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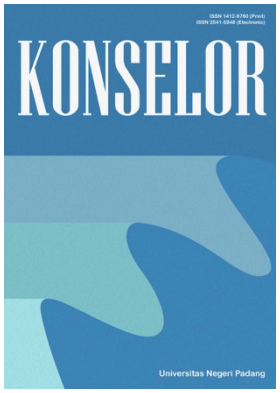

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Self-Control and Digital Well-Being Among University Students: A Mediation Analysis of Online Mindfulness within a Self-Regulation Framework

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Self-Control and Digital Well-Being Among University Students: A Mediation Analysis of Online Mindfulness within a Self-Regulation Framework

M Muslikah[1]♦, Yuliati Hotifah[2], M Mulawarman[1], Indrajati Kunwijaya[1], Ashari Mahfud[1], Sigit Hariyadi[1], Susantika Dwy[1], & Alvia Ainil Latihifah[1]

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Abstract: Recent frameworks in digital flourishing and self-regulation highlight that intrapersonal regulatory abilities are vital in shaping individuals' well-being in online environments; however, empirical evidence linking these mechanisms among university students remains scarce. To address this gap, this study investigates the relationship between self-control and digital well-being and examines online mindfulness as a mediating psychological factor. A total of 300 undergraduate students (122 males and 178 females; aged 18–23 years) completed validated measures of self-control, online mindfulness (adapted from MAAS), and digital well-being. A mediation analysis using Hayes' PROCESS macro with 5,000 bootstrap samples was conducted. Self-control significantly predicted digital well-being directly (β = .348, SE = 0.053, t = 6.61, p < .001; 95% CI [.244, .452]) and indirectly through online mindfulness (β = .178; 95% CI [.118, .246]), indicating partial mediation. Self-control also strongly predicted online mindfulness (β = .421, SE = .053, t = 7.89, p < .001), and online mindfulness significantly predicted digital well-being after controlling for self-control (β = .422, SE = .043, t = 9.81, p < .001). Gender-specific analyses showed consistent mediation patterns for males (indirect effect = 0.167; 95% CI [.094, .248]) and females (indirect effect = .184; 95% CI [.122, .259]). These findings enhance theoretical understanding by clarifying how self-regulatory capacity boosts digital well-being through mindful online awareness. Practically, the results provide an empirical foundation for designing digital-based guidance and counselling interventions that encourage online mindfulness to promote healthier technology engagement among students.

Key Words: Self-control; Online mindfulness; Digital well-being; Students; Mediation

INTRODUCTION

The rapid advancement of digital technology has brought about fundamental changes to how students learn, interact, and meet their daily needs. The Indonesian Internet Service Providers Association (APJII, 2023) report states that internet penetration rates among those aged 16–24 years surpass 90%. This widespread access allows students to gather information, develop skills, and build social networks without geographical or temporal limitations. Similarly, the widespread integration of digital technology into everyday life has reshaped how young adults learn, communicate, and organise personal routines, making online engagement increasingly essential to academic aadversal lives. However, beyond these opportunities, various studies reveal negative effects of excessive or uncontrolled technology use, such as increased academic stress, procrastination, sleep disturbances,

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unhealthy social comparisons, and diminished psychological well-being (Strom, 2021; Dienlin & Johannes, 2020; Selwyn, 2016), as well as attentional fragmentation, emotional distress, and declines in sleep and academic performance (McCarthy & Busch, 2024; Zambianchi, 2023). These issues are especially relevant in Indonesia, one of the world's most active digital ecosystems, where university students experience high levels of screen exposure and are more vulnerable to digital risks. This phenomenon highlights the importance of viewing students' digital technology use not only in terms of intensity but also from the perspective of their digital well-being. Digital well-being is a relatively new concept that concentrates on individuals' well-being in their interactions with technology, although it still lacks a consistent definition (Büchi, 2021; Lyngs, 2019). One theoretical framework to understand it is the Dynamic System Model of Digital Well-Being introduced by Vanden Abeele (2021), who stresses that digital technology use is ambivalent, with its benefits inseparable from its negative consequences. Based on this view, digital well-being is defined as an effort to maintain a dynamic balance between the positive and negative effects of digital connectivity. Vanden Abeele (2022) further emphasises that digital well-being should be seen as a balanced, healthy, and adaptive relationship with digital media that supports rather than hampers overall functioning. Therefore, digital well-being is a subjective experiential condition that is not static but can change over time and according to situational demands faced by individuals.

