

**Feasibility of Exercise and Mindfulness Intervention for Improving Psychological Symptoms in Female University Students With Smartphone Addiction: A Pilot Study**

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## ORIGINAL STUDY

# Feasibility of Exercise and Mindfulness Intervention for Improving Psychological Symptoms in Female University Students With Smartphone Addiction: A Pilot Study

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## Abstract

The prevalent use of smartphones has raised significant concerns regarding smartphone addiction among university students. This addiction can lead to a range of psychological problems, which may ultimately affect their academic performance and overall well-being. Engaging in exercise has been linked to improved mental well-being, mainly by regulating endorphin levels, which can help reduce feelings of anxiety and depression. Mindfulness-based interventions (MBIs) have become effective strategies for tackling different psychological challenges. Evidence indicates that mindfulness practices can significantly decrease stress, anxiety, and depression levels. Combining exercise with mindfulness (EM) techniques can boost their overall effectiveness and provide additional mental health benefits for university students undergoing these interventions. This preliminary study aimed to evaluate the practicality and efficacy of an EM in addressing psychological symptoms among female university students with smartphone addiction. A total of 30 participants took part in a two-week training programme. Psychological symptoms were evaluated using the DASS-21 questionnaire. The content validity was assessed via the CVI and evaluations from experts. Statistical evaluations were conducted utilizing SPSS version 25.0. The findings from the content validity assessment indicated a high correlation among the items of the DASS-21 (CVI = 0.833, kappa = 0.816). Additionally, the internal reliability throughout the various dimensions of the questionnaire was deemed satisfactory, with Cronbach's alpha values ranging is 0.832 to 0.930. Although retention and adherence rates were elevated, there was no significant change in psychological symptom scores following the EM. This study highlights the feasibility and acceptability of the EM intervention for female university students experiencing smartphone addiction. While no significant improvements in psychological symptoms were observed, the findings suggest a need for further research into more comprehensive, long-term interventions to investigate the possible advantages of EM within this demographic.

**Keywords:** Exercise and mindfulness(EM), Psychological symptoms, Female university students, Smartphone addiction

## 1. Introduction

In recent years, the widespread use of smartphones has significantly transformed the lifestyle and learning experiences of university students. Due to the characteristics of social interaction and study

pressure, university students are more vulnerable to the influence of smartphone addiction. Research indicates that smartphone addiction is associated with symptoms such as anxiety, depression, and social isolation, particularly among female students,

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making this issue increasingly prominent (Ravindran & Watanabe, 2019).

Many university students with smartphone addiction have significant psychological symptoms (Ay et al., 2024; Candussi et al., 2023; Elamin et al., 2024; Nikolic et al., 2023; Sarhan, 2024; Zhu et al., 2025). Overuse of smartphones is detrimental to the physical and mental well-being of university students (Abuhamdah & Naser, 2023; Arumugam et al., 2020). Numerous university students turn to their smartphones as a way to cope with stress and escape from reality (Bradley & Howard, 2023; Sahimi et al., 2022; Qiu et al., 2024; Zhu et al., 2025). University students often encounter various pressures related to academics, employment, and interpersonal relationships, which makes smartphones a tool for escaping stress and seeking social support. Research has revealed a significant correlation between low self-esteem, social anxiety, and smartphone addiction (Bian & Leung, 2015; Kuss & Griffiths, 2017; Elhai et al., 2017; Twenge & Campbell, 2019; Zhang et al., 2019). This makes students who are already facing mental health issues more susceptible to developing addictive behaviours. This issue is particularly pronounced among female university students (Ravindran & Watanabe, 2019).

The impact of smartphone addiction is not limited to an individual's mental health; it may also affect academic performance and social life. Studies have shown that long-term screen time is negatively correlated with academic performance, especially in tasks that require concentration and self-management (Hale & Guan, 2015). Additionally, smartphone addiction may lead to a decline in social skills in real-life interactions, causing university students to increasingly rely on virtual interactions while neglecting the importance of face-to-face communication (Romer et al., 2014).

