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Developing A Mindfulness Module Using A Pocketbook to Improve Digital Self-Control in Students

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Abstract: This study aims to develop a pocketbook-based mindfulness module as an intervention to improve digital self-control among university students. The research employed a Research and Development (R&D) design, utilizing the ADDIE framework (Analysis, Design, Development, Implementation, Evaluation). The development process included needs analysis, material design, instructional preparation, and validation by media and content experts. Validation results indicated that the module was feasible and rated from good to very good in terms of content, presentation, and appearance. The implementation of the module demonstrated improvements in students' ability to manage digital use more consciously, purposefully, and adaptively. These findings highlight that the pocketbook-based mindfulness module is a relevant, practical, and effective intervention to support students in addressing the challenges of technology use in the digital era.

Keywords: Mindfulness, Module, Digital Self-Control, Students, Intervention.

INTRODUCTION

The rapid development of digital technology has brought various conveniences, particularly in supporting learning processes such as studying, communication, and entertainment (Meier et al., 2023). University students are among the age groups that are the largest users of technology, ranging from laptops and smartphones to social media (Kim et al., 2016). Research by Lee & Nuruddin Hidayat (2019) shows that, on average, Indonesians spend around seven hours per day accessing the internet, with approximately 3.5 hours dedicated to social media usage, indicating a relatively high figure.

This reality has led to a tangible phenomenon on campus, particularly among students. One phenomenon observed is that students' lives, filled with coursework, practical sessions, and other campus activities, create pressure due to a high academic workload (Bastian et al., 2024). This heavy academic burden then triggers real psychological stress, ranging from anxiety about failing to meet grading standards, worrying about not completing assignments on time, to fearing disappointing their family's expectations (Umar et al., 2023).

In such situations, students turn to smartphones and social media as an easy and practical escape to seek entertainment, momentarily divert their minds, or simply delay feelings of discomfort (Zhang & Wang, 2022). Social media activity, initially intended to provide brief relief between study sessions, often ends in excessive scrolling (Adzani & Rosiana, 2024). This represents a form of maladaptive coping, an attempt to alleviate stress or anxiety in a seemingly soothing way that does not address the root problem (Holmgren & Coyne, 2017).

From a neuropsychological perspective, gadget use—especially checking notifications, social media, or watching entertainment content—can trigger the brain's reward system, in which every like, view, or new message releases dopamine, providing a brief sense of pleasure (Persson & Persson, 2023). Students experiencing fatigue and academic pressure approaching exams make the brain more vulnerable to seeking quick relief (Kirby et al., 2020). The urge to use a smartphone arises not from academic needs but from the desire to avoid emotional discomfort caused by high academic pressure (Wacks & Weinstein, 2021). Smartphones serve as readily accessible media that temporarily alleviate discomfort (Wang et al., 2021).

The heavy workload experienced by students due to increasing assignments as exams approach often leads to mental fatigue (Restrepo et al., 2023). This results in a decline in cognitive or self-regulatory resources needed to control oneself in handling pressure (Sailo & Varghese, 2024). Daily routines dominated by completing assignments, practical sessions, and preparing for exams or quizzes reduce students' ability to resist desires, such as using social media or smartphones (Hashemi et al., 2024). Consequently, students are more likely to give in to impulsive urges to use social media or smartphones rather than refocus on studying (Liu, 2023).

Emotionally, students often fear missing important news or moments on social media, which drives them to continuously check notifications and open social media (Mou et al., 2024). High academic pressure triggers anxiety, stress, and fatigue, which can lower self-control due to such pressures (Adzani & Rosiana, 2024). This, in turn, encourages students to seek temporary distraction through smartphones or social media, offering quick comfort but potentially forming unhealthy digital habits (Reyaz et al., 2024). Without full awareness or mindfulness, individuals may repeatedly engage in unhealthy digital habits, which can impact their academic performance, mental well-being, and overall quality of life (Mohd Amin et al., 2024).

