ASPI | Afarand Scholarly Publishing Institute; Turkey
ISSN: 2345-2897; Health Education and Health Promotion. 2025;13(3):511-519. 10.58209/hehp.13.3.511

Mental Health Promotion to Enhance Students' Academic Integrity in the Digital Age

ARTICLE INFO

Article Type
Original Research

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How to cite this article
Bahriah Y, Uyun M, Widyastuti Y, Ningsih IU, Zulhijra Z, Muthmainna A. Mental Health Promotion to Enhance Students' Academic Integrity in the Digital Age. Health Education and Health Promotion. 2025;13(3):511-519.

ABSTRACT

Aims This study aimed to investigate the effectiveness of a digital-based mental health promotion in enhancing students' academic integrity in the digital age. Strengthening positive mental health and self-regulation as preventive strategies against dishonest academic behavior was the main focus of the intervention.

Materials & Methods This study employed a quantitative approach and a quasi-experimental pre-test-post-test control group design. The subjects were 60 students enrolled in STIKes Budi Mulia Sriwijaya's Diploma III Midwifery Study Program (semesters 3 and 5). They were randomly divided into an experimental group (n=30) and a control group (n=30). While the control group received similar material through conventional methods, the experimental group participated in three digital media-based sessions (academic stress education, time management, and adaptive coping mechanisms) that promoted mental health. The Mental Health Positive Scale, Self-Regulation Scale, and Academic Integrity Scale were among the tools used.

Findings The experimental group outperformed the control group in all parameters, demonstrating a large Cohen's d effect size across all three parameters ($p<0.001$). The digital intervention was more effective in enhancing students' mental health, self-regulation, and academic integrity.

Conclusion Digitally-based mental health promotion is an effective and preventive approach for fostering students' academic integrity, particularly in overcoming the challenges of pressure and learning disruptions in the digital age.

Keywords Students; Learning; Self-Regulation; Mental Health

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Article History
Received: July 1, 2025
Accepted: August 20, 2025
ePublished: August 28, 2025

CITATION LINKS

[1] Effects of COVID-19 on college students' mental health in the ... [2] The honest truth about dishonesty ... [3] Online academic-integrity mastery training may improve students' awareness ... [4] Academic integrity in online assessment ... [5] The relationship between academic integrity of online ... [6] Tertiary students' academic cheating in Palembang ... [7] Cheating and plagiarism in higher education ... [8] Self-regulated learning in ... [9] Effectiveness of online positive psychology intervention on psychological ... [10] Mental illness and/or mental health? Investigating axioms of the ... [11] Burnout and maladjustment ... [12] The effect of psychological resilience on academic burnout among ... [13] Domains and predictors of first-year ... [14] Psychological impacts from COVID-19 among university students ... [15] The impact of innovative behaviors on academic misconduct among graduate ... [16] Internet interventions for mental health in university ... [17] Digital interventions for psychological well-being in university ... [18] Building resilience to promote mental health in ... [19] Digitally assisted mindfulness in training ... [20] A mobile app-based gratitude intervention's effect on ... [21] Effects of the digital intervention StudentPOWR ... [22] An app-based cognitive behavioral therapy program ... [23] Web-based, human-guided, or computer-guided ... [24] Mindfulness to improve the mental health ... [25] Skill enactment among university students using ... [26] Developing student agency toward academic integrity ... [27] Examining academic integrity policy and practice in the era of AI ... [28] Self-regulation and psychological resilience as predictors of the ... [29] Examining the relationship of academic dishonesty with academic ... [30] Effects of a positive education programme ... [31] The role of digital therapy in promoting ... [32] Effectiveness of a mobile app intervention for anxiety ... [33] Efficacy of the digital therapeutic mobile ... [34] The effectiveness of positive psychology interventions for promoting well-being of adults experiencing ... [35] Technology and college student mental health ...

