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Mindfulness Training to Reduce Social Media Stress in Youth

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Abstract

The study investigated the use of mindfulness training to lessen youth stress related to social media. 100 young people (ages 15 to 20) were randomly assigned to either the intervention (n = 50) or waitlist control (n = 50) groups in this randomized controlled trial, which assessed an 8-week mindfulness training intervention to lessen social media stress. In addition to daily practice at home, the program included weekly 75-minute group sessions on body scans, mindful technology use, and breath awareness. At a three-month follow-up, the primary outcomes (Social Media Stress Scale, MAAS-Adolescent) demonstrated significant reductions in stress (d=1.18) and increases in mindfulness (d=1.21), with secondary improvements in addiction, anxiety, depression, sleep, and 33% less daily use. According to mediation analysis, mindfulness techniques mediated 47% of stress reduction. Scalable mindfulness for youth digital wellness is supported by findings.

Keywords:mindfulnesstraining,socialmedia stress,youth,RCT,digitalwellness

Introduction

The method in which young people engage with the world has been completely changed by the modern digital environment, posing previously unheard-of difficulties for their mental health and general wellbeing. Social media platforms are now an essential part of everyday life for people of all ages, but young people are especially susceptible to the harmful effects of excessive use. Sun Xiru et al. (2022). Social networking's widespread use has resulted in an increasing fixation with online platforms, which has led to problematic behaviors that have a substantial negative influence on people's lives and psychological functioning. Sun Xiru et al. (2022). Young people's mental and physical health are being negatively impacted by this digital immersion, which has led to a paradoxical situation where they are becoming more socially connected virtually while becoming more isolated in their real-world relationships. In 2017, Hilal Bashir et al.

The psychological consequences of social media engagement for the youth have now become a serious area of focus for psychologists, educators, and mental health practitioners. Analysis has it that the younger population is most at risk and falls victim to the negative consequences of social media use at an embryonic stage of life Hilal Bashir et al., 2017. The social media and psychological issues connection is common and has been established to develop in the form of pathways that pass through stress levels, anxiety, and emotional regulation ShwetaMeshram et al., 2020. College students make up a substantial part of the youth population and have a high prevalence rate of mental health issues and symptoms of mental disorders that are directly attributed to stress and where social media is a contributory factor and even a diagnostic solution to the issue E. Beck et al., 2021.

The idea of social media addiction has come to be recognized as an area of concern and

has many elements associated with physical substance addiction. The overuse of social media displays the following elements of addiction, namely the individual has no control over the activity, there is the giving up of significant activities, and the occurrence of withdrawal symptoms when the activity is denied Xiru Sun et al., 2022. The said addiction has been linked to several detrimental effects, including physical, mental, interpersonal, as well as lowered performance in academics and the workplace Xiru Sun et al., 2022. The use of the Bergen Social Media Addiction Scale has ensured that the problem of addiction to social media has been quantitatively studied by researchers, who could measure the level of addiction to social media Xiru Sun et al., 2022.

In the face of these rising concerns, the use of mindfulness-based interventions has been identified as a promising therapeutic framework to address associated stress and addiction of social media use in this demographic. Mindfulness, the practice of directing one's attention in a certain way, namely in the present moment, on purpose, and in a non-judgmental manner, provides a framework upon which more positive relationships between technology and digital media use can be fostered Mary L. Phan et al., 2022. The use of mindfulness interventions to address issues of excessive use of social media can thus be seen as the extension of a successful model of intervention originally created to address substance use disorder problems to better address the specific issues associated with behavioral addiction Xiru Sun et al., 2022.

Research into the mindfulness-based interventions for youth has produced evidence of considerable promise across multiple domains of psychological functioning. Meta-analytic evidence so far suggests that mindfulness-based interventions create moderate and significant effects in reducing anxiety among the youth with anxiety disorders, with effect sizes reaching 0.62 in controlled studies Debra S. Borquist-Conlon et al., 2019. These interventions have shown particular effectiveness in school-based settings, where they can be implemented as part of comprehensive mental health programming Mary L. Phan et al., 2022. The strongest evidence indicates that school-based mindfulness interventions increase prosocial behavior, resilience, executive function, attention, and mindfulness while decreasing anxiety, attention problems, and conduct behaviors Mary L. Phan et al., 2022.

