



Digital Well-Being in the Age of Artificial Intelligence: A Review of Emerging Research

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ABSTRACT

The rapid integration of artificial intelligence (AI) into digital technologies has transformed how individuals interact with information, communication platforms, and automated systems, creating both opportunities and challenges for digital well-being. This review examines emerging research on digital well-being in the age of AI, synthesizing current evidence on the psychological, social, behavioral, and ethical implications of AI-driven digital environments. The study explores how AI technologies including recommendation algorithms, intelligent assistants, generative AI systems, personalized content delivery, and predictive analytics shape user experiences, influence cognitive processes, and affect mental health outcomes. Findings from the literature indicate that AI can enhance digital well-being through personalized learning, healthcare support, accessibility improvements, and productivity optimization. However, concerns persist regarding algorithmic manipulation, excessive screen engagement, digital addiction, misinformation, privacy erosion, surveillance practices, and the amplification of social inequalities. The review further highlights the role of digital literacy, ethical AI governance, transparency, user autonomy, and human-centered design in promoting healthier digital ecosystems. Emerging research suggests that balancing technological innovation with individual well-being requires multidisciplinary collaboration among researchers, policymakers, technology developers, educators, and healthcare professionals. The study concludes that while AI presents significant potential to improve quality of life and digital experiences, proactive regulatory frameworks and responsible design practices are essential to mitigate risks and foster sustainable digital well-being. Future research directions are identified to support the development of inclusive, ethical, and well-being-oriented AI systems in increasingly digital societies.

1. Introduction

The rapid advancement of digital technologies has transformed virtually every aspect of modern life, reshaping how individuals communicate, work, learn, and access information. Over the past decade, the proliferation of smartphones, social media platforms, cloud computing, and intelligent digital systems has significantly increased the amount of time people spend interacting with digital environments (Shin, 2025). More recently, the integration of Artificial Intelligence (AI) into everyday technologies has accelerated this transformation, creating unprecedented opportunities for personalization, automation, and enhanced user experiences. While these innovations have generated substantial social and economic benefits, they have also raised growing concerns regarding their impact on human well-being, mental health, and quality of life.

Digital well-being has emerged as an important interdisciplinary concept that examines the extent to which digital technologies contribute positively or negatively to individuals’ psychological, emotional, social, and physical health. Initially associated with concerns about excessive screen time and internet addiction, the concept has evolved to encompass broader dimensions such as digital balance, online safety, information overload, digital literacy, privacy, autonomy, and healthy technology use (Burr, 2020). Digital well-being is increasingly recognized as a critical component of overall well-being, particularly in societies where digital technologies mediate significant portions of daily activities and social interactions.

The emergence of AI-powered technologies has introduced new complexities into discussions of digital well-being. Contemporary AI systems are embedded within search engines, recommendation algorithms, virtual assistants, educational platforms, healthcare applications, social media networks, and workplace technologies. These systems continuously collect, analyze, and respond to user data, often shaping individual behaviors, preferences, and decision-making processes (Santiago-Torner, 2025). On one hand, AI has demonstrated significant potential to enhance well-being through personalized learning, mental health support, intelligent healthcare services, accessibility tools, and productivity-enhancing applications. AI-driven interventions can facilitate early detection of mental health challenges, improve user engagement in educational settings, and provide tailored support for individuals with diverse needs.

On the other hand, concerns have emerged regarding the unintended consequences of AI-mediated digital environments. Algorithmic recommendation systems may encourage excessive engagement, contribute to digital dependency, amplify misinformation, reinforce cognitive biases, and negatively affect mental health. Issues related to surveillance, data privacy, algorithmic transparency, and ethical governance further complicate the relationship between AI technologies and digital well-being (Narayan, 2020). Additionally, the increasing sophistication of generative AI systems has raised questions about human autonomy, digital trust, social isolation, and the long-term psychological implications of human-AI interactions.

The COVID-19 pandemic further intensified scholarly interest in digital well-being by accelerating digital transformation across education, healthcare, commerce, and social communication. During periods of lockdown and social distancing, digital technologies became essential tools for maintaining productivity, learning, and social connectedness. However, the heightened reliance on digital platforms also exposed challenges associated with digital fatigue, information overload, online harassment, and technology-related stress (Polanco-Diges, 2022). As AI capabilities continue to expand, understanding how these technologies influence well-being has become an urgent research priority for policymakers, educators, healthcare professionals, technology developers, and researchers.

