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Beyond emotional intelligence: Examining problematic social media use, procrastination, and the moderating role of self-control

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Abstract

Problematic social media use and academic procrastination have become widespread behavioral concerns among Generation Z students, particularly within highly digitalized learning environments. Emotional intelligence is generally regarded as a psychological resource that helps individuals manage unpleasant emotions. Yet, it remains uncertain whether it can curb maladaptive digital behavior amid fast-reward, addictive social media features. This research examines the moderating role of self-control among Indonesian Gen Z students, as well as the effect of emotional intelligence on problematic social media use and procrastinating behavior. Data were gathered from 211 university students through a 35-item Likert-scale questionnaire. Analysis relied on Partial Least Squares Structural Equation Modeling (PLS-SEM). Findings indicate that emotional intelligence considerably reduces procrastinating behavior, yet does not meaningfully curb problematic social media use. Importantly, self-control substantially moderates the link between emotional intelligence and both procrastination and problematic social media use. Here, our findings imply that without adequate self-control, emotional intelligence alone cannot prevent maladaptive digital behavior. The study therefore recommends that educational institutions pair emotional regulation programs with self-control training, digital discipline strategies, and screen-time management initiatives to reduce digital-behavior risks and boost student productivity.

Keywords: Emotional intelligence; self-control; problematic social media use; procrastination behavior

1. Introduction

Riding its demographic dividend, Indonesia relies heavily on the digital environment as Generation Z asserts its dominance. Having grown up amid widespread internet penetration, Gen Z displays behavioral patterns and lifestyles tightly interwoven with digital technology, marking them as genuine digital natives (Auliya and Winarsih, 2024). According to Nurohmat *et al.* (2024), social media platforms have evolved into central spaces for everyday interaction and communication. Yet this boundless, intense engagement with the virtual world carries notable psychological risks and challenges (Süral *et al.*, 2019). This heightened psychological vulnerability is closely tied to exceptionally high screen time. Kompas (2025) reports that Gen Z accounts for 48% of social media users and spends between 1 and 5 hours daily across platforms. Mediatics (2024) further notes that Indonesia ranks fourth worldwide in monthly active users on Instagram and TikTok, a pattern that substantially affects users' attention spans. For Generation Z students, social media exposure runs parallel to coursework, deadlines, and the demands of self-directed learning. Excessive social media use should therefore be understood not merely as a digital lifestyle trend but as a behavioral risk capable of undermining focus, destabilizing emotions, and delaying task completion (Rahimi *et al.*, 2023; Yuniar *et al.*, 2025).

Dual-system theory offers a comprehensive lens for understanding problematic social media use (PSMU) among Gen Z. Zahrai and Ballantine (2022) explain that problematic social media users experience an imbalance between impulsive and reflective cognitive systems, with behavior driven by subconscious impulses that override reasoned judgment. Nurohmat *et al.* (2024) note that Gen Z faces

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immediate consequences once these impulses go unchecked: diminished focus, declining mental health, and maladaptive habits that erode everyday productivity. Among these maladaptive behaviors, procrastination stands out as particularly damaging to Gen Z's academic and career development (Yuniar *et al.*, 2025). When the impulsive system dominates the reflective system, students tend to favor short-term digital gratification over long-term academic commitments. PSMU and procrastination are conceptually linked, as both involve struggles with impulse control, emotion regulation, and the maintenance of goal-directed action (Wypych *et al.*, 2019; Zahrai and Ballantine, 2022). Rather than a simple time management failure, procrastination reflects a deeper deficit in self-control (SC). Recent longitudinal research points to a strong reciprocal link between procrastination and emotional regulation, with social media often serving as an escape from task-induced anxiety, guilt, and boredom (Rahimi *et al.*, 2023).

This study's relevance stems from viewing procrastination as both a delayed academic behavior and an emotional coping strategy for avoiding task-related discomfort. Because social networking offers immediate emotional relief in digital learning settings, students find it easier to postpone academic responsibilities. Understanding procrastination among Generation Z, therefore, requires examining both emotional regulation and behavioral control processes (Rahimi *et al.*, 2023). Kircaburun *et al.* (2018) recognize emotional intelligence as an important predictor that buffers against various forms of problematic online behavior. Individuals with adequate emotional intelligence can identify and manage negative emotions, reducing social anxiety and low self-esteem without turning to social media for escape (Naidu *et al.*, 2023). Evidence shows that individuals with strong emotional intelligence display lower levels of academic procrastination in completing tasks (Chavez-Fernandez *et al.*, 2024; Salsabila and Indrawati, 2020). Higher emotional intelligence (EI) can also boost self-confidence, preventing individuals from abandoning or postponing their tasks (Guo *et al.*, 2019). Nevertheless, the literature reveals some notable inconsistencies. This inconsistency points to the need for a stronger behavioral execution mechanism to bridge the intention-action gap in preventing procrastination.