Despite its increasing importance, empirical research on psychological factors supporting students' digital well-being remains scarce. Most studies focus on negative indicators such as internet addiction or problematic smartphone use (Horwood & Anglim, 2019; Mascia, Agus, & Penna, 2020; Tangmunkongvorakul et al., 2019; Muslikah, Mulawarman, & Andriyani, 2018) and seldom explore the psychological mechanisms that enable students to achieve healthy digital experiences (Mulawarman, Hudab, Suharso & Muslikah, 2020). Within this context, researchers increasingly emphasise the significance of personal regulatory capacities. Self-control—the ability to regulate impulses, delay gratification, inhibit distractions, and maintain goal-oriented behaviour—has been identified as a key factor in adaptive media use and protection against problematic digital engagement (Tangney, Baumeister, & Boone, 2004; Hofmann et al., 2014; Ronen et al., 2016; Mei et al., 2016; Błachnio et al., 2023). In the realm of technology use, students with high self-control tend to be better at limiting screen time, choosing relevant content, and avoiding impulsive behaviours that may impair academic or psychological functioning (Berger, Wyss & Knoch, 2018; Troll, Friese & Loschelder, 2021; Ding et al., 2022; Isrofin & Munawaroh, 2024). Nonetheless, theoretical models—such as the dual-systems model and attention-control frameworks—suggest that self-control influences behaviour not only through restraint but also via processes that enhance awareness and deliberate responses in stimulus-rich digital environments.

One emerging psychological mechanism that may connect self-control and digital well-being is online mindfulness. Based on humanistic psychology, mindfulness is described as "full awareness of present experiences that is open and non-judgmental" (Brown & Ryan, 2003). In digital settings, online mindfulness refers to individuals' capacity to be fully present and conscious of their behaviours, thoughts, and feelings during online activities—for instance, paying attention to usage duration, emotional responses to content, and decisions to access specific applications (Yosep, Suryani, Mediani, Mardhiyah & Ibrahim, 2024). This concept aligns with what recent scholars call online-contextual mindfulness, which captures mindful awareness during digital interactions, enabling individuals to notice internal states, manage attention shifts, and observe digital stimuli without automatic reactivity (Hao et al., 2025; Singer, 2025). People who are mindful when engaging with technology tend to regulate impulses better, reduce automatic behaviours, and make healthier digital choices. Previous research indicates that mindfulness promotes better self-regulation and psychological well-being (Howell & Buro, 2011; Van Velthoven et al., 2018; Thatcher et al., 2018). However, empirical studies that integrate self-control, online mindfulness, and digital well-being within a unified mediation framework remain limited, especially in non-Western cultural contexts where unique academic demands, social norms, and developmental traits of emerging adulthood influence digital behaviour.