The mindfulness approach is considered relevant because it involves self-awareness developed through deliberate, non-judgmental attention to the present moment (Ambica & Ali, 2023). This approach helps individuals become aware of what they are doing, thinking, and feeling, including recognizing the impulses that drive them to open and use smartphones or social media impulsively (Feng, 2024). Research by Alvarado-García et al. (2023) has shown that mindfulness practice effectively reduces academic pressure that leads to excessive stress and anxiety in students while improving psychological well-being. Furthermore, in the context of digital use, mindfulness helps individuals monitor their smartphone usage patterns and delay automatic responses to check their devices, enabling them to choose more beneficial digital activities (Edirisooriya et al., 2019).

Simple mindfulness exercises, such as focusing on breathing, brief body scans, or noting thoughts that arise when there is an urge to check a smartphone, can be effective strategies for strengthening individuals' digital self-control (Aggarwal et al., 2024). With consistent practice, students can develop healthier and more balanced digital habits (Throuvala et al., 2020). Although the benefits of mindfulness have been widely studied, its implementation is often considered challenging because it requires significant time commitment (Feldman et al., 2023). Therefore, to implement mindfulness effectively, programs need to be developed that are relevant to students (Hefner & Freytag, 2024).

The novelty of this study lies in the development of a module focusing on a mindfulness training program delivered via a pocketbook, specifically designed to help students manage their smartphone and social media use in a more conscious and controlled manner. The module provides facilitators with guidance for conducting mindfulness training using the pocketbook, which contains instructions for simple mindfulness exercises, daily reflections, and behavior checklists that can be applied for seven consecutive days. In addition to providing a conceptual understanding of mindfulness, this pocketbook-based module also serves as a practical guide for addressing everyday issues related to impulsive smartphone use amid students' academic pressures.

The urgency of implementing this program stems from the high frequency of smartphone use that students may not be aware of, which can trigger procrastination, reduce productivity, and negatively affect mental well-being (Irawan et al., 2024). As higher education institutions, universities play a crucial role in supporting students' mental health, including through promotive and preventive programs such as mindfulness training using a pocketbook (González-Martín et al., 2023). Thus, this training is expected not only to increase students' awareness and self-control over gadget use but also to strengthen psychology students' competencies in designing interventions based on real needs within the campus environment.

Therefore, mindfulness training using a pocketbook is expected to serve as an innovative solution that helps students manage uncontrolled gadget use while simultaneously supporting the sustainable enhancement of their mental well-being. The program is considered important, relevant, and aligned with the conditions of today's students, who are highly immersed in the digital world, and it is hoped that it can contribute to preparing students to excel academically while maintaining psychological health.

Digital Self-Control

Digital self-control refers to an individual's ability to manage impulses, regulate emotions, and direct behavior when using digital technology in a way that aligns with long-term goals (Febrianti et al., 2021). This concept is based on the self-control theory by Tangney et al. (2004), which emphasizes conscious control over behavior, thoughts, and decision-making. Digital self-control helps individuals make wise decisions, limit device usage, avoid excessive multitasking, and delay immediate gratification for long-term benefits (Febrianti et al., 2021). This ability is not only related to technical skills but also involves psychological capacities that support focus, emotional regulation, mental health, and students' academic productivity.

In practice, digital self-control encompasses three main aspects: behavioral control, cognitive control, and decision-making control. Behavioral control refers to an individual's ability to take actions and limit habits; cognitive control involves managing thoughts and maintaining focus; and decision-making control refers to the ability to make wise and conscious choices (Febrianti et al., 2021).

Mindfulness

Kabat-Zinn (1994) defines mindfulness as full awareness that arises through deliberate attention to present experiences without judgment. This practice involves awareness of bodily sensations, emotions, thoughts, and the surrounding environment with an attitude of acceptance, which can enhance self-understanding, emotional regulation, and support mental and physical health. Based on this concept, Baer et al. (2006) emphasize that mindfulness is a cognitive and emotional skill that can be trained to help individuals cope with stress, negative emotions, and maladaptive thinking patterns, while simultaneously strengthening psychological well-being.