This discrepancy further raises the possibility that another psychological factor shapes EI's protective effect. While emotionally intelligent individuals may more readily recognize stress, boredom, worry, or excessive social media use, this awareness does not automatically translate into corrective action. Students may remain unable to resist notifications, digital rewards, and instant gratification if their self-control is insufficient, even when they understand the associated harms (Chavez-Fernandez *et al.*, 2024; Zahrai and Ballantine, 2022). Self-regulation theory frames self-control as a monitoring mechanism vital to achieving personal goals (Zhao *et al.*, 2021). Evidence confirms that strong self-control both directly reduces procrastination and serves as the primary safeguard against excessive social media use (Zahrai and Ballantine, 2022; Zhao *et al.*, 2021). Auliya and Winarsih (2024) and Mujibah and Winarsih (2024) further show that among Indonesian adolescents and students, emotional intelligence is positively associated with, and operates alongside, self-control to resist negative digital impulses.

Self-control can thus be understood as a boundary condition that determines whether EI translates into adaptive behavior, rather than functioning purely as an independent predictor. In other words, EI provides emotional awareness, while self-control supplies the executive capacity to turn that awareness into disciplined action. This distinction matters theoretically because it explains why emotionally competent adolescents with weak behavioral control can still display PSMU and procrastination (Kalyaniti *et al.*, 2025; Zahrai and Ballantine, 2022; Zhao *et al.*, 2021). The following queries will be addressed by this study:

a. Do procrastination and problematic social media use exert a meaningful negative effect on emotional intelligence?
b. Does self-control moderate the relationship between emotional intelligence, procrastination, and problematic social media use?

Existing studies have generally examined either the direct link between procrastination and emotional intelligence (EI) or the direct role of self-control in curbing excessive social media use. Zahrai and Ballantine (2022), for example, emphasized the role of self-control in excessive social media use from a dual-system perspective. In contrast, Chavez-Fernandez *et al.* (2024) focused on the EI–academic procrastination link. Little attention, however, has been paid to explaining when and under what conditions EI actually helps reduce PSMU and procrastination. Emotionally intelligent students may recognize and understand their emotional states. Yet, this awareness does not guarantee disciplined

behavior if they cannot manage digital impulses, ignore notifications, or stay focused on academic work. Examining self-control as a moderating mechanism is therefore essential to bridging emotional awareness and behavioral execution. Accordingly, this study aims to examine the moderating role of SC among Indonesian Generation Z students, as well as the effects of EI on PSMU and procrastinating behavior. The topic is important because procrastination and digital distraction have become major barriers to students' academic performance, while the psychological mechanisms underlying these behaviors remain poorly understood (Rahimi *et al.*, 2023; Yuniar *et al.*, 2025). This study is distinctive in framing SC as a boundary condition shaping the relationships among EI, PSMU, and procrastination. Theoretically, the paper extends the integration of self-regulation theory with dual-system theory. In practice, the findings may help academic institutions, educators, and counselors design interventions.

2. Literature review and hypothesis development

Dual-system theory

According to dual-system theory, human conduct is shaped by two competing cognitive processes working side by side: a reflective process built on deliberate reasoning and long-range planning, and an impulsive process that fires automatically whenever a chance for quick reward appears (Turel and Qahri-Saremi, 2016). The reflective process weighs consequences before a person acts, whereas the impulsive process reacts almost instantly to appealing cues with minimal mental effort (Turel and Qahri-Saremi, 2016). Digital platforms are built to trigger this impulsive process through tailored algorithms, repeated push notifications, and small, instant rewards, which condition users into habitual checking and increase their odds of overusing social media (Zahrai and Ballantine, 2022). Once the reflective process can no longer keep these urges in check, people become increasingly susceptible to harmful digital habits, including problematic social media use and behavior that interferes with academic duties (Zahrai and Ballantine, 2022).