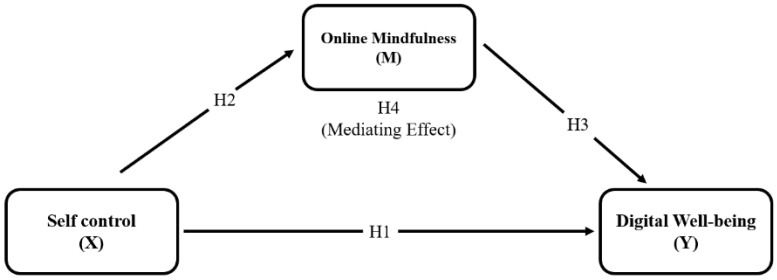

Figure 1. Conceptual Model

The current study aims to address these gaps by measuring levels of self-control, online mindfulness, and digital well-being among Indonesian students, while testing a proposed mediation model. Specifically, this research tests four key hypotheses: (H_1) self-control positively influences digital well-being, (H_2) self-control positively influences online mindfulness, (H_3) online mindfulness positively influences digital well-being, and (H_4) online mindfulness mediates the relationship between self-control and digital well-being. By focusing on positive outcomes rather than just problematic digital use, this research broadens the literature on digital well-being, clarifies how mindfulness is understood in digital contexts, and offers evidence on psychological mechanisms that transform personal self-regulatory abilities into healthier digital behaviours. The results are expected to lay a strong foundation for creating digital guidance and counselling programmes that combine self-control development with online mindfulness training to enhance students' digital well-being.

METHOD

Participants

A total of 300 Indonesian undergraduate students (122 males and 178 females; age range = 18–23 years, $M = 20.21$, $SD = 1.52$) from a state university participated in this study. This population was chosen because emerging adults in higher education are among the groups most actively engaged with digital technologies for academic and social purposes, making them particularly relevant for examining digital well-being and self-regulation processes. The sample reflects the demographic distribution of the university community, with most students coming from middle socioeconomic backgrounds. Although ethnicity and socioeconomic status were recorded to describe the sample's diversity, these variables were not included as analytical factors because they were not theoretically linked to the proposed mediation model.

Table 1. Distribution of Participant Background (N = 300)

Characteristics	Category	Number (n)	Percentage (%)
Gender	Male	122	40.7
	Female	178	59.3
Age	18-19 years	85	28.3
	20-21 years	143	47.7
	22-23 years	72	24.0
Ethnicity	Javanese	218	72.5
	Sundanese	34	11.3

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Characteristics	Category	Number (n)	Percentage (%)
	Batak	26	8.7
	Madurese and others	22	7.5
Socioeconomic Status	Low	56	18.7
	Middle	189	63.0
	High	55	18.3

The sample primarily comprised emerging adults who are at a crucial stage of developing autonomy and engaging intensively with digital media. This demographic detail reinforces the study's emphasis on self-control and online mindfulness as key psychological mechanisms of digital well-being. Ethnicity and socioeconomic background are included only for descriptive purposes; they are not central to the analytical framework.

Purposive sampling was employed to ensure participants exhibited characteristics relevant to the study's objective. The inclusion criteria consisted of: (1) being an active undergraduate student enrolled during data collection, (2) using digital devices for at least four hours daily based on self-report, and (3) voluntarily agreeing to participate. Recruitment was conducted online through class WhatsApp groups, faculty Telegram channels, and social media platforms. Prior to accessing the questionnaire, participants received an information sheet outlining the study's purpose, data confidentiality, and their rights, followed by an electronic informed consent form. A total of 350 students were invited; 300 completed the questionnaire (response rate = 85.7%). The online approach enabled wide reach but may have introduced self-selection bias, as participation depended on students' willingness and access to online platforms. No monetary incentives were offered; however, participants received brief, personalised feedback regarding their digital well-being profile upon completing the survey.

Instrumentations

The research instruments included three psychological scales that have been extensively used in previous studies. The Self-Control Scale was developed by Tangney, Baumeister, and Boone (2004) to assess individuals' ability to regulate thoughts, emotions, and behaviours. Items measure this ability, rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The scale showed excellent internal reliability in this study ($\alpha = .87$), consistent with earlier research reporting reliability coefficients above .80. Its application is justified by its well-established factor structure and its relevance to capturing behavioural regulatory mechanisms in digital environments.