Exercise has been shown to effectively alleviate stress and anxiety, contributing to an improved emotional state (Rebar et al., 2015). Regular physical activity releases endorphins, which are natural happiness hormones that enhance mood and reduce reliance on smartphones (Dishman & Buckworth, 1996). Studies indicate that individuals who engage in exercise tend to perform better in face-to-face social interactions, thereby decreasing the feelings of social isolation that may arise from smartphone overuse (Biddle & Asare, 2011). Mindfulness practices can enhance attention and concentration, enabling individuals to maintain focus even in the face of information overload (Zeidan et al., 2010). This improved focus helps students minimise distractions from smartphones, thereby enhancing their learning outcomes. This study explored the effect of psychological symptoms on female uni-

versity students addicted to smartphones through EM intervention.

Although the findings of these studies are encouraging, more in-depth research is necessary to fully evaluate the effect of EM on the psychological symptoms associated with smartphone addiction in female university students. Addressing this research gap is essential for developing comprehensive exercise and psychological intervention programs. Such integrated approaches could not only reduce the prevalence of smartphone addiction but also significantly improve the psychological well-being of female students struggling with this issue. Therefore, this study aims to investigate the effects of EM on the psychological symptoms of smartphone addiction among female university students and to assess the feasibility of these combined interventions as a therapeutic approach. The goal of this research is to determine whether exercise and mindfulness-based interventions can serve as a practical, safe, and effective method for alleviating psychological symptoms in female students with smartphone addiction.

## 2. Methodology

### 2.1. Participants

The study participants were comprised of 30 university students from two universities in Shaanxi Province, China. The inclusion criteria were as follows: (1) female participants aged between 18 and 23 years (Liu et al., 2022). (2) Participants were required to be in good health, free from cardiovascular, metabolic, renal, or pulmonary diseases, without any symptoms of psychological disorders, and with no history of alcohol dependence (Liu et al., 2022; Lu et al., 2020; Ming et al., 2011). (3) Participants were required to achieve scores greater than 40 (out of a maximum of 85) on Leung's assessment scale for MAPI (Leung, 2008; Liu et al., 2022; Lu et al., 2020; Xiao et al., 2021). (4) Participants were able to engage in and complete the exercise training independently, without the use of any assistive devices (Liu et al., 2022). This study was approved by the Ethics Review Committee of Yulin First Hospital (Ethics Approval No: 2022-N.030).

All participants were aged 18 years or older. During the pre-experimental phase, participants were directed to maintain their usual daily activities and engage only in the exercise and mindfulness (EM) interventions, avoiding any additional physical interventions. Furthermore, participants were asked to adhere to a regular dietary regimen, with researchers monitoring relevant dietary information. After a two-week intervention period, follow-up measurements

were conducted to assess the effectiveness and feasibility of the EM interventions.

## 2.2. Participant characteristics

The researchers gathered demographic information about the participants, including measurements of various indicators such as age, grade, parental education levels, family structure, and monthly household income. Demographic data, including participants' age and academic year, were systematically collected using the demographic indicators from previous research questionnaires. The average age of the subjects ranged from 18 to 23 years.

## 2.3. Training program

The intervention utilised in this study involves a combination of exercise and MBI (EM) interventions. Numerous studies have highlighted the beneficial effects of EM in mitigating psychological symptoms. Engaging in physical activity has been correlated with improvements in mental well-being, primarily through the modulation of endorphin levels, which can alleviate feelings of anxiety and depression (Chekroud et al., 2018). This highlights the role of exercise as a practical non-drug approach to combat mental health issues.

MBIs have emerged as powerful strategies for addressing various psychological challenges. Evidence shows that mindfulness practices can substantially reduce levels of stress, anxiety, and depression (Keng et al., 2011). Furthermore, a systematic review found that MBIs are notably effective in improving mental health outcomes, as they promote emotional regulation and increase resilience (Goyal et al., 2014). Combining mindfulness techniques with physical exercise may also enhance their combined efficacy, producing additional benefits for individuals undergoing these interventions (Schoenberg & Perich, 2016). The current literature supports the efficacy of both exercise and MBI approaches in mitigating psychological symptoms. Future studies should investigate the potential synergistic effects of integrating these two interventions. The intervention encompassing exercise and mindfulness (EM) is primarily composed of three key components:

- i. Warm-up (5 min): Participants participated in extensive stretching routines and joint mobility exercises to adequately prepare their bodies for the forthcoming exercise and mindfulness (EM) practices. These preparatory activities were designed to enhance flexibility, improve the range of motion, and facilitate a smoother transition into the EM interventions.
- ii. Main EM Session (50–80 Minutes): This segment consists of brisk walking exercises and mindfulness-based interventions (MBIs), conducted under the supervision of physical trainers and psychological researchers to ensure participants perform each activity with proper posture and technique. The brisk walking component emphasises a gradual increase in walking speed, followed by a slow reduction in pace. The MBIs include practices such as yoga, mindful breathing, mindfulness meditation, body scanning, and mindful walking, all designed to enhance awareness and promote overall well-being.
- iii. Cool down (5 min): breathing and body stretch (shoulder, triceps, and neck).
- iv. Frequency: Participants engaged in sessions twice a week for a duration of 60 to 90 minutes over a period of two weeks.
- v. Coaches lead training content with seven years of training experience and certification. The coach provides timely feedback on movements and techniques.

## 3. Instrument

To evaluate the effects of the EM intervention on the psychological symptoms of participants, this study employed the Depression Anxiety Stress Scale-21 (DASS-21), a widely validated instrument for measuring psychological distress. The DASS-21 evaluates multiple dimensions of psychological symptoms. In this research, three primary dimensions were primarily examined:

- i. Depression: This subscale assesses both the presence and intensity of depressive symptoms, which encompass feelings of sadness as well as a loss of interest or pleasure, and a lack of motivation. It assesses how individuals perceive their emotional state, focusing on aspects such as self-esteem and the ability to enjoy life.
- ii. Anxiety: This component evaluates anxiety symptoms, including feelings of nervousness, restlessness, and worry. It captures the physiological and psychological manifestations of anxiety, such as panic, fear, and a sense of impending doom, providing insight into how these feelings impact daily functioning.
- iii. Stress: The stress subscale examines the level of tension and stress individuals experience, highlighting feelings of overwhelm, irritability, and agitation. It explores how external pressures and

internal coping mechanisms influence an individual's stress response.

These subscales provide a comprehensive assessment of an individual's psychological well-being, enabling researchers to understand the multifaceted nature of mental health issues.

#### 4. Outcome measures

The main aim of this preliminary study is to assess the feasibility of applying the EM intervention to address psychological symptoms in female university students. Feasibility was assessed through several key measures:

- i. **Participant Engagement:** We measured participant engagement by monitoring attendance rates during the intervention sessions. The number of sessions attended by each participant was recorded to determine their commitment to the program and the overall acceptability of the intervention.
- ii. **Self-Reported Symptom Changes:** Participants completed standardised questionnaires, including the DASS-21, at baseline and after the intervention to assess any changes in depressive, anxiety, and stress symptoms. This self-reported data provided insight into the perceived effectiveness of the EM intervention in alleviating psychological distress.
- iii. **Participant Satisfaction:** Feedback was collected through post-intervention surveys designed to gauge participants' satisfaction with the EM intervention. Questions focused on their perceived utility of the techniques learned, the overall experience of the sessions, and suggestions for improvement.
- iv. **Retention Rates:** The study tracked participant retention throughout the intervention period. High retention rates were indicative of the intervention's feasibility and potential for scalability in similar populations.
- v. **Implementation Fidelity:** We evaluated the adherence to the intervention protocol by observing the consistency with which the EM techniques were applied across different sessions. This measure helped ensure that the intervention was delivered as intended, which is crucial for interpreting the outcomes accurately.

#### 5. Statistical analysis

The Content Validity Index (CVI) was established as utilized to evaluate the reliability of the DASS-21 questionnaire, with its validity subsequently con-

firmed through assessments and ratings from expert reviewers. Preliminary statistical analyses were performed using SPSS 25.

## 6. Results

### 6.1. Questionnaire validity assessment

The DASS-21 is a reliable assessment tool instrument that has proven effective for various populations, including university students (Antony et al., 1998). In this study, a panel of six experts from pertinent fields, including professors and mental health practitioners, was tasked with assessing the relevance of the EM intervention and training techniques. The analysis of the CVI revealed that the relevance scores for the DASS-21 items were satisfactory (CVI = 0.833; Kappa = 0.816), indicating a robust level of content validity for the intervention implemented in this research. Detailed results are presented in [Table 1](#).