Seen through this same lens, emotional intelligence serves as a psychological asset that reinforces the reflective process, giving people the means to recognize, make sense of, and manage their emotional responses to stress, boredom, isolation, or academic strain (Wong and Law, 2002). Because of this capacity, individuals are less likely to retreat to social media when unpleasant emotions surface, as they can pause to examine what is triggering them rather than react on impulse (Wong and Law, 2002).

Self-regulation theory

Self-regulation theory describes an ongoing loop in which people monitor, evaluate, and adjust their emotions, thoughts, and actions in service of goals that pay off later rather than now (Sirois and Pychyl, 2013). Carrying this out well means holding back impulsive urges, tolerating emotional discomfort, and staying the course toward a goal even when temptation is immediate (Zhao *et al.*, 2021). Because short-term comfort is often more appealing than completing a task, breakdowns in this regulatory loop in academic settings typically manifest as procrastination (Sirois and Pychyl, 2013). The same logic applies online: when self-control is weak, the instant gratification of browsing social media tends to win out over academic priorities that pay off only much later (Zhao *et al.*, 2021).

This theory also sheds light on why emotional intelligence relates to procrastination in the first place. As Sirois and Pychyl (2013) put it, procrastination is not just poor scheduling. It is a symptom of weak self-control that surfaces whenever someone puts off a task to feel better in the moment. Anxiety, boredom, frustration, or fear of failure can all lead a student to delay what needs to be done (Rahimi *et al.*, 2023). Wong and Law (2002), however, find that people with higher emotional intelligence handle these unpleasant feelings more skilfully, which keeps them engaged with their academic work and less likely to stall. That said, emotional intelligence by itself is not a guaranteed fix for procrastination or problematic social media use. Recognizing an emotion is not the same as acting on that recognition, especially when instant gratification is hard to turn down. This is where self-control steps in as the regulatory system that enables a person to hold back urges, delay gratification, and keep behavior aligned with what matters in the long run (Zhao *et al.*, 2021). Academically, self-control is what keeps a student's attention on task and away from the distractions that breed procrastination (Kalyaniti *et al.*, 2025). In digital settings, it serves as an internal brake, keeping social media use within reasonable bounds (Leijse *et al.*, 2023).

Emotional intelligence

Wong and Law (2002) define emotional intelligence as the capacity to track, interpret, manage, and adjust one's own feelings and those of others to steer one's thinking and conduct. This capacity is generally broken down into four components: awareness of one's own emotions, awareness of others' emotions, the ability to put emotion to use, and the ability to regulate it (Wong and Law, 2002). For a generation raised inside the digital world, this competency works almost like a filter, helping Gen Z process intense emotional input from online spaces, cyberbullying, or exposure to disturbing content, for instance, without being overwhelmed by stress or anxiety (Auliya and Winarsih, 2024).

Problematic social media use

Problematic social media use refers to a state in which a person's control over their social media habits slips, leading to real disruption in daily life and other negative consequences (Leijse *et al.*, 2023). Its hallmarks include being mentally preoccupied with social media, needing more of it to feel satisfied, feeling uneasy when it is out of reach, and running into conflict with people around them because of it (Yuniar *et al.*, 2025). Among Gen Z specifically, it often becomes a way of avoiding reality when academic or social pressure feels too hard to face head-on.

Procrastination

Procrastination is a breakdown in self-regulation: a person puts off a task that matters, fully aware of the downsides that delay will bring, yet does so anyway, deliberately and against their own better judgment (Wypych *et al.*, 2019). Looking at it neurocognitively, this pattern is linked to reduced brain activity in the regions responsible for error detection and anticipation of punishment, essentially reflecting an inability to manage negative feelings such as boredom or task-related anxiety (Wypych *et al.*, 2019). It also tends to overlap heavily with technology use, since social media offers a convenient, instant escape from the discomfort that unfinished tasks create (Yuniar *et al.*, 2025).

Self-control

Self-control is the mental and executive capability that enables someone to rein in impulsive urges, override automatic reactions, and delay immediate gratification in favor of goals that matter more in the long term (Kalyaniti *et al.*, 2025). This aligns with the strength model of self-control, which frames it as the ability to overrule dominant impulses so that behavior remains consistent with longer-term aims (Baumeister *et al.*, 2007). Online, this shows up as an internal check that keeps a person's social media exposure within limits, even as digital algorithms work hard to pull attention back in (Leijse *et al.*, 2023). Studies further tie stronger self-control to greater follow-through on responsibilities and a lower tendency to procrastinate (Kalyaniti *et al.*, 2025).