To measure mindful awareness in the online context, this study used the Mindful Attention Awareness Scale (MAAS) compiled by Brown and Ryan (2003), which was then adapted to the digital context as the Online Mindfulness Scale. The adaptation involved a forward-backwards translation process with limited trials to fit Indonesian culture and language. This process included: forward–backward translation by two bilingual experts; cultural-linguistic adjustments for digital contexts; and modification of 6 items from the original 15 to reflect online attentional processes (e.g., "I find myself doing things without paying attention" → "I find myself scrolling without paying attention"). A pilot test with 40 students confirmed clarity and face validity. Construct validity was examined using Confirmatory Factor Analysis (CFA), supporting a unidimensional structure: CFI = 0.94; TLI = 0.92; RMSEA = 0.056. Internal consistency in the current sample was satisfactory ($\alpha = 0.84$). These results indicate that the adapted version appropriately measures mindful awareness in digital contexts among Indonesian university students. Digital well-being was assessed using the 18-item version of the Digital Well-Being Scale (Vanden Abeele, 2021), which conceptualises well-being across three subdomains: Subjective digital well-being (6 items); Digital self-regulation (6 items); Quality of digital social interaction (6 items). Sample items include: "I feel balanced in my technology use", "My online activities support healthy social connections". Reliability coefficients in the present study indicated good internal consistency: Subjective well-being ($\alpha = .85$), Digital self-regulation ($\alpha = .83$), Social interaction

quality (α = .82), and Total scale α = .88. This instrument was chosen because of its comprehensive theoretical foundation and relevance for assessing multiple facets of digital well-being in young adult populations.

Procedures

This research commenced with a socialisation phase for participants via online media. After providing informed consent, participants were instructed to complete questionnaires that included demographic information, a self-control scale, online mindfulness, and digital well-being. The completion time was between 20 and 25 minutes. The independent variable in this study was self-control, the mediating variable was online mindfulness, and the dependent variable was digital well-being. All data were collected over a two-week period during the even semester of the 2025 academic year. Researchers acted as facilitators in data collection without directly intervening in participants' behaviour.

Data Analysis

The study employed purposive sampling to ensure that the recruited participants possessed behavioral characteristics relevant to the mediation model being tested. This non-probability approach is appropriate for mediation research that prioritizes conceptual fit over population representativeness, particularly when the variables of interest—self-control, online mindfulness, and digital well-being—require participants with sufficiently high levels of digital engagement to meaningfully report their online experiences. Purposive sampling has been widely recommended for studies examining psychological mechanisms in specific behavioural contexts, where random sampling is less feasible or does not guarantee inclusion of the targeted behavioural profile.

Inclusion criteria were established to align with this conceptual purpose: (1) active undergraduate students, (2) engaging in daily digital-device use for at least four hours, and (3) willing to participate voluntarily. The minimum four-hour use threshold was based on empirical evidence showing that young adults typically spend 4–6 hours per day online and that digital well-being indicators become more salient among individuals with moderate-to-high exposure to digital environments. Thus, the threshold was used to ensure that participants had sufficient exposure to digital media to meaningfully reflect on self-control, online mindfulness, and digital well-being in their daily routines.

Exclusion criteria included respondents who were not currently enrolled as undergraduate students or who did not meet the minimum digital-use threshold. To enhance data quality, several data-screening procedures were implemented. First, two attention-check items were embedded in the questionnaire to identify inattentive responders. Second, extremely short completion times (less than one-third of the median response duration) were flagged as low-effort responses. Third, patterned or invariant responses across scales were examined to detect satisficing behaviour. Cases failing these checks were excluded from the analysis.

Data were collected online via a Google Forms link shared through class groups and social media. Before completing the questionnaire, participants were provided with information about the study's aims, confidentiality, and informed consent procedures. Out of the 350 students invited, 300 submitted complete and valid responses after quality screening (response rate = 85.7%). Missing data were minimal because the online system required participants to answer all questions; however, any partial submissions were excluded from the final dataset. No financial incentives were offered, though participants received brief feedback on their digital well-being profile after completing the survey.

Results

Descriptive statistics for the study variables are shown in Table 2. The mean scores suggest that participants reported moderate levels of self-control (M = 3.59, SD = 0.58), online-contextual mindfulness (M = 1.82, SD = 0.59), and digital well-being (M = 2.11, SD = 0.62). These values represent typical variability for Likert-type scales ranging from 1 to 5 and are not based on predefined categorical cut-offs. Instead of assigning arbitrary labels, the descriptive results are interpreted in relation to the

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scale's theoretical range, demonstrating that participants' responses were spread across the midpoints of the instruments, indicating adequate variance for subsequent correlation and mediation analyses.