Introduction

Significant transformations in higher education, driven by the development of digital technology, have created new challenges for students regarding their academic skills as well as their psychological and ethical aspects. Learning activities require students to actively and independently engage in their studies. They should be able to manage the rapid and open advancements in digital technology while coping with pressure and upholding integrity values. In the midst of this complexity, attention to mental health conditions becomes increasingly crucial.

Numerous studies have demonstrated a rise in anxiety, burnout, and stress within academic settings, particularly among students. This is especially true following the shift to online learning during the COVID-19 pandemic, where 71% of students reported experiencing increased psychological pressure when learning online. This finding aligns with Son *et al.*, who noted that the transition to online learning leads to sleep disorders, difficulties concentrating, mental fatigue, and stress for many students [1]. Essentially, poor mental health has a detrimental impact on students' ability to self-regulate and engage in honest academic behavior (academic integrity) [2].

Furthermore, in this digital age, academic integrity violations, such as cheating, manipulation, and plagiarism have become extremely complex phenomena. Academic violations, including online plagiarism, unhealthy collaboration, and exam cheating, have increased due to advancements in digital technology [3, 4]. On the other hand, if digitalization is utilized positively, it can facilitate access to information and flexible learning.

According to research by Ayoub-Al-Salim & Aladwan, integrity violations often go unnoticed in terms of accomplishments, but they have a long-term impact on students' academic ethics [5]. Research by Uyun & Warsah identifies cheating behaviors, such as collaborating with other students to obtain answers on quizzes or tests, working together to complete individual assignments, doing assignments for others, and writing papers by quoting from books or other publications without citing the sources [6]. Academic integrity violations can result from a combination of stress, performance pressure, poor self-regulation, and a lack of psychological support, rather than always being driven by malicious intent [4].

According to research by Sozon *et al.*, individual behavior is influenced by perceptions of academic cultural norms, underscoring the significance of integrity education-based prevention [7]. In essence, strengthening academic integrity in the digital age requires promotional and preventive approaches in addition to repressive measures, such as monitoring or sanctions. Self-regulation, or the ability to autonomously plan, control, and evaluate one's academic actions, is one of the internal factors that significantly influence academic integrity. Individuals who are mentally healthy typically possess better self-regulation skills, which can ultimately promote moral behavior in the classroom. Learners with high self-regulation can set learning goals, choose appropriate strategies, monitor their progress, and reflect on the effectiveness of the learning process [8]. Particularly in light of the demands of flexible and technology-based learning in the digital age, this model is relevant to the development of students' autonomous learning abilities. It has been shown that students' self-regulation is enhanced by interventions that promote self-awareness and stress management [9].

According to research by Ayoub-Al-Salim & Aladwan, the quality of learning outcomes and students' academic integrity in online learning are positively correlated [5]. These findings support the argument that academic integrity impacts students' overall intellectual achievement in addition to being an ethical issue. Violated academic behavior is also encouraged in the digital environment by individual factors (e.g., stress, academic pressure, and behavioral rationalization) as well as institutional regulatory weaknesses. Thus, to prevent integrity violations early on, a promotional approach that emphasizes mental health and strengthens self-esteem is very relevant [4].

Promoting mental health in academic settings not only enhances psychological well-being but also strengthens students' moral values and character. Positive mental health is characterized by optimal emotional, social, and psychological functioning. According to theory [10], positive mental health serves as an important foundation for developing adaptive, integrated approaches and promoting interventions such as management training, stress education, and adaptive coping mechanisms. As a result, it may increase students' resilience and decrease their likelihood of acting unethically [9].

Based on research by Drăghici & Cazan, students who experience academic burnout often deal with prolonged stress, academic anxiety, and a decline in motivation. Consequently, they run the risk of engaging in unethical behavior in an attempt to relieve the pressure they are under [11]. Psychological resilience and academic burnout are significantly negatively correlated. Resilient students typically have lower stress levels and are better equipped to handle academic stress in a healthy manner [12].