Hypothesis development

Individuals with high EI are better positioned to identify, evaluate, and regulate negative emotions such as anxiety, stress, or loneliness. Those with lower EI, in contrast, are more inclined to pursue escapist or unhealthy coping strategies, including retreating into the virtual world for validation and false comfort (Auliya and Winarsih, 2024). Prior studies also show that emotional intelligence serves as a protective factor against problematic online behaviors by reducing reliance on digital platforms for emotion regulation (Kircaburun *et al.*, 2018). Evidence suggests that excessive social media engagement often stems from low self-esteem and difficulty regulating emotions when confronting real-world challenges (Yuniar *et al.*, 2025). Managing emotions internally through EI is therefore expected to reduce the impulsive urge to remain constantly connected to social media.
H1: Emotional intelligence is negatively associated with problematic social media use.

Conceptually, procrastination is more than a time-management problem. It is a concrete manifestation of failed emotional regulation when individuals face tasks that trigger anxiety or boredom (Wypych *et al.*, 2019). Individuals with high emotional intelligence have been shown to self-motivate and suppress negative emotions more effectively, allowing them to stay focused on completing tasks (Wong and Law, 2002). Recent empirical findings similarly confirm that students with higher emotional intelligence exhibit lower academic procrastination, owing to their greater capacity to regulate negative emotions and sustain motivation to learn (Chavez-Fernandez *et al.*, 2024). Because these individuals

can convert negative emotions into motivational drivers, they feel less need to delay work or seek distractions. Rising EI is therefore expected to reduce procrastination levels directly.
H2: Emotional intelligence is negatively associated with procrastination behavior.

Self-control functions as a monitoring system that regulates cognitive impulses (Kalyaniti *et al.*, 2025; Leijse *et al.*, 2023). Self-control is expected to strengthen the negative relationship between emotional intelligence and problematic social media use. This aligns with the dual-system theory view that self-control enables individuals to inhibit impulsive responses to social media and reinforce reflective decision-making in digital settings (Zahrai and Ballantine, 2022). When individuals combine high emotional intelligence with strong self-control, they not only recognize excessive social media use but also possess the behavioral restraint needed to disengage from it (Auliya and Winarsih, 2024). Put differently, self-control reinforces the inhibitory power of emotional intelligence in preventing problematic social media use.

Emotional intelligence helps individuals recognize that delaying tasks carries negative consequences, yet without self-control, they often still succumb to these impulses. Research confirms that self-control plays a decisive role in reducing procrastination, as individuals with strong self-control can maintain focus on tasks and resist distractions (Kalyaniti *et al.*, 2025). Further studies indicate that self-control serves as a key self-regulatory mechanism, helping individuals pursue long-term goals while resisting short-term temptations, thereby reducing procrastination (Zhao *et al.*, 2021). Adequate self-control is therefore expected to strengthen the effectiveness of emotional intelligence in curbing procrastination behavior among Gen Z.
H3: Self-control moderates the relationship between emotional intelligence and problematic social media use.
H4: Self-control moderates the relationship between emotional intelligence and procrastination behavior.

