

Mindfulness and Smartphone Addiction: A Literature Review of Positive Psychological Interventions in Adolescents

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Abstract: Smartphone addiction among adolescents has emerged as a significant psychological concern in the digital era, marked by compulsive smartphone use, emotional dysregulation, and increased anxiety, depression, and sleep disturbances. Adolescents are particularly vulnerable due to the critical stage of their social-emotional development and their high exposure to digital devices. This literature review aims to examine the effectiveness of mindfulness-based interventions in reducing the psychological impact of smartphone addiction among adolescents. Ten relevant studies were reviewed and synthesized based on the type of interventions, target outcome, and application context. The results indicate that mindfulness-through approaches such as Mindfulness-Based Cognitive Therapy (MBCT), school-based mindfulness training, and self-awareness education can effectively reduce stress, improve emotional regulations, and minimize problematic smartphone use. The interventions were found to be applicable in both clinical and educational settings. In conclusion, mindfulness represents a promising strategy within the field of positive psychology to address smartphone addiction and to support adolescent mental health in an increasingly digital environment.

Keywords: mindfulness, smartphone addiction, teenagers, positive psychology

1 INTRODUCTION

The phenomenon of excessive use of digital devices that causes addiction to gadgets or Smartphone addiction has become an increasingly worrying issue among teenagers. Smartphone addiction is one of the most common forms of technology abuse in today's young generation, including the alpha generation who have been attached to digital devices from an early age. Addiction to digital devices is characterized by the compulsive use of smartphones, difficulty in controlling duration, and giving rise to psychological symptoms such as anxiety when there are restrictions in accessing smartphones. (Ladani et al., 2025). In today's technological era, adolescents are a very vulnerable group because they are in a crucial phase of social-emotional development. A survey by the Indonesian Internet Service Providers Association (APJII) in 2019 revealed that around 40% of Indonesian adolescents aged 15–19 years are indicated to be addicted to gadgets. These findings are in line with global data, where the prevalence of internet addiction (IA) among adolescents is estimated to range from 10% to 50% (Bakhtiari, Asgarabad, Dehghani, et al., 2025). Gadget addiction, which includes excessive use of mobile phones, social media, and online games, not only impacts cognitive and behavioral aspects, but also significantly affects mental health. Adolescents who experience smartphone addiction often show symptoms such as sleep disorders, chronic stress, anxiety, depression, and decreased academic performance (Samanta et al., 2024). According to research conducted by Janah & Raden, children who are not restricted and supervised in the use of digital technology such as gadgets will develop aggressive behavior that causes inability to control their desire to convey messages. (Iftaql Janah & Diana, 2023). This phenomenon becomes a difficulty due to instant stimulation and quick gratification through the use of gadgets so that children tend to lose patience and are unable to delay a desire. The study indicates that uncontrolled use of technology also makes it difficult for children to regulate emotions and impulsivity. Smartphone addiction has a significant negative impact so that it leads to increased attention to mindfulness as one of the positive psychological intervention strategies for adolescents in supporting their mental health. Teenagers are the group considered the most vulnerable to exposure to the pressures of the digital environment which is currently developing fast and competitive. This is because adolescents are in an important phase of social-emotional development.

In the context of interventions, mindfulness-based approaches are considered relevant because they can build emotion regulation, self-awareness, and psychological resilience. Theoretically, mindfulness is rooted in the concepts of attention regulation and self-regulation that emphasize the ability of individuals to consciously direct attention to current experiences in a non-judgmental way. (Kabat-Zinn, 2003). This is important because smartphone addiction is generally characterized by impulsivity, difficulty controlling impulses, and a tendency to seek instant gratification. Through mindfulness practice, adolescents can learn to observe the urge to use gadgets without having to react immediately, thus helping to reduce compulsive behavior. In addition, mindfulness is also related to the theory of emotion regulation in developmental psychology. Adolescents who practice mindfulness are trained to recognize their emotions, accept their innocence, and respond in a more adaptive way. Thus, mindfulness not only reduces addictive behaviors, but also strengthens psychological resilience amid the pressures of a competitive digital environment. This theoretical framework emphasizes that mindfulness is the right and potential approach in interventions to overcome smartphone addiction in adolescents.