In a pre-post follow-up experimental design, Yurayat & Seechaliao's online positive psychology intervention, based on Ryff's Psychological Well-Being Scale, significantly enhances students' psychological well-being. This full-text legal intervention is more effective than the control group [9]. Along with academic performance and critical thinking skills, social-emotional well-being is an

important component of first-year student success [13]. Promoting mental health that targets social-emotional well-being can strengthen academic engagement and prevent disengagement, which often serves as an excuse for integrity violations. Therefore, promoting mental health has important implications for students' academic character development in addition to helping to improve individual well-being. To foster a healthy and ethical academic culture, higher education programs need to integrate structured preventive approaches such as stress education, self-regulation training, and resilience building.

Accordingly, academic integrity in the digital age cannot be separated from students' mental health and self-regulation abilities. Poorly managed academic pressure, low psychological well-being, and a lack of adaptive coping mechanisms are primary manifestations of academic misconduct. Therefore, a relevant and potential strategy to prevent integrity violations is the systemic and contextually designed promotion of mental health. This research aimed to evaluate the effectiveness of a mental health promotion program in enhancing students' academic integrity in the digital era. The findings are intended to support a healthy, integrity-based academic culture and provide an empirical contribution to the development of promotive intervention models in higher education settings.

Materials and Methods

This research employed a quantitative approach with a quasi-experimental design using a pre-test-post-test control group. The study was conducted in 2025 at STIKes Budi Mulia Sriwijaya, Palembang, Indonesia. The sample consisted of all students in the Diploma III Midwifery Study Program at STIKes Budi Mulia Sriwijaya who were enrolled in the 3rd to 5th semesters, totaling 60 students. The sample size was determined using a saturated sampling technique (total sampling), whereby the entire population was included as the research sample, resulting in the same number of respondents as the population. Accordingly, the 60 students were assigned as research participants and further divided proportionally into two groups: 30 students in the experimental group and 30 students in the control group. The inclusion criteria were as follows: students had to be active, enrolled in the 3rd to 5th semesters, not currently receiving any other psychological interventions, and willing to participate in the full set of research activities.

Both groups completed an initial assessment (pre-test) prior to the intervention. The experimental group participated in a three-session interactive digital mental health promotion intervention program that focused on teaching them about academic pressure and stress, time management and academic priorities, and how to strengthen adaptive coping mechanisms in a classroom setting. Each session was conducted in groups, using interactive digital media that included visual elements, educational videos, and facilitator guidance. The control group received the same educational treatment, but without any mental health-related content, and it was delivered through conventional media, such as printed leaflets, articles, and one-way narrative videos. The intervention approach was the main focus of the treatment difference, as the control group did not receive interactive assistance or reflective activities. Following the intervention, both groups completed a post-test assessment to evaluate changes in outcomes.

The research was conducted in accordance with the ethical principles of the Declaration of Helsinki. All participants were provided with information regarding the research objectives and signed a written informed consent form prior to participation. Three standardized tools were employed in both the pre-test and post-test assessments. The Mental Health Continuum-Short Form (MHC-SF), developed by Keyes in 2009, includes 14 items covering three dimensions including emotional, social, and psychological well-being rated on a 6-point Likert scale. The Self-Regulation Scale (SRS), originally developed by Schwarzer *et al.* in 2006, was used to assess students' ability to plan, monitor, and reflect on their academic activities, with items rated on a 5-point scale. Finally, the Academic Integrity Scale, adapted from Whitley's Academic Integrity Inventory in 1998, measured students' honesty and ethical tendencies in academic contexts, using a 5-point Likert scale.

For normally distributed data, a paired t-test was used to determine the difference between pre-test and post-test scores in each group. If the data meet parametric assumptions, an independent t-test was used to compare the outcomes of the experimental and control groups. Also, if the data were not normally distributed, the Wilcoxon Signed-Rank test was used for paired data, and the Mann-Whitney U test was used for data between groups. SPSS 24 was used for all analyses, and $\alpha=0.05$ was set as the significance level.