Baer et al. (2006) outline five main dimensions of mindfulness: (1) **Observing** – the ability to consciously notice internal and external experiences. (2) **Describing** – the skill to express experiences in words. (3) **Acting with awareness** – acting attentively without falling into automatic behaviors. (4) **Non-judging of inner experience** – accepting inner experiences without labeling them. (5) **Non-reactivity to inner experience** – the ability to observe thoughts and emotions without responding impulsively.

METHOD

This study is a Research and Development (R&D) type of research, which involves processes used to develop and validate a product (Judjianto et al., 2024). The study aims to develop a mindfulness training module that also includes a pocketbook, which participants can use for independent practice. The research is conducted with 10 students who serve as respondents and a limited pilot test group. The study adopted the ADDIE framework, consisting of five stages: analysis, design, development, implementation, and evaluation.

The initial needs identification or analysis is conducted to determine the fundamental problems faced by students regarding digital self-control. This analysis produces a description of the current situation, factual findings, and possible alternatives to address the issues. The results of this identification serve as the basis for designing the module and pocketbook, which will be utilized by both facilitators and students to enhance digital self-control (Judjianto et al., 2024).

The module design is tailored to the material needs of students, and the draft includes general information regarding objectives, duration, and methods used in each training session, along with a draft pocketbook containing similar general information. The development stage, which is the core process of producing the final product, involves transforming the drafted module and pocketbook into a final version. This stage includes three experts or an expert judgment panel to assess the validity and usability of the module.

Following development, the implementation stage involves delivering the module to the students. In this phase, students participate in a series of mindfulness training activities, complete the provided questionnaires, and fill in worksheets included in the pocketbook. The data obtained from this implementation stage are then analyzed to evaluate the relevance of the material and the achievement of the module development objectives. The evaluation stage assesses whether the mindfulness module effectively improves students' digital self-control.

Data collection in this study is based on evaluations provided by the experts to determine the feasibility and usability of the mindfulness module. Data are collected using questionnaires measuring digital self-control, employing a Likert scale. The collected data are then analyzed descriptively to illustrate the distribution characteristics of each respondent's scores, with categories determined based on the results of the product pilot test.

RESULT AND DISCUSSION

Based on the problem analysis phase conducted in this study, data was obtained regarding students' levels of self-control. A needs analysis was conducted by examining the average digital self-control scores of students, categorized based on the dimensions of digital self-control. The results of the digital self-control analysis are presented in Table 1.

Table 1. Results of the Analysis of Students' Digital Self-Control Needs

Dimensions of Digital Self-Control	Mean	Category
Ability to Control Behavior	23,5	Moderate
Cognitive Control Ability	24,3	Moderate
Ability to Control Decisions	11,8	Moderate

The results of the initial needs analysis indicate that the overall digital self-control dimension of students falls within the moderate category based on the mean score. The behavioral control dimension showed a score of 23.5, indicating that students are quite capable of recognizing their digital behavior but have not yet reached an optimal level. Furthermore, the cognitive control dimension obtained a mean score of 24.3, indicating that students are at an intermediate stage in managing their thinking processes, attention, and judgment when using digital media. Meanwhile, the decision control dimension obtained a mean score of 11.8, indicating that students still have relatively difficulty making informed decisions regarding digital use.

Furthermore, based on the needs analysis, the focus of this module's development is directed at improving mindfulness-based digital self-control. This is based on the results of the initial needs analysis, which found that all dimensions of digital self-control were still in the moderate category. Therefore, the content in this module is designed to encompass all three dimensions and integrate them into independent mindfulness practice. Then, during the design stage, this module was designed to facilitate students in delaying impulsive urges to access gadgets, becoming more aware of automatic thoughts that trigger digital use, and making decisions with reflective pauses. Thus, this module presents simple, applicable practices to help students manage healthier digital habits. The following is a summary of the contents of the mindfulness module design, presented in Table 2.