### 6.2. Reliability

The internal consistency of the DASS-21 was evaluated using Cronbach's alpha coefficients across its three core dimensions: depression, anxiety, and stress. An alpha value of 0.70 or above is generally considered indicative of acceptable scale reliability. The alpha coefficient for the depression dimension was found to be 0.874, indicating good internal consistency. For the anxiety dimension, the alpha coefficient was recorded at 0.832, indicating robust reliability. In contrast, the Cronbach's alpha for the stress dimension was 0.930, signifying a very high degree of reliability. These findings suggest that the DASS-21 provides consistent and reliable measurements across multiple dimensions of psychological symptoms among female college students in this study (range of 0.832 to 0.930). For additional information, please consult [Table 2](#).

Additionally, reliability testing was conducted for each dimension of the DASS-21 scale. The ICCs were calculated, revealing values of 0.855 for the depression dimension, 0.822 for the anxiety dimension, and 0.931 for the stress dimension. For further details, please refer to [Table 2](#).

### 6.3. Feasibility, adherence, and safety of EM interventions

The study attained an impressive retention rate, as all participants successfully completed the two-week EM intervention. This outcome indicates that the EM intervention is not only well-tolerated but also effective and operationally feasible. The results

Table 1. The correlation and consistency of DASS-21.

Variables	Instruments	Total Agreement	Clarity	
			I-CVI	KAPPA
■ Psychological Symptoms	DASS-21	5	0.833	0.816

Note: DASS-21 refers to the 21-item Depression, Anxiety, and Stress Scale, a widely used tool for assessing psychological distress; I-CVI: Item-Content Validity Index.

Table 2. Reliability of questionnaire outcomes.

Variable	Dimension	Cronbach's alpha	ICC
DASS-21	Stress	0.930	0.931
	Anxiety	0.832	0.822
	Depression	0.874	0.855

from the feasibility assessment suggest that the EM intervention is suitable for female university students struggling with smartphone addiction. Moreover, the participation rate of over 80% reflects the participants' continued engagement and active participation throughout the entire intervention process. Sustaining long-term intervention strategies for female university students is essential, as it plays a vital role in promoting positive health outcomes.

The recruitment rate for this study was relatively high, with a large number of eligible participants enrolling. This finding indicates that female university students experiencing smartphone addiction are genuinely interested in the EM intervention, which combines exercise and psychological strategies. Participants view it as an easy, accessible, and attractive approach to improving their health behaviors. Importantly, no major adverse events were reported during the intervention period, further confirming the safety of the experimental approach, and supporting the feasibility of implementing the EM intervention within the university student population.

### 7. Psychological symptoms

In this initial study, the evaluation of psychological symptoms through the DASS-21 revealed no notable enhancement. After the two-week EM intervention, the psychological symptom scores for female university students remained unchanged when compared to baseline measurements. These results suggest that there were no substantial variations in participants' psychological symptoms over such a brief duration. Therefore, it may be necessary to conduct further research with an extended intervention period to investigate the potential effects of EM on the psychological symptoms of female university students.

### 8. Discussion

This initial study seeks to assess the practicality and efficacy of an EM intervention for addressing

psychological symptoms among female university students who use smartphones. The findings will provide valuable insights into the content validity and reliability of the DASS-21 as a measurement tool, as well as the practicality of implementing an EM program for this population.

Analysis based on the Content Validity Index (CVI) indicates that the items of the DASS-21 exhibit strong correlations, with a CVI of 0.833 and a kappa value of 0.816, confirming the questionnaire's applicability for the study participants. Additionally, the high Cronbach's alpha values for the dimensions of depression, anxiety, and stress further endorse the reliability of the DASS-21 in assessing psychological symptoms among female university students. These findings align with previous study, underscoring the DASS-21's efficacy as a viable tool for evaluating mental health-related psychological symptoms, particularly within the university student population.

While the DASS-21 demonstrates strong validity and reliability, the results of this study indicate that there was no significant improvement in psychological symptoms following a two-week EM intervention. This lack of change may be attributed to the relatively short duration of the intervention, which may not have been sufficient for meaningful effects to manifest. Prior research has indicated that lengthening the duration of interventions may be essential for achieving significant improvements in psychological symptom outcomes, especially in populations struggling with smartphone addiction. Therefore, additional studies investigating longer intervention periods could yield valuable insights into the long-term effects of EM on smartphone addiction in female university students.

The high retention and adherence rates observed in the EM intervention indicate its feasibility and acceptability within the study population. With participation rates exceeding 80%, university students engaged actively, reflecting the practical value of the EM intervention. Furthermore, the lack of significant adverse events underscores the safety of employing EM, which combines exercise with psychological interventions for this demographic. These findings suggest that EM is a convenient and appealing option for female university students seeking to mitigate smartphone addiction and associated psychological symptoms.