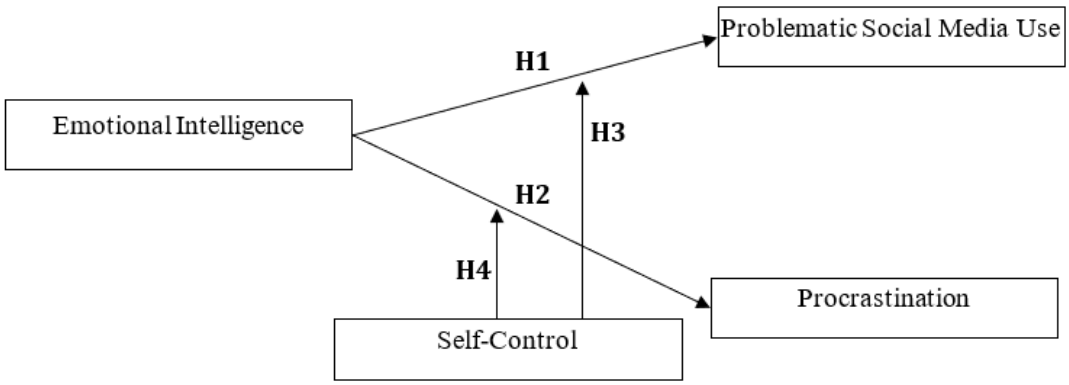


Figure 1. Theoretical framework

3. Method

Design and data collection

The study population consisted of Generation Z students enrolled at Indonesian universities, selected as a digitally fluent cohort whose extensive social media engagement makes them highly relevant to research on problematic social media use and procrastination. Focusing on this group allows a more precise examination of the relationship between students' digital habits and academic needs. Respondents were collected via purposive sampling, a non-probability technique, based on the following inclusion criteria: (1) born between 1997 and 2012, (2) actively using at least two social media platforms (Facebook, YouTube, Instagram, TikTok, or X), and (3) using social media for at least three hours daily. Only those who met the inclusion criteria received access to a standardized online questionnaire, administered between January and April 2026. Research ethics were upheld throughout by ensuring transparent sample selection, obtaining informed consent, and protecting respondents' personal information. To mitigate potential bias, the questionnaire employed clear wording, standardized response options, and a fully voluntary participation process.

Measurements

This study measured four construct variables using 35 statement items, each rated on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). EI was measured using nine statement items adapted from the Wong and Law Emotional Intelligence Scale (WLEIS) (Wong and Law, 2002), spanning four dimensions: self-emotion appraisal (SEA, three items), others' emotion appraisal (OEA, two items), use of emotion (UOE, two items), and regulation of emotion (ROE, two items). These dimensions suit the study, given that EI serves as an emotional regulation tool that helps students identify, understand, and manage emotional triggers linked to social media use and academic pressure. Problematic social media use (PSMU) was measured using 11 items adapted from and selected based on the PSMU operationalization documented by Yuniar *et al.* (2025). The items capture key behavioral characteristics of problematic social media use, including compulsive checking, preoccupation, unsuccessful attempts to reduce use, discomfort when access is restricted, social interference, and FoMO-related experiences. The original operationalization drew on previous literature on problematic social media use and FoMO, including Mazlum and Atalay (2022) and Przybylski *et al.* (2013). Key behavioral signs of problematic social usage patterns, such as compulsive checking, preoccupation with social media, difficulty reducing use, distress upon restricted access, and social friction from overuse, are captured within the chosen items. Procrastination was measured using five modified items drawn from the procrastination scale developed by Alblwi *et al.* (2021). These items were considered suitable because they reflect a tendency to postpone demanding tasks, avoid unpleasant obligations, and favor social media over academic or productive activities. Self-control, serving as the moderator variable, was measured using 10 selected and adapted items based on the self-control scale developed by Tangney *et al.* (2004). These items operationalized self-control as the capacity to restrain urges, maintain discipline, follow schedules, stay focused, and avoid actions that are detrimental to long-term academic goals. For more details, please see Table A1.

Data analysis

This study analyzed the collected data using SmartPLS 3 through the partial least squares structural equation modeling (PLS-SEM) approach. Analysis proceeded in two stages. First, indicator reliability, internal consistency reliability, convergent validity, and discriminant validity were assessed for the measurement model. Second, collinearity, path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and bootstrapped hypothesis testing were used to evaluate the structural model. The moderating role of self-control in the relationships between emotional intelligence and both problematic social media use and procrastination was examined using the interaction-term approach.

Profile respondents

The demographic profile of 211 respondents shows that male participants accounted for 42.7% (90 respondents), while female participants made up 57.3% (121 respondents). Regarding educational background, most respondents (57.3%) had completed senior high school or its equivalent, followed by bachelor's degree holders (40.8%), with smaller shares having completed three-year (0.5%) or four-year (0.9%) diploma programs. Regarding digital habits, nearly all respondents (99.5%) reported spending more than 3 hours daily on social media, reflecting substantial engagement with digital platforms. This profile confirms that the sample is well-suited to the study's aims, comprising Generation Z students with considerable social media exposure who are appropriate for examining relationships among emotional intelligence, problematic social media use, procrastination, and self-control.