Findings

The experimental group outperformed the control group in positive mental health (MHC), self-regulation (RC), and academic integrity (INT). The experimental group experienced a 2.47-point increase in positive mental health scores, compared to a 0.15-point increase for the control group. Similarly, the experimental group's self-regulation increased by 2.10 points, significantly more than the control group's 0.20-point increase. In the same manner, the experimental group's academic integrity score rose by 1.18 points, compared to just a 0.12-point increase for the control group.

Table 1. Mean pre-test and post-test scores for each group

Parameter	Group	Pre-test	Post-test
Positive mental health	Experimental	2.71±0.32	5.18±0.25
	Control	2.88±0.37	3.03±0.45
Self-regulation	Experimental	3.08±0.32	5.18±0.25
	Control	2.93±0.38	3.13±0.47
Academic integrity	Experimental	2.95±0.41	4.13±0.49
	Control	3.00±0.39	3.12±0.40

This difference indicates that the three primary parameters in the study are significantly impacted by the interactive digital media-based intervention for mental health promotion. This means that students' positive mental health, self-regulation skills, and academic integrity behaviors can be significantly enhanced by mental health promotion interventions presented using an interactive digital approach. The control group, on the other hand, which only received conventional education, showed no noticeable changes (Table 1).

Table 2. Normality and homogeneity test results for the control group

Parameter		Kolmogorov-Smirnov test		Levene's test	
		t	p-Value	t	p-Value
Positive mental health	Pre-test	0.164	0.039	1.450	0.233
	Post-test	0.154	0.067		
Self-regulation	Pre-test	0.146	0.104	0.842	0.363
	Post-test	0.120	0.200		
Academic integrity	Pre-test	0.122	0.200	0.338	0.563
	Post-test	0.187	0.009		

Assumptions of normality and homogeneity were examined. The Kolmogorov-Smirnov test indicated that most data were normally distributed ($p \geq 0.05$), except for pre-MHC ($p < 0.05$) and post-INT ($p < 0.05$). Levene's test showed that all parameters met the assumption of homogeneity ($p > 0.05$). Accordingly, the pre-post comparisons were analyzed using the paired sample t-test for data that satisfied both normality and homogeneity assumptions, whereas the Wilcoxon signed-rank test was applied to data that violated one or both assumptions (Table 2).

Table 3. Normality and homogeneity test results for the experimental group

Parameter		Kolmogorov-Smirnov test		Levene's test	
		t	p-Value	t	p-Value
Positive mental health	Pre-test	0.129	0.200	1.829	0.182
	Post-test	0.139	0.142	0.270	0.605
Self-regulation	Pre-test	0.125	0.200	2.107	0.152
	Post-test	0.168	0.030	1.829	0.182
Academic integrity	Pre-test	0.103	0.200	0.270	0.605
	Post-test	0.196	0.005	2.107	0.152

Subsequently, assumption checks were conducted on the experimental group. Similar to the control group, normality and homogeneity tests were used to identify whether the data fulfilled the prerequisites for parametric testing. Most parameters were normally distributed, except for post-RC ($p < 0.05$) and post-INT ($p < 0.05$). Levene's test confirmed that all parameters satisfied the homogeneity assumption ($p \geq 0.05$). Therefore, the pre-post comparisons were analyzed using the paired sample t-test for parameters that met both the normality and homogeneity assumptions, while the Wilcoxon signed-rank test was employed for parameters that violated the normality assumption despite being homogeneous. This approach ensured the validity of the statistical analyses in both the control and experimental groups (Table 3).