Several previous studies have highlighted the link between mindfulness and smartphone use in adolescents. For example, the study of Bakhtiari et al. (2025) shows that Mindfulness-Based Cognitive Therapy for Children (MBCT-C) is effective in reducing symptoms of anxiety, depression, and internet addiction. Gandhi's research (2023) also found that MBCT-based individual counseling was able to reduce addictive behavior in adolescents who are addicted to online games. Meanwhile, Lestari (2023) and Fuadah (2023) emphasized the effectiveness of education-based mindfulness training in increasing self-awareness of gadget addiction. However, most of these studies are still limited to specific contexts, both in terms of the number of participants, location, and the form of intervention. In addition, previous research has been more partial and has not provided a systematic review of various forms of mindfulness interventions. Based on the above study, the formulation of the problem in this study is: "How effective is mindfulness-based intervention in reducing the impact of smartphone addiction on adolescents". The problem of this research is very important considering the increasing number of smartphone use among adolescents that cause psychological disorders such as anxiety, sleep disorders, and even depression related to this phenomenon. Smartphones are not only a means of communication, but have become a part of daily life that is difficult to separate and can influence the mindset and behavior of teenagers. The purpose of this study is to systematically and thoroughly review various literature that discusses mindfulness interventions with smartphone addiction in adolescents. Therefore, it is important to explore interventions that not only focus on limiting use, but also increasing awareness with one of the mindfulness approaches.

2 MATERIALS AND METHODS

This study uses a literature review approach to explore and analyze previous research that discusses the effectiveness of mindfulness-based interventions in reducing the impact of smartphone addiction on adolescents. This study is narrative and exploratory with the aim of synthesizing the findings conceptually to gain a deeper understanding of mindfulness-based positive psychology interventions. Literature sources were collected from national and international publications using Google Scholar, PubMed, and ScienceDirect databases. The keywords used include "mindfulness", "smartphone addiction", "adolescents", and "psychological intervention". An initial search yielded a considerable number of articles, but most of them were irrelevant because they only discussed correlations, theories, or in the form of overviews. After being selected based on inclusion criteria, namely research published in 2020–2025, focusing on adolescents, and involving mindfulness interventions, only seven articles were assessed to meet the criteria and further analyzed in the results section.

2 RESULTS

This study identified ten research articles that discussed the relationship between mindfulness-based interventions and their impact on various forms of smartphone addiction. The results of relevant studies show that mindfulness has been applied in various approaches, including:

3.1 Mindfulness-Based Therapeutic Interventions

Some studies apply a mindfulness-based clinical approach. Bakhtiari et al., tested Mindfulness-Based Cognitive Therapy for Children (MBCT-C) on 80 adolescents through a randomized controlled trial and found significant effectiveness in lowering symptoms of internet addiction, anxiety, and depression. The Gandhi study (2023) used MBCT in individual

counseling for two junior high school students who were addicted to online games, and succeeded in reducing the duration of play and reducing addictive behavior. Meanwhile, Wang administered eight weeks of mindfulness-based mental health education therapy to 56 adolescents, with effective results in reducing cell phone addiction while improving their cognitive and mental health tendencies.

3.2 Mindfulness-based Educational and Promotive Interventions

Education-based interventions have also shown promising results. Lestari carries out promotive programs through mindfulness and education exercises, which increase students' knowledge about gadget addiction and awareness of its impact. Fuadah applied Mindful Attention Awareness to 50 high school students and succeeded in increasing understanding of the causes, indicators, and strategies for preventing gadget addiction through increasing self-awareness. In addition, the digital mindfulness program implemented by Septiary on 50 adolescents succeeded in increasing digital awareness and self-regulation through simple practices such as pausing before opening social media and limiting the time of using gadgets, with significant pre-post results on understanding addiction risk and implementing healthy digital habits.

3.3 Online and Technologi-Based Mindfulness Intervention

Zhang developed an online-based mindfulness intervention in the form of short sessions aimed at reducing various types of cell phone addiction, including mobile games, information retrieval, and short videos. The results showed a significant decrease in all categories of cell phone addiction, with the mindfulness trait shown to moderate the positive effects of the intervention.

Table 1 Data Extraction

No.	Author and Year of Publication	Article Title	Subject	Intervention	Key Results
1	(Bakhtiari, Asgarabad, & Dehghani, 2025)	Effectiveness and satisfaction of mindfulness-based cognitive therapy for children on anxiety, depression, and internet addiction in adolescents: Study protocol for a randomized control trial	80 teenagers	MBCT-C	Effective in reducing internet addiction
2	(Zhang et al., 2025)	Effectiveness of Brief Online Mindfulness Based Intervention on Different Types of Mobile Phone Addiction: Mechanisms of Influence of Trait Mindfulness	Student	Short online mindfulness-based intervention sessions	There was a significant decrease in various types of mobile phone addiction such as mobile games, information, watching short videos. Mindfulness traits also moderate the positive effects of MBI
3	(Pivit Septiary Chandra et al., 2025)	Improving digital mindfulness among teenagers	50 Teens	Digital mindfulness training	The digital mindfulness program has succeeded in increasing digital awareness and self-regulation through simple practices such as pausing before opening social media and limiting the time of using gadgets. Pre-post results showed a significant improvement in understanding the risk of smartphone addiction and the adoption of healthy habits.