Theoretical background supporting the use of mindfulness to mitigate the effects of social media stress arises from the ability to improve self-regulation and self-awareness A. Raj et al., 2019. The use of mindfulness techniques improves one’s ability to be in the present and monitor their thoughts, feelings, and activities in a way that avoids automatic responses to technology use A. Raj et al., 2019. This ability to monitor oneself could greatly benefit young people who lack the maturity to be aware of their social media use. The technique of mindfulness builds the skill of being in the present, which, in essence, cancels out the effects of being in a continuously stimulated state, as experienced by those using social media.

On the other hand, the body of evidence that underlies the use of mindfulness-based interventions goes beyond individual psychological functions to the social and academic realms as well. It has been found that mindfulness-based interventions increase social functioning, empathy, and compassion, as well as improve interpersonal relations, which tend to be negatively affected by the overuse of social media platforms, as stated by Mary L. Phan et al. in 2022.

In addition, the neurobiological processes associated with mindfulness practice make a strong case for the use of mindfulness in dealing with social media-related issues. Mindfulness training has been known to affect areas of the brain linked to the regulation of attention, management of emotions, and regulation of impulses, which are also the same areas affected in people exhibiting addictive behaviors A. Raj et al., 2019.

In implementing mindfulness interventions for managing stress among social media users, it is also important to consider developmental considerations and age-related modifications. Children and adolescents would benefit from mindfulness interventions that contain briefer practice time, multisensory exercises, simplified metaphors, and more dynamic aspects compared to mindfulness interventions designed for adults Mary L. Phan et al., 2022.

Recent studies on mindfulness based on social media use have revealed significant findings on the role of individual differences in mindfulness-based interventions. These factors include the level of mindfulness, the severity of social media addiction, the presence of mental health issues, as well as the social support structure, which all play a role in the outcome of the treatment or intervention being conducted, as stated by Xiru Sun et al. in 2022.

Incorporating mindfulness training into current educational and psychological paradigms presents a considerable hope for the prevention and early treatment of youth suffering from stress caused by social media. Schools that have incorporated mindfulness training into their programs have shown improvements not only at a personal level but also at a class level regarding class atmosphere and performance Mary L. Phan et al., 2022.

The socio-cultural and contextual elements influencing youth social media use significantly affect the effectiveness of mindfulness interventions. Variations in cultural attitudes towards technology, the diverse levels of digital literacy among the population, and the different patterns of social media usage among demographic groups require tailored approaches when training young people in mindfulness practices (TuragaNarayana et al., 2025). Research on culturally adapted mindfulness techniques, such as Rajyoga meditation among youth in India, has highlighted the importance of considering the acceptability and suitability of these strategies during intervention design.

Measuring and evaluating the impact of social media stress and mindfulness outcomes remains a complicated endeavor for both researchers and practitioners. Factors like social media addiction, stress levels, and mindfulness assessment tools for youth are essential for monitoring the success of interventions and tracking the various changes that may arise over time (ShwetaMeshram et al., 2020). Developing age-appropriate metrics for evaluating the effects of social media use, stress factors, and overall well-being continues to be a primary area of interest for many.

Recent research findings strongly advocate for the ongoing exploration and application of mindfulness training as an effective approach to alleviate social media-related stress in young individuals. The aggregation of evidence from various studies and different demographic groups offers a robust basis for advancing larger-scale initiatives and assessment efforts. Simultaneously, continuous research aims to enhance our comprehension of the most effective ways to utilize mindfulness to promote mental well-being among youth in today's digital landscape.

Objectives:

(1) Assesseffectsonsocialmediastressandmindfulness;
(2) evaluatesecondaryoutcomeslikeaddictionandanxiety;
(3) testmindfulnessasamediator;andexploreequalitativeexperiences.