Table 4. Paired t-test results

Parameter		Control group		Experimental group	
		Mean	p-value	Mean	p-value
Positive mental health	Pre-test	40.26±5.14	0.138*	38.00±4.51	0.0001
	Post-test	42.40±6.33		72.33±3.37	
Self-regulation	Pre-test	58.53±7.68	0.065	61.53±7.74	0.0001*
	Post-test	62.50±9.43		75.80±8.31	
Academic integrity	Pre-test	59.90±7.81	0.093*	59.00±8.15	0.0001*
	Post-test	62.36±7.94		82.60±9.88	

* Wilcoxon test

All three parameters significantly increased in the experimental group. Positive mental health scores increased from a mean of 38.00±4.51 to 72.33±3.37 ($p \leq 0.0001$), indicating a significant difference. Similarly, there was a difference in the self-regulation parameter, as the score rose from 61.53±7.74 to 75.80±8.31 ($p \leq 0.0001$). Additionally, the academic integrity parameter showed a significant increase ($p \leq 0.05$), rising from 59.00±8.15 to 82.60±9.88.

The average score for the three parameters increased in the control group; however, these changes were not statistically significant. The positive mental health score rose from 40.270±5.146 to 42.40±6.33 ($p > 0.05$). The self-regulation score climbed from 58.53±7.68 to 62.50±9.43, yet the difference was not significant ($p > 0.05$). Similarly, the academic integrity score rose from 59.90±7.81 to 62.37±7.94 (Table 4).

Table 5. Normality and homogeneity test results for inter-group comparison (before the intervention)

Parameter		Kolmogorov-Smirnov test		Levene's test	
		t	p-Value	t	p-Value
Positive mentalhealth	Control group	0.164	0.039	0.957	0.332
	Experimental group	0.129	0.200		
Self-regulation	Control group	0.146	0.104	0.028	0.868
	Experimental group	0.125	0.200		
Academic integrity	Control group	0.122	0.200	0.032	0.859
	Experimental group	0.103	0.200		

The assumption tests at the pre-test stage indicated that most parameters were normally distributed, except for positive mental health in the control group ($p < 0.05$). Levene's test confirmed that all parameters satisfied the homogeneity assumption ($p \geq 0.05$). Accordingly, intergroup comparisons were performed using the independent sample t-test for self-regulation and Academic Integrity, while positive mental health was analyzed using the Mann-Whitney

U test due to the violation of the normality assumption in the control group (Table 5).

Prior to the intervention, there were no differences between the groups in any of the parameters. The experimental group's mean score for positive mental health was 38.00±4.51, while the control group's mean score was 40.27±5.14 (p>0.05; Cohen's d=0.468; Table 6).

Table 6. Independent t-test results for pre-test intergroup comparison

Parameter		Mean	p-Value	Cohen's d
Positive mental health	Control group Experimental group	40.26±5.14 38.00±4.51	0.151*	0.468
Self-regulation	Control group Experimental group	58.53±7.68 61.53±7.74	0.138	0.388
Academic integrity	Control group Experimental group	59.90±7.81 59.00±8.15	0.664	0.113

* Mann-Whitney U test

The experimental group's mean score for self-regulation was 61.53±7.74, while the control group's mean score was 58.53±7.68 (p>0.05; Cohen's d=0.388). These results fall into the small-to-moderate effect size category. In the pre-test, there was a nearly insignificant and non-statistically significant difference in the two groups' mean self-regulation scores.

Furthermore, the pre-test scores for the academic integrity parameter were nearly identical for the control and experimental groups, at 59.90±7.81 and 59.00±8.15, respectively (p>0.05; Cohen's d=0.113).

Positive mental health in both groups met the normality assumption (p≥0.05), while self-regulation in the experimental group (p<0.05) and academic integrity in both groups (p<0.05) did not. Levene's test indicated that all parameters satisfied the homogeneity assumption (p>0.05). Accordingly, intergroup comparisons were performed using the independent sample t-test for positive mental health, while self-regulation and academic integrity were analyzed using the Mann-Whitney U test due to violations of the normality assumption (Table 7).