Emerging research on digital well-being in the age of AI spans multiple disciplines, including information systems, psychology, education, public health, human-computer interaction, communication studies, and ethics. Existing studies have explored diverse themes such as AI-assisted mental health interventions, algorithmic influences on user behavior, digital resilience, responsible technology design, ethical AI governance, and the development of frameworks for healthy digital engagement (Wahed, 2025). Despite the growing volume of scholarship, the field remains fragmented, with varying definitions, theoretical perspectives, methodological approaches, and measurement frameworks. Consequently, there is a need for comprehensive reviews that synthesize current evidence, identify emerging trends, and highlight gaps requiring further investigation.

This review aims to examine the evolving body of research on digital well-being within the context of artificial intelligence. Specifically, the study synthesizes existing literature on the conceptual foundations of digital well-being, explores the opportunities and risks associated with AI-driven technologies, evaluates current empirical findings, and identifies future research directions (Fei, 2024). By integrating insights from multiple disciplines, this review seeks to provide a comprehensive understanding of how AI is reshaping digital well-being and to inform the development of human-centered, ethical, and sustainable digital ecosystems that promote individual and societal flourishing.

2. Methodology

2.1 Research Design

This study employed a systematic narrative review methodology to synthesize and critically examine the growing body of literature on digital well-being in the context of artificial intelligence (AI). A review-based approach was considered appropriate because the field is rapidly evolving and spans multiple disciplines, including computer science, psychology, education, communication studies, information systems, and public health. The methodology aimed to identify key themes, emerging trends, theoretical perspectives, opportunities, and challenges associated with AI-driven technologies and their implications for human well-being in digital environments. By integrating findings from diverse scholarly sources, the review provides a comprehensive understanding of the current state of knowledge and highlights areas requiring further investigation.

2.2 Literature Search Strategy

The literature search was conducted across several major academic databases, including Scopus, Web of Science, ScienceDirect, IEEE Xplore, ACM Digital Library, PubMed, and Google Scholar. These databases were selected because they provide extensive coverage of peer-reviewed research related to artificial intelligence, digital technologies, mental health, human-computer interaction, and well-being studies. The search process utilized combinations of keywords and search strings such as "digital well-being," "artificial intelligence," "AI and mental health," "algorithmic influence," "digital wellness," "AI-driven platforms," "social media algorithms," "human-centered AI," "technology addiction," and "digital behavior." Boolean operators (AND, OR, NOT) were used to refine search results and improve relevance.

The search focused primarily on studies published between 2018 and 2026 to capture recent developments in AI technologies and their impact on digital well-being. However, seminal theoretical works published before this period were also considered where necessary to provide conceptual and historical context.

2.3 Inclusion and Exclusion Criteria

To ensure the quality and relevance of the reviewed literature, specific inclusion and exclusion criteria were established. Studies were included if they were published in peer-reviewed journals, conference proceedings, or reputable institutional reports; addressed digital well-being or closely related concepts; examined the role, impact, opportunities, or risks of AI technologies; and were available in English. Both empirical and conceptual studies were considered to provide a balanced perspective on the topic.

Studies were excluded if they focused solely on technical AI developments without discussing human well-being implications, lacked sufficient methodological rigor, were duplicated across databases, or consisted primarily of opinion pieces without substantive scholarly evidence. Articles unrelated to digital environments or AI-mediated interactions were also excluded from the final review.

2.4 Study Selection Process

The study selection process followed a structured screening procedure. Initially, titles and abstracts of retrieved publications were examined to determine their relevance to the research topic. Studies that appeared relevant were subjected to a full-text review. During this stage, articles were assessed against the predetermined inclusion and exclusion criteria. Duplicate records were removed, and only studies that directly contributed to understanding the relationship between AI technologies and digital well-being were retained. This systematic screening process enhanced the reliability and consistency of the review while minimizing selection bias.

2.5 Data Extraction and Organization

Relevant information from the selected studies was extracted and organized into a review matrix. The extracted data included publication details, research objectives, study design, sample characteristics, AI technologies examined, key findings, theoretical frameworks, and identified implications for digital well-being. Organizing the literature in this manner facilitated comparison across studies and enabled the identification of recurring themes and patterns. The review matrix also helped highlight methodological approaches commonly employed in the field and areas where empirical evidence remains limited.

