflict of interest.

Data availability statement

Research data are not shared.

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