Table 7. Normality and homogeneity test results for inter-group comparisons (after the intervention)

Parameter		Kolmogorov-Smirnov test		Levene's test	
		t	p-Value	t	p-Value
Positive mental health	Control group Experimental group	0.154 0.139	0.067 0.142	1.242	0.270
Self-regulation	Control group Experimental group	0.120 0.168	0.200 0.030	0.032	0.859
Academic integrity	Control group Experimental group	0.187 0.196	0.009 0.005	1.510	0.224

Regarding positive mental health, the experimental group's mean score (72.33±3.38) was significantly higher than the control group's (42.40±6.34; p≤0.05; Cohen's d=5.893). There was a significant difference in self-regulation between the experimental group (75.80±8.31) and the control group (62.50±9.44; p≤0.05; Cohen's d=1.496). The experimental group's average score of 82.60±9.89 was higher than the control group's (62.37±7.95), showing a difference in academic integrity (p≤0.05). The obtained effect size (Cohen's d=2.255) was classified as very large (Table 8).

Table 8. Independent t-test results for pre-test between-group comparison

Parameter		Mean	p-Value	Cohen's d
Positive mental health	Control group Experimental group	42.40±6.33 72.33±3.37	0.0001	5.893
Self-regulation	Control group Experimental group	62.50±9.43 75.80±8.31	0.0001*	1.496
Academic integrity	Control group Experimental group	62.36±7.94 82.60±9.88	0.0001*	2.255

* Mann-Whitney U test

Discussion

This study aimed to investigate the effectiveness of a digital-based mental health promotion in enhancing students' academic integrity in the digital age. Students' positive mental health, self-regulation, and academic integrity were markedly enhanced by digitally-based mental health promotion interventions. Both statistically and practically, students who participated in the program showed greater improvements in these aspects than those who did not receive the intervention. These findings support the idea that interactive digital media promoting mental health can be systematically used as a preventive strategy to address issues related to academic integrity in the digital age.

The learning system in higher education has evolved as a result of the development of digital technology, exposing students to more intricate demands for excellence, including technological distractions. This has led to a risk of declining mental health and well-being among students, triggering academic misconduct such as plagiarism, cheating, and data manipulation. Students are particularly vulnerable to mental health issues due to high academic demands, social pressure, and the adjustment to digital learning. According to a study by Browning *et al.*, online classes tend to make students feel more stressed and anxious [14]. Thus, mental health promotion not only helps enhance psychological well-being but also contributes to establishing a foundation of academic integrity. Academic anxiety mediates deviant behavior; the higher the anxiety, the greater the potential for academic misconduct. Therefore, promoting mental health that reduces anxiety can also indirectly lower the likelihood of misconduct [15].

Students' positive mental health scores significantly increased following digital-based interventions for mental health promotion. This illustrates how

interactive approaches that integrate stress education, time management, and adaptive coping mechanisms can enhance students' positive self-perceptions and mental health. This study supports a meta-analysis, finding interventions based on mental health promotion to be effective in improving student psychological well-being, especially when delivered in an engaging and responsive manner to the needs of the digital generation [4, 16]. It has been demonstrated that digital mental health-based interventions, such as applications or online platforms, greatly enhance students' psychological health [17]. The use of digital media is essential to mental health promotion strategies that are relevant to students' lifestyles, serving not just as a means of delivering materials.

Student psychological well-being is positively correlated with a significant increase in resilience, which also protects them from emotional distress, such as feelings of loss of control, anxiety, and depression. This aligns with the experimental groups' improvement in positive mental health [18, 19], indicating that, in the digital age, mindfulness-based digital support can be a useful strategy to enhance students' mental health and academic performance. It has been noted that positive psychology-based promotional interventions are effective in improving students' mental health [1]. A study by Yurayat & Seechaliao revealed that psychological well-being can be improved through positive psychology-based interventions, including self-training, reflection with gratitude, mapping personal strengths, and the development of meaningful goals. Mental health promotion aimed at strengthening positive dimensions will impact resilience, meaning in life, and the establishment of healthy social relationships, thus serving as an important foundation for supporting academic success and character development among students [9].