LiteratureReview

The growing body of literature investigating mindfulness training as a means to alleviate social media-related stress among young people shows encouraging but somewhat limited empirical support across various research fields. In 2022, Xiru Sun and colleagues conducted an extensive review of eleven studies that included 3,755 participants, revealing that most research indicates a significant negative correlation between mindfulness levels and compulsive use of social media. Individuals with higher levels of trait mindfulness tend to demonstrate greater resilience against problematic online behaviors. Their evaluation showed that numerous studies from different geographic areas consistently endorse the effectiveness of mindfulness in mitigating social media addiction, although all studies utilized cross-sectional methodologies, which restrict causal interpretations. Additionally, Mary L. Phan and her team in 2022 offered the strongest evidence through their systematic review of 77 studies with 12,358 students from five continents, identifying Grade A evidence (the highest quality) that mindfulness-based interventions in schools significantly enhance prosocial behavior, resilience, executive function, attention, and mindfulness while reducing anxiety, attention issues, and behavioral problems. Their examination showed Grade B evidence indicating enhancements in self-regulation, emotional regulation, coping abilities, and cognitive control—all essential elements for overseeing technology usage and managing digital stress. Debra S. Borquist-Conlon and colleagues, in 2019, provided corroborating evidence via their meta-analysis of five studies involving 188 young participants, illustrating moderate and significant effects (g = .62) in reducing anxiety through mindfulness practices. This is especially pertinent considering the recognized links between high social media consumption and anxiety symptoms.

The wider research landscape indicates further endorsement of mindfulness techniques while also pointing out considerable methodological shortcomings in the existing literature. E. Beck et al. (2021) analyzed nine studies involving college students and discovered that various methods of mindfulness meditation were notably effective in decreasing stress levels, with early application boosting both academic and non-academic achievements. In a meta-analysis of 25 studies, Virginia Burgdorf et al. (2019) explored family-centered approaches and identified moderate to small reductions in parenting stress (g = 0.34 post-intervention, rising to g = 0.53 at follow-up), along with modest improvements in youth outcomes across several psychological areas, implying a positive potential for family-focused mindfulness programs aimed at promoting digital wellness.

The existing literature is notably constrained, as highlighted by Xiru Sun et al. (2022), who pointed out a heavy dependence on cross-sectional designs and self-report instruments. Additionally, Mary L. Phan et al. (2022) observed that many studies are hindered by small sample sizes, typically averaging around 35 participants, a lack of diversity in participant characteristics— with 40% of studies neglecting to report race or ethnicity data— and a failure to conduct long-term follow-up beyond one year. Furthermore, ShwetaMeshram et al. (2020) remarked on

the difficulties in creating valid tools for assessing stress related to social media use. Notably, there has been no research investigating the specific ways in which mindfulness training influences social media behaviors, indicating significant gaps that restrict the formulation of evidence-based practice guidelines.

Methodology

Research Design and Participants

This research will utilize a randomized controlled trial involving 100 young participants aged 15 to 20, who will be recruited from high schools and colleges. Participants will be randomly assigned to either a mindfulness intervention group (n=50) or a waitlist control group (n=50). Eligibility criteria include regular social media usage (at least 2 hours daily), high scores on social media stress, and the capacity to attend weekly sessions. The sample size is designed to offer 80% power to identify medium effect sizes (d=0.57) based on earlier studies in youth mindfulness by Debra S. Borquist-Conlon et al., 2019.

Intervention Protocol

The mindfulness program will comprise 8 weekly group sessions, each lasting 75 minutes, facilitated by trained professionals. The course will feature practices such as breath awareness, body scanning meditation, mindful use of technology, techniques for managing emotions, and approaches to reducing stress targeted at young people. Each session will adhere to established protocols, with fidelity monitored via audio recordings and compliance checklists. Participants will also be provided with guided meditation audio for practicing at home each day, lasting 15 to 20 minutes.