Table 2. Descriptive Statistics of Research Variables (N = 300)

Variable	Mean (M)	Standard Deviation (SD)
Self-control	3.59	0.58
Online mindfulness	1.82	0.59
Digital well-being	2.11	0.62

Bivariate correlations among the study variables are presented in Table 3. All correlations were positive and statistically significant, indicating meaningful associations between self-control, online-contextual mindfulness, and digital well-being. The effect sizes ranged from moderate to moderately strong. Confidence intervals are included to provide a more precise estimate of the correlation coefficients.

Table 3. Correlations Between Research Variables (N = 300)

Variables	1	2	3
1. Self-control	—		
2. Online mindfulness	.415**	—	
3. Digital well-being	.491**	.534**	—

*Note: * $p < .05$; ** $p < .001$*

To examine the role of online mindfulness as a mediator, path analysis was performed using a regression approach (see Table 4). The study showed that self-control had a significant effect on online mindfulness ($\beta = .421$, SE = .053, $t = 7.89$, $p < .001$). Additionally, online mindfulness also significantly affected digital well-being after controlling for self-control ($\beta = .422$, SE = .043, $t = 9.81$, $p < .001$). The direct effect of self-control on digital well-being remained significant ($\beta = .348$, SE = .053, $t = 6.61$, $p < .001$), although it was smaller than the total effect without the mediator ($\beta = .526$, SE = .046, $t = 11.50$, $p < .001$).

Table 4. Results of Online Mindfulness Mediation Analysis on the Relationship between Self-Control and Digital Well-Being (N = 300)

Path	b	SE	t	p	95% CI
Self-control → Online mindfulness	.421	.053	7.89	< .001	[.316, .525]
Online mindfulness → Digital well-being (controlling SC)	.422	.043	9.81	< .001	[.337, .507]
Self-control → Digital well-being (direct effect)	.348	.053	6.61	< .001	[.244, .452]
Self-control → Digital well-being (total effect)	.526	.046	11.50	< .001	[.435, .616]
Indirect effect (bootstrapping, 5,000 samples)	.178	—	—	< .001	[.118, .246]

*Note: All coefficients are unstandardized (*b*). Indirect effect CIs are bias-corrected bootstrap estimate*

Bootstrapping analysis with 5,000 samples was employed to estimate the indirect effect in the mediation model. Results showed that self-control was linked to higher levels of digital well-being indirectly through online mindfulness (indirect effect = .178; 95% CI [.118, .246]). Because the confidence interval did not include zero, the indirect pathway can be considered statistically significant.

The direct effect of self-control on digital well-being remained significant after accounting for the mediator, indicating that the association is only partially mediated by online mindfulness. Figure 2 illustrates the estimated parameters of the mediation model. Additionally, to verify the consistency of the findings, a separate mediation analysis was performed for the male (n = 122) and female (n = 178) groups. Results showed relatively consistent patterns in both groups (see Table 5 and Figure 3).

The analysis revealed that the mediation pattern of online mindfulness remained consistent across both male and female groups. In both groups, self-control had a significant effect on online mindfulness, which in turn mediated the relationship with digital well-being. The indirect effect was significant for both males (indirect effect = .167; 95% CI [.094, .248]) and females (indirect effect = .184; 95% CI [.122, .259]). These results suggest that the proposed mediation model is stable across genders, and therefore can be more broadly generalised to the student population. Consequently, online mindfulness can be seen as a key psychological mechanism linking personal factors (self-control) with the enhancement of digital well-being.