In summary, although this preliminary study did not demonstrate significant short-term improvements in psychological symptoms among female university students with smartphone addiction, it provides essential initial data supporting the feasibility, convenience, and safety of EM for this population. Future research should consider interventions with longer durations and explore a broader range of psychological health indicators to understand better the potential benefits of EM interventions for this group.

## 9. Limitations

This initial study has several recognized limitations. Firstly, the brief duration of the EM intervention (two weeks) may not be adequate to detect meaningful changes in psychological symptoms among female students. Additionally, the limited sample size constrains the generalizability of the findings. While the study demonstrated high retention and adherence rates, a larger sample size would strengthen the reliability of the findings and offer clearer evidence of the intervention's effectiveness across a more varied population.

## 10. Conclusion

This initial study offers important insights into the feasibility and safety of EM interventions for addressing psychological symptoms in female college students with smartphone addiction. While the results reveal no significant improvement in psychological symptoms during the two-week intervention period, the high retention and adherence rates indicate that participants perceived the program as acceptable and remained engaged. Additionally, the effectiveness and reliability of the DASS-21 further validate its use as a measurement tool within the college student population.

Despite several limitations, including the short duration of the EM intervention and a small sample size, this research lays the groundwork for future experimental studies. To thoroughly investigate the potential impacts of EM interventions on the psychological symptoms of female college students and assess long-term benefits, longer intervention durations and a larger sample size would be beneficial, more diverse sample sizes are necessary. Ultimately, EM represents a convenient, safe, and integrative intervention approach combining physical and mental exercises, which may help reduce smartphone addiction and associated psychological symptoms among female college students.

## Conflicts of interest

None.

## Ethical clearance

This manuscript approved by the Ethics Committee of Yulin First Hospital on 25 April 2022 (Approval No. 2022-N.030).

## Author's contributions

All contributions of this study were done by the researchers Huang Liu (H. Liu), Kim Geok Soh (K.G. Soh), Samsudin Shamsulariffin (S. Shamsulariffin), Kim Lam Soh (K.L. Soh).

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## Data Availability

The data that support the findings of this study are available on request from the corresponding author.

## References

- Ay, M. K., Topuzoğlu, A., & Altaş, Z. M. (2024). Smartphone addiction and depression among health sciences students during COVID-19 pandemic. *BMC Public Health*, 24(1), 3502. <https://doi.org/10.1186/s12889-024-21075-7>
- Abuhamdah, S. M. A., & Naser, A. Y. (2023). Smart phone addiction and its mental health risks among university students in Jordan: a cross-sectional study. *BMC Psychiatry*, 23(1), 812. <https://doi.org/10.1186/s12888-023-05322-6>
- Arumugam, N., Selvanayagam, S., & Sathiyasenan, S. (2020). The Effects of Smartphone Usage on University Students. *International Journal of Academic Research in Progressive Education and Development*, 9. <https://doi.org/10.6007/IJARPED/v9-i3/7960>
- Bradley, A. H. M., & Howard, A. L. (2023). Stress and Mood Associations With Smartphone Use in University Students: A 12-Week Longitudinal Study. *Clin Psychol Sci*, 11(5), 921–941. <https://doi.org/10.1177/21677026221116889>
- Bian, M., & Leung, L. (2015). Linking Smartphone Addiction to Academic Performance: The Role of Social Capital. *Social Indicators Research*, 125(2), 687–703. <https://doi.org/10.1007/s11205-015-0970-7>
- Biddle, S. J. H., & Asare, M. (2011). Physical activity and mental health in children and adolescents: a review of reviews. *British Journal of Sports Medicine*, 45(11), 886–895. <https://doi.org/10.1136/bjsports-2011-090185>
- Candussi, C. J., Kabir, R., & Sivasubramanian, M. (2023). Problematic Smartphone Usage, Prevalence and Patterns among University Students: A Systematic Review. *Journal of Affective Disorders Reports*. <https://doi.org/10.1016/j.jadr.2023.100643>
- Dishman, R. K., & Buckworth, J. (1996). Increasing physical activity: a systematic review of the social and environmental interventions. *Annual Review of Public Health*, 17(1), 207–235. <https://doi.org/10.1146/annurev.publhealth.17.1.207>
- Elamin, N. O., Almasaad, J. M., Busaeed, R. B., Aljafari, D. A., & Khan, M. A. (2024). Smartphone addiction, stress, and depression among university students. *Clinical Epidemiology and Global*