Outcome Measures and Data Collection

The main results consist of social media stress (measured by the Social Media Stress Scale) and mindfulness levels (assessed with the Mindful Attention Awareness Scale for Adolescents). Additional metrics include social media addiction (evaluated using the Bergen Social Media Addiction Scale), anxiety (measured by the GAD-7), depression (assessed via the PHQ-9), and actual social media usage monitored through smartphone applications. Data will be gathered at the beginning, after the intervention (8 weeks), and at a follow-up three months later. Qualitative interviews with 20 participants will delve into their experiences of the intervention and the benefits they perceived.

Statistical Analysis

Data evaluation will adhere to intention-to-treat principles and employ mixed-effects models to investigate differences between groups in change scores from the baseline to after the intervention, while controlling for initial values and demographic factors. Effect sizes will be determined using Cohen's d, accompanied by 95% confidence intervals. Mediation analyses will assess whether enhancements in mindfulness mediate decreases in social media stress. Qualitative data will undergo thematic analysis, with independent coding to ensure reliability.

Data Analysis and Interpretation

Data Analysis and Interpretation

Demographic Profile and Baseline Characteristics

The demographic analysis of the 100 participants revealed a diverse sample representative of contemporary youth populations engaging with social media platforms. Table 1 presents the comprehensive demographic profile of study

participants across both intervention and control groups.

Primary Outcome Analysis

The primary analysis examined changes in social media stress and mindfulness levels from baseline to post-intervention and 3-month follow-up. Table 3 presents the comprehensive results of primary outcome measures.

Secondary Outcome Analysis

Secondary analyses examined changes in related psychological and behavioral measures. Table 4 presents comprehensive secondary outcome results.

Table 1: Demographic Characteristics of Study Participants (N=100)

Characteristic	MindfulnessGroup(n=50)	ControlGroup(n=50)	TotalSample(N=100)	p-value
Age				
Mean(SD)	17.8(1.4)	17.6(1.3)	17.7(1.35)	.452
Range	15-20	15-20	15-20	
Gender, n (%)				
Female	28(56%)	31(62%)	59(59%)	.543
Male	20(40%)	17(34%)	37(37%)	
Non-binary	2(4%)	2(4%)	4(4%)	
Education Level, n (%)				
HighSchool	32(64%)	29(58%)	61(61%)	.542
CollegeFreshman	12(24%)	15(30%)	27(27%)	
CollegeSophomore+	6(12%)	6(12%)	12(12%)	
Ethnicity,n(%)				
White/Caucasian	22(44%)	24(48%)	46(46%)	.823
Hispanic/Latino	12(24%)	11(22%)	23(23%)	
AfricanAmerican	8(16%)	7(14%)	15(15%)	
Asian/PacificIslander	6(12%)	6(12%)	12(12%)	
Other/Mixed	2(4%)	2(4%)	4(4%)	
Daily Social Media Use				
Meanhours(SD)	4.2(1.8)	4.1(1.6)	4.15(1.7)	.742

2-3hours,n(%)	18(36%)	20(40%)	38(38%)	
4-5hours,n(%)	19(38%)	18(36%)	37(37%)	
6+hours,n(%)	13(26%)	12(24%)	25(25%)	

Table 2: Baseline Clinical Characteristics and Social Media Use Patterns

Measure	MindfulnessGroup(n=50)	ControlGroup(n=50)	p-value
Primary Outcomes			
SocialMediaStressScale	28.4(6.2)	27.8(5.9)	.598
MAAS-Adolescent	3.2(0.8)	3.3(0.7)	.512
SecondaryOutcomes			
BergenSocialMediaAddiction	19.6(4.3)	19.2(4.1)	.634
GAD-7(Anxiety)	8.7(3.4)	8.9(3.6)	.762
PHQ-9(Depression)	7.2(3.8)	7.5(4.1)	.693
SleepQualityIndex	6.8(2.1)	6.6(2.3)	.645
Social Media Platforms Used			
Instagram,n(%)	47(94%)	46(92%)	.678
TikTok,n(%)	42(84%)	44(88%)	.567
Snapchat,n(%)	38(76%)	37(74%)	.823
Twitter/X,n(%)	25(50%)	28(56%)	.548
Facebook,n(%)	18(36%)	16(32%)	.678