4	(Wang & Chen, 2023)	Intervention Effect of Mindfulness-Based Mental Health Education Therapy on Adolescents Mobile Phone Addiction and Cognitive Tendency	56 Teens	The experimental group underwent an 8-week mindfulness-based mental health education therapy	Mindfulness-based mental health education therapy effectively alleviates teenagers' mobile phone addiction and improves their cognitive tendencies and mental health. This approach serves as a valuable reference for effectively preventing and managing mobile phone addiction among teenagers.
5	(Nove Lestari, 2023)	Effectiveness of Emergency Mental Health Promotive Gadget Addiction in Adolescents Using a Mindfulness Attention Awareness Educational Approach	Adolescent	Mindfulness and education exercises	Increase students' knowledge of gadget addiction and be aware of the impact of gadget addiction
6	(Fatima Gandi, 2023)	Application of Individual Counseling with Mindfulness Based Cognitive Therapy Techniques to Reduce Online Game Addiction at SMP Negeri 42 Surabaya	2 Junior high school students	MBCT via Individual Counselling	There was a change in the duration of game play in both subjects. So it can be concluded that the application of the Mindfulness Based Cognitive Therapy technique has an influence in reducing students' online game addiction.

4 DISCUSSIONS

The results of a literature review show that mindfulness-based interventions consistently have a positive impact on reducing the symptoms of smartphone addiction in adolescents, including stress, anxiety, and sleep disorders. Approaches such as Mindfulness-Based Cognitive Therapy (MBCT), self-awareness education, and mindfulness training have been shown to be effective in strengthening adolescents' self-control and emotional regulation against excessive smartphone use. These findings reinforce the assumption in the introductory section that smartphone addiction is not only related to the frequency or duration of use, but also involves deeper psychological factors, such as impulsivity, difficulty regulating emotions, and a tendency to seek instant gratification. Theoretically, mindfulness is effective because it works at the level of attention and emotion regulation. Through mindfulness practice, adolescents learn to observe impulses to use smartphones without having to react immediately, thus being able to delay impulsive responses. In addition, mindfulness increases meta-awareness, which is awareness of one's own thoughts and behaviors, which helps adolescents recognize maladaptive patterns of gadget use. Thus, mindfulness not only functions to reduce addictive behavior, but also equips adolescents with long-term psychological skills to deal with rapid and competitive digital pressure. Compared to other interventions, mindfulness has a number of advantages. First, its flexible nature allows for application in a variety of contexts clinical, educational, and community at a relatively low cost and can be integrated into school activities. Second, mindfulness not only focuses on addictive behaviors, but also strengthens other positive aspects such as psychological well-being, empathy, and resilience. Third, this approach is both preventive and curative, so it is relevant for adolescents who have shown symptoms of addiction as well as as a preventive measure.

However, there are also some limitations. First, most studies are still small-scale and short-term, so the long-term effectiveness of mindfulness on smartphone addiction has not been widely evaluated. Second, the success of the intervention was greatly influenced by the level of commitment of participants in doing routine practice, which is sometimes difficult to maintain in adolescents. Third, compared to other more structured cognitive-behavior-based approaches, mindfulness is sometimes seen as less systematic in providing measurable behavioral change. Considering these advantages and limitations, the integration of mindfulness as part of a positive psychology strategy remains important to prevent and overcome smartphone addiction in adolescents. Going forward, more broad, longitudinally designed research is needed to evaluate the consistency of mindfulness effectiveness, as well as combine it with other interventions to produce more comprehensive impacts.

5 CONCLUSIONS

Based on the results of the literature review, it can be concluded that mindfulness-based interventions are an effective and relevant approach in preventing and managing the negative impact of smartphone addiction on adolescents. This intervention has been proven to reduce psychological symptoms such as stress, anxiety, and sleep disorders, while improving self-awareness, emotion regulation, and behavioral control in the use of gadgets. In terms of implementation, mindfulness shows flexibility because it can be applied in various contexts, both clinically through Mindfulness-Based Cognitive Therapy (MBCT), as well as educational and promotive through training in schools or community programs. The main advantage of this approach is that it is preventive and curative, adaptable, and focuses on strengthening the psychological capacity of adolescents, not just reducing addictive behaviors.

However, limitations remain, especially in the limited number of studies, small sample sizes, and lack of long-term evaluation. Therefore, further research is needed to test the effectiveness of mindfulness more comprehensively, including by combining it with other approaches within the framework of positive psychology. Practically, mindfulness deserves to be considered as part of preventive and promotive strategies in supporting adolescent mental health to face challenges in the digital era. The integration of mindfulness into the educational curriculum and counseling guidance programs can be a strategic step to form healthy digital habits while strengthening the psychological resilience of the younger generation.

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