Table 5. Mediation Analysis Results

Path	β (Male)	β (Female)	Significance
Self-control → Online mindfulness	.402**	0.432**	p < .001
Online mindfulness → Digital well-being	.415**	0.428**	p < .001
Self-control → Digital well-being (direct)	.336**	0.352**	p < .001
Indirect effect (bootstrap, 5.000 sampel)	.167 [.094, .248]	.184 [.122, .259]	p < .001

*Note: * p < .05; ** p < .001*

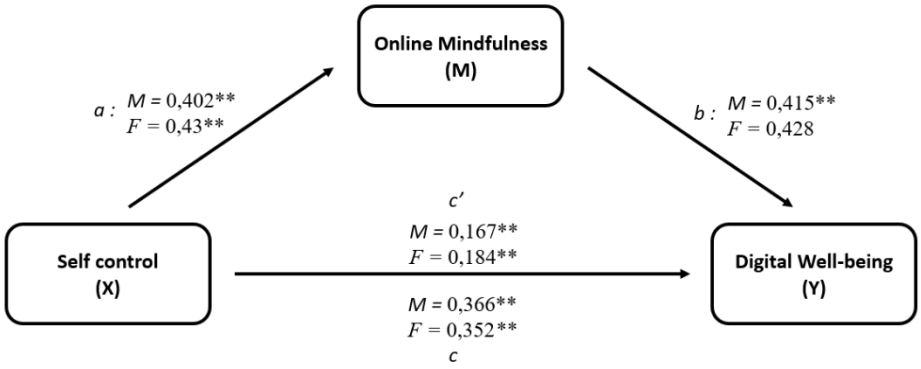

Figure 2. Mediation analysis

Discussion

A longitudinal study by Chen et al. (2025) examined social media self-control failure and found that mindfulness mediated its impact on well-being. This result aligns with the present study, in which higher self-control was associated with greater online mindfulness, thereby fostering higher levels of digital well-being. In a systematic review of digital mindfulness and innovative technology interventions, Mitsea et al. (2023) highlighted that technology-based interventions that support mindfulness and self-regulation significantly enhanced psychological well-being in non-clinical populations. The current findings extend this work by demonstrating that self-regulation (in terms of self-control) and online mindfulness remain key mechanisms for university students, who often face unique digital well-being challenges due to intense academic and social demands mediated through technology.

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From the perspective of self-control, both classic and contemporary literature emphasise that self-control is a vital capacity to resist impulses and guide behaviour towards long-term goals (Tangney, Baumeister, & Boone, 2004). Students with higher levels of self-control are better equipped to regulate digital technology use, avoid addictive behaviours, and maintain balance across academic, social, and recreational activities (Hofmann et al., 2014). The positive association between self-control and digital well-being found here reinforces theoretical assumptions about self-regulation, extending them to digital contexts—suggesting that mechanisms traditionally studied in offline behaviour also operate online.

Regarding online mindfulness, previous studies indicate that technology-based mindfulness practices can improve attentional regulation and self-awareness in digital experiences. Macrynikola et al. (2024) reported medium to large effects of mindfulness applications on attention regulation and reductions in repetitive negative thinking. Consistent with attentional control theory (Liu et al., 2022), the current study suggests that online mindfulness may help students monitor distractions, impulses, and social pressures arising from digital interactions. This alignment indicates that mindful attention functions as a psychological mechanism enabling more effective navigation of digital environments.

Digital well-being, a relatively new concept, has gained significant attention (Vanden Abeele, 2021). It encompasses not just the safe and balanced use of technology but also subjective experiences of control, satisfaction, and autonomy in digital life. The finding that online mindfulness is positively associated with digital well-being supports the view that digital well-being depends more on the quality and awareness of use than on the amount of time spent online (Vuorre & Johannes, 2023). The indirect effect size (0.178) in this study falls within a small-to-medium range, comparable to previous research on digital mindfulness, indicating that online mindfulness plays a meaningful—though not exclusive—role within the broader mechanisms shaping digital well-being.