2.6 Thematic Analysis

A thematic analysis approach was adopted to synthesize findings from the selected studies. After data extraction, studies were carefully reviewed and coded according to recurring concepts, research outcomes, and theoretical contributions. Similar codes were grouped into broader thematic categories that reflected major dimensions of digital well-being in AI-mediated environments. These themes included AI-driven personalization and user engagement, mental health implications of algorithmic systems, digital addiction and attention management, ethical concerns related to privacy and autonomy, AI for well-being enhancement, and emerging governance and policy considerations. The thematic approach enabled the integration of findings from diverse disciplines while preserving the contextual richness of individual studies.

2.7 Quality Assessment

To enhance the credibility of the review, selected studies were evaluated based on methodological quality, relevance, transparency, and contribution to the research topic. Particular attention was given to the clarity of research objectives, appropriateness of study design, robustness of data collection methods, and validity of conclusions. Studies demonstrating strong methodological rigor and substantial theoretical or practical contributions were given greater emphasis during the synthesis process. This quality assessment helped ensure that the review findings were grounded in reliable and scholarly evidence.

2.8 Limitations of the Review Methodology

Despite efforts to conduct a comprehensive review, certain limitations should be acknowledged. Restricting the search to English-language publications may have excluded relevant studies published in other languages. Additionally, the rapid pace of AI development means that new findings may emerge after the completion of the review. The interdisciplinary nature of digital well-being research also presents challenges in achieving complete coverage of all relevant literature. Nevertheless, the systematic search strategy, rigorous screening process, and thematic synthesis approach provide a robust foundation for understanding current research trends and identifying future directions in the study of digital well-being in the age of artificial intelligence.

3. Findings and Discussion

3.1 Conceptual Foundations of Digital Well-Being in the AI Era

The reviewed literature demonstrates that digital well-being has emerged as a multidimensional construct that extends beyond the absence of digital harm to encompass the optimization of individuals' physical, psychological, social, and cognitive functioning within digital environments. As artificial intelligence becomes increasingly embedded in online platforms, mobile applications, workplaces, educational systems, and healthcare services, scholars have emphasized the need to reconsider traditional understandings of well-being. Contemporary research suggests that AI-mediated environments actively shape user experiences through personalization, automation, predictive analytics, and adaptive interactions (Musikanski, 2020). Consequently, digital well-being is no longer viewed solely as an individual responsibility but also as an outcome influenced by technological design, platform governance, and algorithmic decision-making. The literature reveals growing consensus that AI technologies can simultaneously enhance and undermine well-being, depending on how they are developed, deployed, and regulated.

3.1.1 Definitions and Dimensions of Digital Well-Being

The literature presents diverse yet complementary definitions of digital well-being. The Organisation for Economic Co-operation and Development (OECD) conceptualizes digital well-being as the impact of digital technologies on individuals' quality of life, encompassing both positive and negative outcomes (Samuel, 2021). Similarly, researchers such as Vanden Abeele define digital well-being as a subjective state in which individuals achieve an optimal balance between digital engagement and other life activities. Across studies, four major dimensions consistently emerge.

The psychological dimension includes emotional stability, life satisfaction, stress management, and mental health outcomes. Research indicates that healthy technology use can foster positive emotions, while excessive exposure to algorithmically curated content may increase anxiety and emotional distress. The social dimension relates to connectedness, social support, communication quality, and community participation (Männikkö, 2025). AI-powered platforms can strengthen social ties through personalized networking opportunities, although concerns regarding social comparison and online isolation remain prevalent.

The physical dimension encompasses sleep quality, physical activity, eye health, and ergonomic well-being. Studies have found associations between prolonged engagement with AI-optimized digital platforms and sedentary behavior, particularly among adolescents and remote workers. The cognitive dimension involves attention, concentration, decision-making, information processing, and digital literacy (Green, 2025). Emerging evidence suggests that AI tools can enhance cognitive efficiency by reducing information overload, yet they may also contribute to attentional fragmentation and dependency on automated systems. Collectively, these dimensions illustrate the holistic nature of digital well-being within AI-enabled environments.

3.1.2 Evolution of Digital Well-Being Research

The evolution of digital well-being research reflects broader technological transformations. Early investigations during the late 1990s and early 2000s primarily focused on internet addiction, excessive screen time, and problematic social media use. Researchers sought to understand how increasing digital exposure affected psychological health, academic performance, and interpersonal relationships (Islam, 2023). During this period, concerns centered on quantity of technology use rather than the quality of digital experiences.