Table 2. Mindfulness Module Design

Core Structure of the Module	Module Sub-Section
General Information	Cover
	Introduction
	Purpose
	Facilitator Criteria
	Training Methods
	Implementation Schedule
Core Components	The purpose of each session
	Method of each session
	Material for each session
	Procedures and Instructions for each session
Attachment	Bibliography
	Pre-test and Post-test Sheets
	Buku Saku untuk Peserta

Then, during the development stage, several validation tests were conducted to assess the feasibility and usability of the mindfulness module, including content and design validation. This stage involved expert judgment using a Likert-scale assessment sheet ranging from 1 (Very Unsuitable) to 4 (Very Suitable). The content validation results yielded Aiken's V scores and are presented in Table 3.

Table 3. Content Validation Test Results

Indicator	Aiken's V Value	Description
Session 1 Materials and Instructions	0,86	Excellent
Session 2 Materials and Instructions	0,95	Excellent
Session 3 Materials and Instructions	0,78	High
Pocket Book Materials and Assignment Sheets	0,79	Excellent

Based on Table 3, the Aiken's V value for each indicator indicates high to very high validity. Overall, the Aiken's V value for this mindfulness module is 0.81, which is in the very high category. This indicates that all components of the module's content are suitable for use. In addition to testing content validity, content validity testing was also conducted to assess the module's readability and design. The results of the content validation obtained an Aiken's V value and are presented in Table 4.

Table 4. Content Validation Test Results

Indicator	Aiken's V Value	Description
Content dan Design	1,00	Excellent

Based on Table 4, the Aiken's V value for each indicator indicates very high validity. This indicates that the entire content and design of this mindfulness module are suitable for use.

Then, during the implementation phase, a limited trial was conducted with students by providing mindfulness exercises guided by a facilitator, followed by questionnaires and a handbook. The pre- and post-test data obtained during the implementation phase are presented in Table 5.

Table 5. Average Pre-Test and Post-Test Results

Dimension	Mean *Pre-Test*	Mean *Post-Test*
Ability to Control Behavior	23,5	30,3
Cognitive Control Ability	24,3	32,2
Ability to Control Decisions	11,8	15,7

Table 5 shows a significant increase in all dimensions measured in digital self-control. The behavioral control dimension saw an increase in the average score, from 23.5 to 30.3. The cognitive control dimension also saw an increase in the average score, from 24.3 to 32.2. The decision control dimension also saw an increase in the average score, from 11.8 to 15.7.

Finally, in the evaluation phase, as with the implementation phase, a statistical analysis was conducted to determine whether the mindfulness module was effective in improving students' digital self-control. The results of the statistical analysis are presented in Table 6 below.

Table 6. Paired Sample T-Test Analysis Results

Measure 1		Measure 2	Z	p
SUM Pre-Test	-	SUM Post-Test	-2,803	0,006

Based on Table 6, the analysis using the Wilcoxon Signed-Rank Test shows a significant difference between the pre-test and post-test scores, with a significance value of 0.006 ($p < 0.05$). This indicates that after the intervention, there was a significant change in participants compared to before the intervention. Based on the analysis presented, this indicates that the developed mindfulness module has undergone a testing phase that not only assessed the appropriateness of the content but also its effectiveness in real-world practice.

Discussion

Based on the analysis using the development model, this study shows that the mindfulness module, using a pocketbook, successfully improved students' self-control skills. The pre-test and post-test results showed significant improvements in all dimensions of digital self-control: behavioral control, cognitive control, and decision control. This improvement demonstrates that the mindfulness-based intervention, delivered through the

pocketbook, positively impacted students' self-regulation in managing impulsive smartphone and social media use. Mindfulness has been shown to help students develop a full awareness of the present moment, enabling them to respond to academic pressure with calm and control (Al-Zoubi, 2024). Simple exercises such as mindful breathing, body scans, and reflection, both in practice and through independent practice in a pocketbook, can reduce stress, increase focus, and create positive emotions. This aligns with previous research findings that suggest mindfulness can strengthen self-regulation, reduce stress, and improve students' psychological well-being (Dina Hidayati Hutasuhut & Dinda Yarshal, 2025). Mindfulness also allows students to accept their thoughts and feelings without judgment, ultimately improving their ability to make wiser digital decisions (Agusthia et al., 2024).