The direct effect of self-control on digital well-being suggests additional pathways beyond online mindfulness, including digital habit strength, personal norms regarding device use, social support, and contextual factors such as academic workload. While the mediation pathway was statistically strong, the indirect effect was smaller than the direct effect, indicating that online mindfulness explains part—but not all—of the relationship. This is a valuable insight and suggests that future models should incorporate multiple variables. Regarding gender, robustness checks showed that the mediation pattern was consistent across male and female students. While prior studies sometimes report gender differences in digital experiences or vulnerability to online stressors, the present findings suggest that the psychological mechanisms linking self-control, online mindfulness, and digital well-being operate similarly across genders. This implies that attentional control and self-regulation are relatively stable mechanisms not heavily influenced by gender. In practice, this suggests that intervention programs aimed at boosting online mindfulness or self-regulation need not be gender-specific.

Although research on digital well-being in Indonesian literature is limited, existing studies such as Listiyandini et al. (2023) indicate that culturally adapted mindfulness techniques can enhance students' well-being. The current findings contribute to this emerging field by explaining how self-control and online mindfulness interact to impact digital well-being within Indonesian universities. Cultural factors like high social media usage norms, collective expectations for responsiveness, and digitalisation in education may heighten students' exposure to digital pressures, making mindfulness strategies particularly pertinent in Indonesia. These findings imply that campus counselling services could integrate online mindfulness training into student self-regulation programmes. Besides general advice to reduce device overuse, such programmes should focus on specific elements, including: micro-mindfulness exercises before academic tasks, digital "pause-and-check" routines, attention training to minimise notification-induced distractions, and reflective journaling to track impulsive digital behaviours. Digital interventions or applications designed for students could incorporate brief meditations, self-monitoring prompts, and strategies for conscious technology use to foster healthier digital habits.

However, the cross-sectional nature of this study limits causal conclusions, even though bootstrapping and mediation analyses provided strong statistical evidence. Future research using longitudinal or experimental designs will be essential to establish temporal and causal relationships. Additionally, the use of a single-institution sample may limit generalisability, as cultural norms, digital environments, and institutional contexts vary considerably. Measures for online mindfulness, self-control, and digital well-being also require further validation in Indonesian contexts, including tests of

measurement invariance across demographic groups such as gender, academic major, and socioeconomic background. Overall, the present findings emphasise that online mindfulness plays a significant mediating role between self-control and students' digital well-being. By identifying a psychological mechanism underlying self-regulation in digital contexts, this study advances theoretical understanding in digital well-being research. It offers practical guidance for developing intervention pathways within higher education.

Conclusions

The current study aimed to examine whether online mindfulness mediates the relationship between self-control and digital well-being among Indonesian university students. The findings demonstrated that self-control has a significant direct association with digital well-being ($\beta = .348$) and an additional indirect effect through online mindfulness (indirect effect = .178), indicating partial mediation. These results suggest that students with stronger self-control tend to display higher mindful awareness during technology use, which contributes to healthier digital functioning. The mediation strength, which falls within a small-to-medium effect size range, emphasises that online mindfulness is an important—though not exclusive—mechanism linking self-regulation to digital well-being.

The study also provides empirical evidence that the observed mediation pathway is consistent across male and female students, suggesting that the underlying psychological processes of self-regulation and mindful technology use operate similarly across genders. Theoretically, these findings extend digital well-being scholarship by clarifying how two well-established constructs—self-control and mindfulness—interact within digital environments. Specifically, the results enrich attentional control and self-regulation theories by showing that mindful awareness plays a functional role in helping students translate self-control capacities into more adaptive digital experiences.

Furthermore, this study contributes contextually by offering data from Indonesian university students, a population underrepresented in global digital well-being research. Given Indonesia's high digital engagement, collectivistic norms, and strong social media culture, the findings underscore the importance of culturally attuned mechanisms, such as online mindfulness, to support adaptive digital behaviours. In practice, the results support the integration of self-regulation training and online mindfulness modules into campus counselling and guidance programmes. Interventions that cultivate attentional regulation, intentional technology use, and awareness of digital impulses may help students manage digital distractions more effectively and maintain psychological balance.

In sum, this study demonstrates that digital well-being is shaped not only by technological demands but also by personal regulatory capacities and mindful engagement. By identifying online mindfulness as a key psychological pathway, the findings offer both theoretical advancement and practical direction for promoting healthier digital lives among university students in rapidly evolving digital ecosystems.

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