Student well-being is greatly enhanced by the use of gratitude-based applications [20]. The StudentPOWR program by Nixon *et al.*, a five-week psychology-based positive intervention, has been shown to improve students' subjective well-being during distance learning, supporting similar findings [21]. Interventions based on cognitive behavioral therapy (CBT) have also garnered a lot of interest. In a study [22], a customized cognitive behavioral therapy app is developed for students, and the results of a randomized controlled trial indicated that students are more engaged and experienced fewer depressive symptoms. Although compliance is higher in the human-guided group, research [23] emphasizes the effectiveness of transdiagnostic iCBT, whether conducted by humans or computers, when compared to conventional services.

Digital-based mental health promotion interventions have been shown to improve well-being, lessen depressive symptoms, and increase students' resilience and coping mechanisms. This confirms that interactive approaches using applications, online CBT, and video-based modules can be effective strategies for assisting students in managing the pressures of their studies and developing a more positive perception of their mental health. As a result, this study highlights the urgency of implementing digital interventions as a practical solution for promoting student mental health.

Additionally, following the intervention, students' assessment of their academic self-regulation showed a significant improvement. Digitally trained students exhibited enhanced time management, priority setting, and learning strategy planning. These findings support those of a study [24], indicating psychological resilience and self-regulation to be powerful predictors of students' academic self-efficacy. According to Deng *et al.*, students' self-regulation is positively impacted by active and reflective learning-based interventions, which directly supports ethical decision-making in academic settings [12]. Digital technology-based interventions not only impact psychological well-being but also explicitly foster knowledge, emotional, and behavioral self-regulation skills [19].

Interventions aimed at promoting mental health can greatly improve students' academic self-regulation. These findings align with recent empirical evidence emphasizing the close relationship between mental health and academic success. According to a meta-analysis, mindfulness programs for students help them maintain self-control and consistency in their learning behaviors in an academic setting, in addition to improving their mental health [25]. This is consistent with other research, including the UVC-lite Program, which discovered that brief video-based interventions aimed at enhancing emotional management abilities can help students better handle stress, which in turn leads to improved academic self-regulation [26].

Strengthening self-regulation based on mental health has become increasingly important in the context of academic integrity in the digital era. The importance of a holistic framework in instilling academic integrity values through education, rather than relying solely on a sanction-based approach, cannot be overstated. Integrity is better preserved by an educational approach that encourages student agency [27]. Sayın Kılıç *et al.* emphasize the necessity of adapting academic integrity policies to meet the demands of generative artificial intelligence (GenAI), focusing on strengthening student self-regulation as the main foundation [28].

Improving students' academic self-regulation was significantly aided by mental health promotion. It has been noted that interventions prioritizing stress management skills, psychological well-being, and self-care not only enhance mental health but also reinforce the consistency of students' learning behaviors. These results align with empirical data showing that technology-based interventions, such

as UVC-Lite, online self-help programs, and mindfulness programs, can help students better regulate their emotions and cope with pressure. In the digital age, improved academic self-regulation is a crucial first step in preserving students' academic integrity. With the development of GenAI and other technological advancements, students need to possess strong self-regulation to engage in an ethically and responsibly guided learning process. To enhance students' agency in upholding integrity values, recent research emphasizes the importance of a comprehensive framework and non-punitive educational approaches.

Furthermore, there was a significant increase in academic integrity. This rise suggests that mental health promotion programs can indirectly reduce the risk of academic misconduct. Academic integrity is typically better upheld by students who are mentally well and possess good time and stress management skills. According to a prior study by Ayoub-Al-Salim & Aladwan [5], psychological factors, such as stress and emotional regulation significantly influence students' tendency to violate integrity. Additionally, Aruğaslan notes that procrastination and time management skills are strongly related to academic misconduct in distance learning, underscoring the importance of interventions that enhance self-regulation [29]. This study concludes that promoting mental health plays a significant role in improving students' academic self-regulation. It has been demonstrated that interventions prioritizing psychological health, self-care, and stress management approaches not only improve mental health but also reinforce the consistency of students' learning behaviors. These findings align with empirical data showing that technology-based interventions and mindfulness programs can help students better regulate their emotions and manage academic pressure.