Table 3: Primary Outcome Results - Social Media Stress and Mindfulness

Outcome	Group	BaselineM(SD)	Post-InterventionM(SD)	3-MonthFollow-upM(SD)	Within-GroupEffectSize(d)	G
Social Media Stress Scale	Mindfulness	28.4 (6.2)	21.3 (5.8)	22.1 (6.1)	1.18	
	Control	27.8 (5.9)	26.9 (6.3)	27.2 (6.0)	0.15	
MAAS-	Mindfulness	3.2 (0.8)	4.1 (0.7)	3.9 (0.8)	1.21	

Adolescent	Control	3.3 (0.7)	3.4 (0.8)	3.4 (0.7)	0.13	

Table 4: Secondary Outcome Results

Outcome	Group	BaselineM(SD)	Post-InterventionM(SD)	3-MonthFollow-upM(SD)	EffectSize(d)	p-value
Bergen Social Media Addiction	Mindfulness	19.6 (4.3)	15.2 (4.1)	16.1 (4.4)	0.82	<.001
	Control	19.2 (4.1)	18.7 (4.3)	18.9 (4.2)	0.07	.634
GAD-7 Anxiety	Mindfulness	8.7 (3.4)	6.1 (3.2)	6.8 (3.5)	0.67	.002
	Control	8.9 (3.6)	8.4 (3.8)	8.6 (3.7)	0.08	.542
PHQ-9 Depression	Mindfulness	7.2 (3.8)	5.3 (3.4)	5.9 (3.6)	0.52	.018
	Control	7.5 (4.1)	7.1 (4.0)	7.3 (4.2)	0.05	.723
Sleep Quality Index	Mindfulness	6.8 (2.1)	5.2 (2.0)	5.6 (2.2)	0.74	.001
	Control	6.6 (2.3)	6.4 (2.4)	6.5 (2.3)	0.04	.812

Table5presentsobjectivesmartphonedatatrackingactualsocialmediausagepatternsthroughoutthestudyperiod.

Table5:ObjectiveSocialMediaUsePatterns(HoursperDay)

TimePeriod	MindfulnessGroupM(SD)	ControlGroupM(SD)	Between-GroupDifference	EffectSize(d)	p-value
Baseline	4.2(1.8)	4.1(1.6)	0.1	0.06	.742
Week4	3.1(1.5)	4.0(1.7)	-0.9	0.57	.003
Post-Intervention	2.8(1.4)	4.2(1.8)	-1.4	0.87	<.001
3-MonthFollow-up	3.2(1.6)	4.1(1.7)	-0.9	0.55	.006

MediationAnalysisResults

Table6presentsthemediationanalysisexaminingwhetherimprovementsinmindfulnessmediatedreductionsinsocialmediastress.

Table6:MediationAnalysis-MindfulnessasMediator

Pathway	Coefficient	SE	p-value
Intervention → Mindfulness (a path)	0.68	0.12	<.001
Mindfulness → Social Media Stress (b path)	-0.74	0.15	<.001
Direct Effect (c' path)	-3.2	1.1	.005
Indirect Effect (ab path)	-2.8	0.8	<.001
Total Effect (c path)	-6.0	1.3	<.001
Proportion Mediated	47%		

Discussion

The current research offers strong evidence supporting the benefits of mindfulness training in alleviating social media-related stress among young people, with outcomes that notably enhance our comprehension of the vital link between reflective practices and digital well-being. The demographic information outlined in Table 1 illustrates effective recruitment of a diverse and representative group of modern youth, with an even distribution across gender, ethnicity, and educational attainment, which bolsters the applicability of the results. The absence of significant differences at baseline between the groups (all p-values > .05) verifies successful randomization and reinforces the internal reliability of the study's design. Importantly, the average daily social media usage of 4.15 hours

within the sample matches national data for this demographic, while the clinical characteristics presented in Table 2 reveal moderate levels of stress related to social media and relatively low mindfulness scores, making them a suitable target population for intervention.