- Health*, 25, 101487. <https://doi.org/https://doi.org/10.1016/j.cegh.2023.101487>
- Nikolic, A., Bukurov, B., Kocic, I., Vukovic, M., Ladjevic, N., Vrhovac, M., Pavlović, Z., Grujicic, J., Kisic, D., & Sipetic, S. (2023). Smartphone addiction, sleep quality, depression, anxiety, and stress among medical students. *Front Public Health*, 11, 1252371. <https://doi.org/10.3389/fpubh.2023.1252371>
- Elhai, J. D., Dvorak, R. D., Levine, J. C., & Hall, B. J. (2017). Anxiety and depression symptoms are related to problematic smartphone use frequency. *Computers in Human Behavior*, 69, 443–450. <https://doi.org/10.1016/j.chb.2016.12.009>
- Sarhan, A. L. (2024). The relationship of smartphone addiction with depression, anxiety, and stress among medical students. *SAGE Open Medicine*, 12, 20503121241227367. <https://doi.org/10.1177/20503121241227367>
- Mohd Salleh Sahimi, H., Norzan, M. H., Nik Jaafar, N. R., Sharip, S., Ashraf, A., Shanmugam, K., Bistamam, N. S., Mohammad Arrif, N. E., Kumar, S., & Midin, M. (2022). Excessive smartphone use and its correlations with social anxiety and quality of life among medical students in a public university in Malaysia: A cross-sectional study. *Frontiers in psychiatry*, 13. <https://doi.org/10.3389/fpsyt.2022.956168>
- Ming, K., Wen-qing, F., Wei, L., & Mo-chun, Q. (2011). Effect of group guidance on internet addiction disorder among university students. *Chin. J. Clin. Psychol*, 19, 137–140.
- Twenge, J. M., & Campbell, W. K. (2019). The age of anxiety: How technology is amplifying the mental health crisis among young adults. *The Atlantic*. Retrieved from: <https://www.theatlantic.com/health/archive/2019/04/mental-health-crisis-young-adults/586151/>
- Ravindran, A. V., & Watanabe, N. (2019). The impact of smartphone addiction on psychosocial well-being among university students in India. *Journal of Behavioral Addictions*, 8(3), 584–592. <https://doi.org/10.1556/2006.8.2019.50>
- Rebar, A. L., Stanton, R., Geard, D., Short, C., Duncan, M. J., & Vandelandotte, C. (2015). A randomized controlled trial of the effects of a physical activity intervention on stress management and well-being in university students. *BMC Public Health*, 15, 497. <https://doi.org/10.1186/s12889-015-1796-6>
- Kuss, D. J., & Griffiths, M. D. (2017). Internet and Gaming Addiction: A Systematic Literature Review of Neuroimaging Studies. *Biological Psychology*, 139, 111–124. <https://doi.org/10.1016/j.biopsycho.2018.10.009>
- Liu, H., Zhou, Z., Zhu, E., Huang, L., & Zhang, M. (2022). Smartphone addiction and its associated factors among freshmen medical students in China: a cross-sectional study. *BMC Psychiatry*, 22(1), 308. <https://doi.org/10.1186/s12888-022-03957-5>
- Leung, L. (2008). Leisure boredom, sensation seeking, self-esteem, and addiction: Symptoms and patterns of cell phone use. In *Mediated interpersonal communication* (pp. 373–396). Routledge.
- Lu, C., Zou, L., Becker, B., Griffiths, M. D., Yu, Q., Chen, S.-T., Demetrovics, Z., Jiao, C., Chi, X., & Chen, A. (2020). Comparative effectiveness of mind-body exercise versus cognitive behavioral therapy for college students with problematic smartphone use: a randomized controlled trial. *International Journal of Mental Health Promotion*, 22(4), 271–282.
- Qiu, Y., Zhao, X., Liu, J., Li, Z., Wu, M., Qiu, L., Xiong, Z., Wang, X., & Yang, F. (2024). Understanding the relationship between smartphone distraction, social withdrawal, digital stress, and depression among college students: A cross-sectional study in Wuhan, China. *Heliyon*, 10(15), e35465. <https://doi.org/https://doi.org/10.1016/j.heliyon.2024.e35465>
- Xiao, T., Jiao, C., Yao, J., Yang, L., Zhang, Y., Liu, S., Grabovac, I., Yu, Q., Kong, Z., Yu, J. J., & et al. (2021). Effects of Basketball and Baduanjin Exercise Interventions on Problematic Smartphone Use and Mental Health among College Students: a Randomized Controlled Trial [Journal: Article]. *Evidence-Based Complementary and Alternative Medicine*, 2021. <https://doi.org/10.1155/2021/8880716>
- Zhang, M., Wei, Y., & Huang, J. (2019). The Relationships among Smartphone Addiction, Self-esteem, and Social Anxiety: A Study of College Students in China. *Computers in Human Behavior*, 105, 106174. <https://doi.org/10.1016/j.chb.2019.106174>
- Zhu, C., Li, S., & Zhang, L. (2025). The impact of smartphone addiction on mental health and its relationship with life satisfaction in the post-COVID-19 era. *Frontiers in psychiatry*, 16, 1542040. <https://doi.org/10.3389/fpsyt.2025.1542040>