One important component of program effectiveness is the delivery of digital interventions. Digital-native students are more responsive to interactive, visual, and reflective technology-based approaches. Digital media not only serves as a means of content delivery but also as a crucial component of a strategy for promoting mental health that is relevant to students' lives. Positive psychology-based interventions not only aim to improve well-being but also have the potential to promote positive character traits such as academic integrity [30]. Austin *et al.* discuss how digital therapy platforms help students gain better access to mental health care. Especially for individuals from underrepresented groups, digital services assist in removing conventional barriers to access. Digital technology is not only a practical medium but also an effective one that aligns with the modern lives of students [31]. It has been demonstrated that mobile applications designed to promote mental health among students are both effective and relevant to their mobile lifestyles [32, 33]. Lim & Tierney explain the use of positive psychological interventions in the context of digital design, emphasizing that the delivery format should be customized to meet the needs and lifestyle preferences of current digital students to optimize effectiveness [34]. Whether via websites, apps, or other easily accessible online platforms, technology has enormous potential to support students' mental health [35]. The use of technology not only expands the reach of interventions but also allows for a more personalized, flexible, and tailored approach to the needs of the digital generation.

In other words, digital-based mental health promotion holds significant potential as a preventive strategy to enhance students' academic integrity in the digital era. Students actively seek information and support for their mental health from the internet and new technologies. Despite their awareness of the challenges in determining the credibility of information, they have a strong potential to utilize digital sources. This illustrates how digital media is a natural part of their lives and how it can be incorporated into strategies for promoting mental health. This program not only facilitates students in developing ethical character, which is the foundation of academic integrity, but also enhances their psychological health. Therefore, this approach is ideal for broad adoption in higher education, both as part of the curriculum and through non-academic support services.

Interactive digital-based mental health promotion significantly enhanced students' positive mental health, self-regulation skills, and academic integrity. The three-session intervention, which included education on stress and academic pressure, time management and prioritization, and adaptive coping mechanisms, was shown to strengthen the psychological aspects that play an important role in shaping ethical academic behavior. These findings have significant implications for higher education institutions, especially in the digital age of distractions and pressure, as they should integrate mental health promotion into their character development and academic misconduct prevention strategies. However, the study still has limitations, such as its scope, which only included students from a single study program and the brief duration of the intervention. Furthermore, respondent perception bias may be present in measurements that rely solely on self-report instruments. Future research should apply a longitudinal design to observe the intervention's long-term effects and integrate qualitative and quantitative data to obtain a more thorough understanding of how effectively mental health promotion programs enhance students' academic integrity.

Conclusion

Digitally-based mental health promotion is an effective and preventive approach for fostering

students' academic integrity, particularly in overcoming the challenges of pressure and learning disruptions in the digital age.

Acknowledgments: Nothing was reported by the authors.
Ethical Permission: This study was approved by the Ethics Committee of the Research and Community Service Institute, Sekolah Tinggi Ilmu Kesehatan (STIKes) Sriwijaya, Palembang.
Conflicts of Interests: There are no conflicts of interests regarding the publication of the current research.
Authors' Contribution: Bahriah Y (First Author), Introduction Writer/Methodologist/Original Researcher/Statistical Analyst (60%); Uyun M (Second Author), Introduction Writer/Methodologist/Assistant Researcher/Discussion Writer (20%); Widyastuti Y (Third Author), Discussion Writer (5%); Ningsih IU (Fourth Author), Discussion Writer (5%); Zulhijra Z (Fifth Author), Discussion Writer (5%); Muthmainna A (Sixth Author), Discussion Writer (5%)
Funding/Support: Nothing was reported by the authors.

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