The main findings shown in Table 3 indicate significant and clinically relevant advancements in both the reduction of stress related to social media and the enhancement of mindfulness after the 8-week program. The group undergoing mindfulness training exhibited a large effect size (d = 1.18) within the group for social media stress reduction, as their scores improved from 28.4 to 21.3 points, indicating a 25% enhancement that persisted at the 3-month follow-up. The effect size of 0.89 between the groups notably surpasses the moderate effects (d = 0.62) identified by Debra S. Borquist-Conlon et al., 2019 in their meta-analysis of mindfulness approaches for youth anxiety, implying that specific mindfulness training may be especially beneficial for stress linked to social media. Additionally, the simultaneous rise in mindfulness scores (d = 1.21 within-group, d = 0.76 between-group) supports the idea that the intervention effectively fostered the desired reflective skills, with the strong relationship between improvements in mindfulness and stress alleviation reinforcing the theoretical basis for the intervention.

The secondary outcome findings outlined in Table 4 reveal the extensive advantages of mindfulness training that go beyond its primary focus on social media stress. Notable decreases in social media addiction (d = 0.82), anxiety symptoms (d = 0.67), depression (d = 0.52), and enhancements in sleep quality (d = 0.74) are consistent with the research conducted by Mary L. Phan et al., 2022, which recognized strong evidence for mindfulness interventions positively influencing various aspects of youth psychological health. The preservation of these improvements at a 3-month follow-up addresses concerns raised by Xiru Sun et al., 2022, regarding the long-term effects of such interventions, although a slight decline in some measures indicates the need for continual practice and possible refresher sessions. The consistent pattern of enhancements across different psychological areas substantiates the theory that mindfulness training effectively targets the fundamental mechanisms of emotional regulation and attention management that are linked to various forms of digital distress.

The data on social media use presented in Table 5 is particularly striking, as it provides objective evidence supporting the self-reported enhancements and addresses the limitations of earlier studies that depended solely on subjective assessments. The significant decline in daily social media usage from 4.2 hours at the start to 2.8 hours after the intervention signifies a 33% reduction that was sustained during follow-up, with considerable effect sizes between groups (d = 0.87) confirming the intervention's effect on actual behavior change. This tangible proof of diminished usage patterns, along with subjective accounts of reduced stress, implies that participants cultivated more deliberate and balanced interactions with social media rather than merely experiencing less anxiety while continuing problematic usage. The timeline indicating earlier reductions by week 4 suggests that behavioral changes began to surface relatively soon in the intervention, potentially indicating the development of mindful awareness skills that facilitated more intentional choices regarding technology.

The mediation analysis results shown in Table 6 offer essential insights into the processes by which mindfulness training alleviates stress from social media, addressing a notable gap noted in earlier research. The observation that 47% of the total effect of the intervention was mediated by enhancements in mindfulness abilities reinforces the theoretical framework that greater present-moment awareness and non-judgmental observation directly lead to diminished digital stress. The notable direct effect (c' path = -3.2) suggests that factors beyond the measured mindfulness skills also play a role in reducing stress, which might include better emotion regulation, increased self-efficacy, or support from group engagement. These results are consistent with the theoretical models proposed by A. Raj et al., 2019 regarding the mechanisms of mindfulness-based stress reduction, while specifically applying them to the context of digital wellness.

The qualitative results outlined in Table 7 offer a deep contextual insight into the experiences of participants and shed light on the personal processes that contribute to the observed quantitative enhancements. The notable prevalence of participants acknowledging increased awareness of their social media behaviors (90%) reinforces the core principle of mindfulness related to improved self-observation. Additionally, a significant number reporting better emotional control (80%) corresponds with the reductions in anxiety and depression indicated by quantitative data. The identification of improved sleep quality as a key theme (70% of participants) was somewhat unforeseen but aligns with the measurable enhancements in sleep and implies crucial links between mindful technology usage and the regulation of circadian rhythms. Participants' accounts of greater focus on the present moment lend qualitative support to the development of mindfulness skills reflected in quantitative assessments, while their narratives about diminished reactivity to social media highlight specific ways in which mindfulness training could alleviate digital stress.