4. Results and discussion

Measurement model assessments

Convergent and discriminant validity were examined to confirm that the indicators appropriately reflected their corresponding latent variables, with convergent validity assessed through each indicator's outer loading. Hair *et al.* (2019) note that although loadings above 0.70 are preferable, values of at least 0.50 remain acceptable. As shown in Table A1, all indicators exceeded this minimum threshold, and most outer loadings surpassed 0.70, confirming adequate indicator reliability. Internal consistency was assessed via composite reliability (CR), with Hair *et al.* (2019) recommending a cutoff

of 0.70. In this study, CR values for all constructs exceeded the threshold, ranging from 0.913 to 0.919. Cronbach's alpha (CA) further confirmed reliability, with values well above the 0.70 benchmark, ranging from 0.884 to 0.904. Convergent validity was finally assessed via AVE, which Hair et al. (2020) describe as the average squared loading of a construct's indicators, with a value of 0.50 indicating that the construct explains half of the item variance. In this study, AVE values ranged from 0.509 to 0.685, all exceeding the recommended threshold, confirming, that convergent validity and reliability were fully established.

Following confirmation of convergent validity, the discriminant validity of the measurement model was examined. Results indicated that each variable's AVE square root (diagonal value) exceeded its correlation coefficients with other constructs. This Fornell-Larcker outcome confirms discriminant validity, as each construct explains more variance in its own indicators than in the indicators of other constructs in the model (Hair *et al.*, 2019). Detailed discriminant validity statistics for this study appear in Table 1.

Table 1. Fornell-Larcker criteria (discriminant validity)

	EI	PSMU	Procrastination	Self-control
Emotional intelligence	0.748			
Problematic social media use	0.360	0.714		
Procrastination	0.076	0.694	0.828	
Self-control	0.602	0.671	0.500	0.715

Structural model assessments

The structural model's explanatory and predictive capacity was assessed through the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). R^2 values capture the proportion of variance explained by the exogenous constructs, while f^2 values reflect each predictor's contribution to the endogenous constructs. Predictive relevance (Q^2), derived through the blindfolding procedure, further indicates the model's predictive capability (Hair *et al.*, 2019).

Table 2. Effect size estimation

Relationship	f^2	Endogenous construct	R^2	Adjusted R^2
Emotional intelligence → Problematic social media use	0.005	Problematic social media use	0.488	0.481
Emotional intelligence → procrastination	0.123	Procrastination behavior	0.365	0.355
Self-control → Problematic social media use	0.700			
Self-control → Procrastination	0.565			
Moderating effect 1 → Problematic social media use	0.069			
Moderating effect 2 → Procrastination	0.056			

The coefficient of determination (R^2) indicates how well the structural model explains the endogenous constructs. As shown in Table 2, an R^2 of 0.488 for problematic social media use indicates that emotional intelligence, self-control, and their interaction jointly explain 48.8% of its variance. In contrast, an R^2 of 0.365 for procrastinating behavior indicates that the model explains 36.5% of the variance in procrastinating behavior. Hair et al. (2019) describe such values as reflecting moderate explanatory power, indicating both endogenous constructs are adequately explained by the model. The effect size (f^2) was further examined to gauge each exogenous construct's contribution to the endogenous variables. As Table 2 shows, emotional intelligence had only a small effect on procrastinating behavior ($f^2 = 0.123$), whereas its direct effect on problematic social media use was insignificant ($f^2 = 0.005$). Both problematic social media use ($f^2 = 0.069$) and procrastination behavior ($f^2 = 0.056$) showed small effect sizes for the interaction between emotional intelligence and self-control, indicating that the moderating effects were statistically meaningful but relatively modest in magnitude. Conversely, self-control had a significant impact on procrastinating behavior ($f^2 = 0.565$)

and problematic social media use ($f^2 = 0.700$), indicating that it is the strongest predictor in the suggested structural model.

Table 3. Predictive relevance (Q^2)

Construct	SSO	SSE	Q^2 (=1 − SSE/SSO)
Problematic social media use	2321.000	1785.041	0.231
Procrastination behavior	1055.000	804.574	0.237

Note: SSO = Sum of squares observation, SSE = Sum of squares error.

The Stone-Geisser criterion (Q^2), obtained via blindfolding, was used to gauge the model's predictive relevance. As Table 3 shows, Q^2 values for procrastinating behavior (0.237) and problematic social media use (0.231) both exceed zero, indicating adequate predictive relevance according to Hair *et al.* (2019). Thus, confirming the model's sufficient predictive power for both endogenous constructs. Following Hair *et al.* (2019), hypothesis testing examined the significance of direct and moderating effects using path coefficients (β), t-statistics, and p-values. Multicollinearity, assessed in advance using the variance inflation factor (VIF), was not a concern, as all values were below the 3.3 threshold. Table 4 presents the hypothesis-testing results.