Previous research has shown that mindfulness plays a crucial role not only in reducing stress but also in improving emotional regulation, the quality of interpersonal relationships, and psychological resilience (Kumar et al., 2024). Peixoto et al. (2021) found that mindfulness consistently reduces emotional exhaustion and improves well-being in both academic and work contexts. A systematic review conducted by Pan et al. (2024) showed that mindfulness interventions contribute to improved self-regulation and the ability to control impulsive urges. In the digital context, mindfulness-based interventions are effective in reducing technostress while increasing individuals' behavioral control in using technology (citations). These results align with the development of a pocket-book-based module that was effective in improving digital self-control and the ability to delay impulsive behavior, particularly in social media and smartphone use (Chen et al., 2023). The effectiveness of the mindfulness module can thus be explained not only by improvements in cognitive and behavioral function but also by strengthening emotional and attentional mechanisms that contribute to students' overall quality of life (González-Martín et al., 2023).

The pocket-book-based mindfulness module developed in this study has several advantages. First, the content validation results showed a high to very high rating, indicating that this module is suitable for use as a psychological intervention tool. Second, the availability of the pocketbook provides flexibility for students to practice independently and repeatedly, so that mindfulness practice is not limited to training sessions but can be integrated into daily routines. This is consistent with research (Mantzios & Giannou, 2019) which shows that self-help-based mindfulness is more easily adopted when presented in a concise, practical, and flexible format. Third, the simple, systematic presentation of the module, complete with daily reflections, helps students more easily understand and apply mindfulness practice, meeting the needs of students with busy academic schedules.

The implications of this module development research are quite broad, particularly in the context of higher education. The mindfulness module can be integrated as part of student self-development programs on campus, both through guidance and counseling services and non-academic activities (Syafira & Paramastri, 2018). This intervention is both promotive and preventative, thus not only improving digital self-control but also supporting students' mental health, academic productivity, and psychological well-being (Varadaraja et al., 2024). With the increasing challenges of the digital era, implementing interventions focused on self-awareness is relevant to help students manage stress while minimizing maladaptive digital behaviors (Delgado-Suárez, 2018).

However, this study has limitations that require consideration. First, the number of participants was limited to ten students, so the results cannot be broadly generalized. Second, the module implementation was conducted over a relatively short period, so the long-term effects of mindfulness training have not been comprehensively measured. Further research with a larger number of subjects and a longer implementation period is strongly recommended to obtain a more robust picture of its effectiveness. Furthermore, a qualitative approach that explores students' subjective experiences using the mindfulness module can

also provide deeper insights into the factors influencing the intervention's success (Creswell, 2017).

Overall, this study confirms that the pocketbook-based mindfulness module is a relevant, practical, and effective intervention innovation in helping students manage their digital use more healthily. This module not only supports increased digital self-control but also contributes to students' academic, emotional, and psychological balance in the challenging digital era. Therefore, this module has the potential to become a preventative strategy that can be integrated into self-development programs in higher education.

CONCLUSION

This study concludes that the development of a mindfulness module using a pocketbook has proven to be relevant, practical, and effective as an intervention to improve students' digital self-control. This module was designed based on the ADDIE model, which involves several processes at each stage of development: analysis, design, development, implementation, and evaluation. The results indicate an improvement in students' digital self-control abilities, as seen across behavioral, cognitive, and decision-making dimensions. This also demonstrates that the mindfulness practices and exercises provided through training and the pocketbook not only help students direct their attention and awareness towards digital use but also support self-regulation to be more adaptive in facing academic and social demands.

Overall, this module can be an innovative intervention tailored to the needs of students in today's digital age. In addition to supporting healthier technology use patterns, this mindfulness module, using a pocketbook, also contributes to academic, emotional, and psychological balance. Thus, this study also highlights the importance of mindfulness as a preventive and promotive strategy for maintaining students' mental health and improving their quality of life in the increasingly complex digital era.

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