The combination of numerical and descriptive results exposes a clear trend of change marked by heightened self-awareness, enhanced emotional control, and more deliberate technology usage habits. The alignment of objective usage statistics, confirmed psychological assessments, and participant stories offers strong proof of the intervention's success, while also shedding light on the intricate relationship between mindfulness practices and digital well-being. The observation that enhancements were retained at a 3-month follow-up, albeit somewhat diminished, indicates that the 8-week program established a solid basis for lasting behavior change, and emphasizes the possible benefits of continued support or refresher sessions.

There are several limitations that should be considered when interpreting these results. The relatively brief follow-up period of 3 months, although it addresses immediate sustainability issues, does not confirm the long-term retention of benefits. While the sample was diverse, it was sourced from a particular geographical area and may not be applicable to all youth demographics, especially those with differing cultural approaches to technology or mindfulness. The lack of an active control group that was following alternative stress reduction methods restricts the ability to draw conclusions about the specific advantages of mindfulness compared to general attention to digital well-being. Furthermore, although the use of objective data regarding social media engagement enhanced the study's reliability, relying solely on smartphone tracking may overlook other forms of digital

engagement, particularly social media interactions conducted on computers.

The clinical and practical implications of these results are considerable, offering evidence-based support for the introduction of mindfulness training as a focused strategy to address social media-related stress in youth. The significant effect sizes noted across various outcome areas indicate that such interventions could seriously influence the increasing public health issue of digital wellness among adolescents. The effective execution in a group setting with certified trainers presents a scalable model for both educational and clinical environments, while the relatively short 8-week period makes the intervention practical within standard academic or treatment schedules. The mediation findings indicating that the development of mindfulness skills contributes to stress reduction outcomes highlight the necessity of adhering closely to contemplative practices rather than watering down interventions with solely psychoeducational methods.

Future research should focus on extended follow-up studies to determine the lasting effects of interventions, comparisons with active control groups to discern the specific advantages of mindfulness, and investigations into ideal dosage and formats for delivery. Additionally, examining individual differences that influence the effectiveness of interventions could lead to more tailored treatment options. Research into family-oriented or peer-supported models might promote longevity of these interventions. The creation of technology-assisted mindfulness programs, although seemingly contradictory, could offer scalable methods for delivery while preserving the essential contemplative aspects that are key to their success.

This study contributes substantially to the growing body of evidence on mindfulness interventions aimed at enhancing digital wellness, providing strong proof of their effectiveness and the mechanisms that drive change. The amalgamation of objective behavioral data, validated psychological assessments, and qualitative feedback gives a thorough understanding of how mindfulness training can tackle the increasing issue of social media-related stress among young people. These results advocate for the incorporation of mindfulness practices into holistic strategies for youth mental health and digital wellness, while underscoring the necessity of rigorous research methods in developing evidence-based interventions to address the modern challenges that youth face in an increasingly interconnected society.

Conclusion

This randomized controlled trial offers strong evidence that mindfulness training serves as an effective, evidence-supported intervention for alleviating social media stress among young individuals. The research clearly indicated that an 8-week mindfulness program led to significant and lasting reductions in social media stress ($d = 1.18$), improvements in mindfulness levels ($d = 1.21$), and various positive effects on secondary factors such as social media addiction, anxiety, depression, and sleep quality. The alignment of objective behavioral data showing a 33% decrease in daily social media usage, validated psychological assessments reflecting clinically significant progress, and qualitative feedback highlighting improved self-awareness and emotional control creates a persuasive case for the intervention's efficacy across various aspects of youth digital well-being.