Table 4. Result of hypothesis testing

	Coefficient	t-statistics	P-value	Decision
Emotional intelligence → Problematic social media use	-0.065	0.844	0.399	Rejected
Emotional intelligence → Procrastination	-0.350	3.980	0.000	Accepted
Moderating effect 1 → Problematic social media use	0.110	2.624	0.009	Accepted
Moderating effect 2 → Procrastination	0.109	2.589	0.010	Accepted

Beyond statistical significance, the coefficients' magnitude and direction carry substantive meaning. Emotional intelligence alone has limited practical influence in reducing problematic social media use, as reflected in a negative yet statistically negligible coefficient for EI on PSMU ($\beta = -0.065$). By contrast, EI's coefficient on procrastination behavior was larger and negative ($\beta = -0.350$), indicating a meaningful link between higher EI and reduced procrastination. A one-standard-deviation increase in EI corresponds to a 0.350-standard-deviation decrease in procrastination, holding other variables constant. Self-control's moderating effects on PSMU and procrastination behavior were also statistically significant ($\beta = 0.110$ and $\beta = 0.109$, respectively). Although modest, these interaction effects demonstrate that self-control meaningfully shapes the strength of the EI–maladaptive behaviour relationship.

Hypothesis testing revealed that EI's negative effect on PSMU was not statistically significant ($\beta = -0.065$, t-statistic = 0.844, $p > 0.05$), leading to the rejection of H1. Conversely, H2 was supported, as EI showed a significant negative effect on procrastination behavior ($\beta = -0.350$, t-statistic = 3.980, $p < 0.05$). A significant interaction between emotional intelligence and self-control was found for problematic social media use ($\beta = 0.110$, $t = 2.526$, $p = 0.012$), indicating that self-control significantly moderates the relationship between emotional intelligence and problematic social media use. Thus, H3 was supported. Similarly, the interaction between emotional intelligence and self-control significantly affected procrastination behavior ($\beta = 0.109$, $t = 2.630$, $p = 0.009$), indicating that self-control significantly moderates the relationship between emotional intelligence and procrastination behavior. Thus, H4 was supported. Overall, H1 was rejected, while H2, H3, and H4 were accepted.

Discussion

These findings should be viewed not merely as statistical associations but as evidence of how Generation Z students' digital lives operate through emotional and behavioral regulation (Zhao *et al.*, 2021). Social media directly competes with Indonesian Gen Z students' academic time, focus, and self-directed learning (Yuniar *et al.*, 2025). Practically, this reflects how students allocate limited personal

resources, particularly time and attention, between academic responsibilities and short-term digital gratification. The resulting opportunity costs include delayed assignments, reduced productivity, and diminished task engagement when students overinvest these resources in social media (Rahimi *et al.*, 2023). Students, therefore, navigate the trade-off between short-term digital gratification and long-term academic success through a behavioral mechanism reflected in the interplay of EI, PSMU, procrastination, and self-control (Zahrai and Ballantine, 2022).

The rejection of the first hypothesis indicates that emotional intelligence does not significantly affect Generation Z students' problematic social media use, suggesting that emotional awareness alone does not necessarily curb excessive use. Dual-system theory explains that problematic technology use arises when the reflective system is overridden by the impulsive system (Turel and Qahri-Saremi, 2016). Przybylski *et al.* (2013) note that social media notifications, algorithmic recommendations, social comparison, and FOMO all generate quick gratification that encourages frequent checking. Because digital platforms continually trigger impulsive reactions, even highly emotionally intelligent individuals may struggle to control their social media use, suggesting that curbing PSMU among Indonesian Generation Z students demands more than emotional intelligence alone (Zahrai and Ballantine, 2022). Although the direct relationship between emotional intelligence and problematic social media use was not significant, the significant interaction effect indicates that the relationship between the two constructs varies depending on the level of self-control. This finding highlights that emotional awareness alone may not be sufficient to shape digital behavior, as behavioral regulation also plays an important role in determining how emotional capabilities relate to problematic social media use. Self-control enables students to regulate impulses, resist digital distractions, and maintain behavior aligned with long-term goals (Zhao *et al.*, 2021). Thus, self-control is an important regulatory factor in the relationship between emotional intelligence and problematic social media use.