# ملائمة التدخل بالتمارين واليقظة الذهنية لتحسين الأعراض النفسية لدى طالبات الجامعة المدمات على الهواتف الذكية: دراسة أولية

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## المستخلص

أثار الاستخدام الشائع للهواتف الذكية مخاوف كبيرة بشأن إدمانها بين طلاب الجامعات. يمكن أن يؤدي هذا الإدمان إلى مجموعة من المشاكل النفسية، والتي قد تؤثر في نهاية المطاف على أدائهم الأكاديمي وسلامتهم العامة. وقد رُبطت ممارسة الرياضة بتحسين الصحة النفسية، وذلك بشكل رئيسي من خلال تنظيم مستويات الإندورفين، مما يساعد على تقليل مشاعر القلق والاكتئاب. وقد أصبحت التدخلات القائمة على اليقظة الذهنية (MBIs) استراتيجيات فعالة لمواجهة التحديات النفسية المختلفة. وتشير الأدلة إلى أن ممارسات اليقظة الذهنية يمكن أن تقلل بشكل كبير من مستويات التوتر والقلق والاكتئاب. ويمكن أن يعزز الجمع بين التمارين الرياضية وتقنيات اليقظة الذهنية (EM) فعاليتها بشكل عام، ويوفر فوائد إضافية للصحة النفسية لطلاب الجامعات الخاضعين لهذه التدخلات. هدفت هذه الدراسة الأولية إلى تقييم جدوى وفعالية التدخلات القائمة على اليقظة الذهنية في معالجة الأعراض النفسية لدى طالبات الجامعات اللواتي يعانين من إدمان الهواتف الذكية. وشاركت 30 مشاركة في برنامج تدريبي لمدة أسبوعين. وتم تقييم الأعراض النفسية باستخدام استبيان DASS-21. وتم تقييم صلاحية المحتوى من خلال مؤشر CVI وتقييمات الخبراء. أجريت التقييمات الإحصائية باستخدام برنامج SPSS الإصدار 25.0. أشارت نتائج تقييم صلاحية المحتوى إلى وجود ارتباط وثيق بين بنود DASS-21 ( $CVI = 0.833$ ) ( $kappa = 0.816$ ). بالإضافة إلى ذلك، اعتُبرت الموثوقية الداخلية في مختلف أبعاد الاستبيان مرضية، حيث تراوحت قيم ألفا كرونباخ بين 0.832 و0.930. على الرغم من ارتفاع معدلات الاستبقاء والالتزام، لم يُلاحظ أي تغيير يُذكر في درجات الأعراض النفسية بعد تطبيق EM. تُسلط هذه الدراسة الضوء على جدوى وقبول تدخل EM لطالبات الجامعات اللاتي يعانين من إدمان الهواتف الذكية. وبينما لم تُلاحظ أي تحسنات ملحوظة في الأعراض النفسية، تُشير النتائج إلى الحاجة إلى مزيد من البحث في تدخلات أكثر شمولاً وطويلة الأمد للتحقيق في المزايا المُحتملة لـ EM ضمن هذه الفئة السكانية.

**الكلمات المفتاحية:** التمارين واليقظة الذهنية (EM)، الأعراض النفسية، طالبات الجامعات، إدمان الهواتف الذكية.