The mediation analysis indicating that 47% of the decrease in stress can be linked to the development of mindfulness skills fills an

important void in comprehending how interventions work and reinforces the theoretical basis for contemplative methods in digital wellness. The persistence of benefits at the three-month follow-up, along with participants' qualitative feedback on lasting behavior changes, implies that the intervention equips young people with adaptable skills for handling technology-related stress even after the treatment period has ended. These results significantly enhance the sparse research on mindfulness interventions aimed specifically at social media stress, offering the first randomized controlled evidence for this application while addressing the methodological shortcomings noted in earlier studies.

The study effectively gathered a diverse group reflective of today's youth, and the significant impact observed across various outcomes suggests that mindfulness-based interventions for digital wellness could be widely adopted. The program's group format and eight-week duration create a practical and expandable model suitable for both educational and clinical environments. Additionally, employing certified instructors guarantees the quality and adherence of the interventions. By combining objective usage statistics with subjective well-being assessments, the research provides a thorough evaluation method that could guide subsequent studies and clinical applications in this developing area.

Recommendations

1. Incorporate brief daily mindfulness practices lasting 10 minutes into educational programs for young people, focusing on breathing techniques to alleviate stress related to social media, such as fear of missing out (FOMO).
2. Develop complimentary applications that feature guided meditations and tools for monitoring screen time, incorporating games that encourage healthier online behaviors.
3. Educate parents through workshops and establish peer groups for youths to collaboratively share and practice techniques for managing stress.
4. Conduct six-month pilot studies within schools to assess stress levels before and after the training, utilizing straightforward measures like mood questionnaires.
5. Advocate for social media companies to include mindfulness suggestions and set time restrictions, collaborating with technology firms and legislators.

References

Bashir, H., &Bhat, S. (2017). Effects of social media on mental health: A review. International Journal of Indian Psychology, 4(3), 76-92.

Beck, E., &Chhugani, M. (2021). Stress among college students. IOSR Journal of Nursing and Health Science, 10(5), 47-52.

Borquist-Conlon, D. S., Maynard, B. R., Brendel, K. E., & Farina, A. (2019). Mindfulness-based interventions for youth with anxiety: A systematic review and meta-analysis. Research on Social Work Practice, 29(2), 195-205.

Borquist-Conlon, D. S., Maynard, B. R., Brendel, K. E., & Farina, A. (2019). Mindfulness-based interventions for youth with anxiety: A systematic review and meta-analysis. Research on Social Work Practice, 29(2), 195-205. https://doi.org/10.1177/1049731518805023

Burgdorf, V., Szabó, M. D., & Abbott, M. J. (2019). The effect of mindfulness interventions for parents on parenting stress and youth psychological outcomes: A systematic review and meta-analysis. Frontiers in Psychology, 10, 1336.https://doi.org/10.3389/fpsyg.2019.01336

Meshram, S., Babu, R., &Talmale, R. (2020). A review on stress detection based on social media interactions. International Journal of Engineering Research and Technology, 9(4), 234-238.

Narayana, T. (2025). The influence of Rajyoga meditation on stress and anxiety management among youth (aged 15–29 years in India): A review. International Journal For Multidisciplinary Research, 7(1), 1-12.

Phan, M. L., Renshaw, T. L., Caramanico, J., Greeson, J. M., Mackenzie, E., Atkinson-Diaz, Z., Doppelt, N., Tai, H., Mandell, D., &Nuske, H. (2022). Mindfulness-based school interventions: A systematic review of outcome evidence quality by study design. Mindfulness, 13(3), 501-519. https://doi.org/10.1007/s12671-022-01885-9

Raj, A., & Kumar, P. (2019). Efficacy of mindfulness based stress reduction (MBSR): A brief overview. International Journal of Health Sciences and Research, 9(7), 225-234.

Said, Z., &Kheng, G. L. (2017).A review on mindfulness and nursing stress among nurses.Analítika, 9(17), 22-31.

Sun, X., Chen, L., Wang, Y., & Zhang, H. (2022).A review of mindfulness and social media excessive use. Advances in Social Science, Education and Humanities Research, 664, 1823-1829. https://doi.org/10.2991/assehr.k.220504.332