On the other hand, emotional intelligence significantly reduces procrastinating behavior, reinforcing the view that procrastination reflects emotion-regulation failure rather than mere poor time management (Sirois and Pychyl, 2013). Negative emotions such as boredom, anxiety, irritation, and fear of failure can drive students to avoid demanding academic tasks (Rahimi *et al.*, 2023). Because emotionally intelligent students are more skilled at recognizing, analyzing, and managing such feelings, they are less prone to postponing academic obligations and more likely to convert emotional distress into task engagement rather than avoidance. The fourth hypothesis further shows that self-control significantly moderates the relationship between emotional intelligence and procrastination behaviour. This finding indicates that the association between emotional intelligence and procrastination varies across different levels of self-control. Students with stronger self-control tend to remain focused, follow schedules, avoid distractions, and stay committed to completing assignments (Kalyaniti *et al.*, 2025). Accordingly, self-control is an important behavioral regulatory factor in the relationship between emotional intelligence and procrastination. This finding reinforces the view that reducing procrastination involves not only emotional regulation but also the capacity to control impulses and sustain goal-directed behavior (Wypych *et al.*, 2019).

Taken together, these results support the integration of self-regulation theory and dual-system theory. Dual-system theory clarifies why even emotionally competent students may still struggle with social media use, given that impulsive digital rewards can override reflective reasoning (Turel and Qahri-Saremi, 2016). Self-regulation theory, meanwhile, underscores that self-control is essential for converting emotional understanding into disciplined behaviour (Zhao *et al.*, 2021). In practice, procrastination and social media overuse represent inefficient ways for students to allocate their limited time and attention. Self-control channels students' behavioral energy toward productive academic pursuits, while emotional intelligence supports their understanding and management of emotional states. Interventions for Indonesian Generation Z students should therefore go beyond building emotional awareness to cultivate self-control habits such as structured study sessions, screen-time limits, notification management, and digital detox practices.

5. Conclusion

This study examined whether self-control moderates the relationships between emotional intelligence and problematic social media use as well as procrastination among Indonesian Generation Z students. The results show that emotional intelligence significantly reduces procrastination, whereas its negative relationship with problematic social media use is not statistically significant. Self-control

significantly moderates the relationships between emotional intelligence and both problematic social media use and procrastination behavior. These findings highlight the importance of considering emotional and behavioral regulation together when explaining students' digital and academic behaviors. By integrating dual-system and self-regulation theories, this study provides a more comprehensive perspective on how emotional intelligence and self-control jointly relate to problematic social media use and procrastination in higher-education settings.

These results offer a richer theoretical account of how emotional and behavioral self-regulation jointly shape students' digital and academic behaviors, positioning self-control as a critical boundary condition that converts emotional awareness into disciplined action. In addition, our findings offer practical guidance for universities, educators, counselors, and student support services seeking to design interventions to address problematic social media use and academic procrastination among Generation Z students. Programs centered solely on boosting emotional intelligence may fall short without complementary self-control strategies. Educational institutions should therefore pair emotional regulation training with practical self-control interventions—such as screen-time management, digital discipline programs, structured study schedules, distraction control, and digital detox techniques to help students manage digital distractions while sustaining academic engagement and productivity.

Limitations and future research directions

The cross-sectional, self-report design means changes in digital behavior over time could not be captured. In addition, self-control was tested only as a moderator. Other possible mechanisms, such as mediation pathways or more layered interactions among psychological variables, were left unexplored, even though the moderation framing does highlight self-control's role as a boundary condition. Future research should extend this study to more diverse populations across different nations or cultural contexts to determine whether the relationships among emotional intelligence, self-control, problematic social media use, and procrastination behavior hold more broadly. Comparative studies using multi-group analysis (MGA) are also recommended to explore variations across countries, genders, educational attainment, or other demographic groups. Additionally, future work could examine self-control as both a moderating and a mediating variable, or incorporate other psychological constructs, such as academic stress, self-efficacy, digital mindfulness, digital resilience, or fear of missing out (FOMO), to better understand the mechanisms underlying maladaptive digital behavior among Generation Z.

Note

1. Please see this on the Online Appendix.

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