The proliferation of smartphones, social networking platforms, and cloud-based services shifted scholarly attention toward user engagement patterns, digital multitasking, and online behavior. More recently, the widespread adoption of AI technologies has introduced new research questions concerning algorithmic influence, automated decision-making, and personalized digital experiences (Islam, 2023). Contemporary studies increasingly examine how recommendation systems, intelligent assistants, predictive algorithms, and generative AI models shape user behavior and well-being outcomes.

This transition represents a significant conceptual shift. Rather than asking whether technology use is beneficial or harmful, researchers now investigate how specific AI-driven design features influence well-being. Consequently, digital well-being research has evolved into an interdisciplinary field drawing from psychology, computer science, communication studies, public health, ethics, and human-computer interaction (Mandal, 2025).

3.1.3 Theoretical Perspectives on AI and Human Well-Being

Several theoretical frameworks have been employed to explain the relationship between AI technologies and human well-being. Self-Determination Theory (SDT) remains one of the most influential perspectives. According to SDT, psychological well-being depends on fulfilling the needs for autonomy, competence, and relatedness (García-Madurga, 2024). Studies suggest that AI systems can enhance competence by supporting learning and productivity, while simultaneously threatening autonomy when algorithmic recommendations excessively influence user choices.

The Technology Acceptance Model (TAM) has also been widely utilized to explain user adoption of AI applications. Research consistently demonstrates that perceived usefulness and ease of use significantly influence engagement with AI-driven services. However, recent studies extend TAM by incorporating trust, transparency, and ethical considerations as critical determinants of well-being-oriented technology adoption (Islam, 2024).

Digital wellness frameworks emphasize balance, intentionality, and healthy engagement with technology. These models advocate for user empowerment and mindful technology use while recognizing the role of platform design in shaping behavior. Furthermore, Human-Centered AI approaches have gained prominence by advocating for systems that prioritize human values, fairness, transparency, and well-being (Mayiwar, 2025). The convergence of these theoretical perspectives highlights an emerging consensus that AI should be evaluated not only by technical performance but also by its capacity to support human flourishing.

3.2 AI Technologies Shaping Digital Well-Being

AI technologies increasingly influence how individuals interact with digital environments. The reviewed literature reveals that AI-driven systems shape information consumption, communication practices, learning experiences, productivity, and emotional support (Jimoh, 2023). While these technologies provide substantial benefits, they also introduce new risks that require careful consideration.

3.2.1 Personalized Recommendation Systems and User Experience

Personalized recommendation systems represent one of the most pervasive applications of AI. Social media platforms, streaming services, e-commerce websites, and news aggregators employ machine learning algorithms to tailor content to individual preferences. Research indicates that personalization enhances user satisfaction by reducing information overload and increasing content relevance (Tiwari, 2024). For example, streaming platforms use recommendation algorithms to help users discover music, films, and educational content aligned with their interests.

However, the literature also identifies significant well-being concerns. Algorithmic personalization can create filter bubbles and echo chambers that limit exposure to diverse viewpoints. Studies examining social media usage have found that recommendation systems may amplify emotionally charged or sensational content because such material generates higher engagement. This dynamic has been associated with increased polarization, misinformation exposure, and emotional exhaustion (Inkster, 2018). Moreover, excessive personalization may encourage prolonged platform use, contributing to compulsive engagement patterns. Therefore, recommendation systems present a paradox in which enhanced convenience coexists with potential risks to cognitive and psychological well-being.

3.2.2 Conversational AI and Digital Support Systems

Conversational AI technologies, including chatbots, virtual assistants, and AI companions, have emerged as important tools for supporting digital well-being. Research demonstrates that these systems improve accessibility by providing immediate information, guidance, and assistance. In healthcare contexts, mental health chatbots have shown promise in delivering cognitive behavioral therapy techniques, mood monitoring, and emotional support, particularly in regions with limited access to professional services (Ekwunife, n.d).

Studies indicate that users often appreciate the nonjudgmental nature and constant availability of AI support systems. Individuals experiencing mild anxiety or stress frequently report positive interactions with conversational agents designed to promote emotional well-being (Fiske, 2020). AI assistants also contribute to daily convenience by managing schedules, reminders, and routine tasks, thereby reducing cognitive burdens.

Nevertheless, scholars caution against overreliance on AI-mediated support. Concerns include inaccurate advice, limited emotional understanding, privacy risks, and the potential replacement of meaningful human interactions (Dai, 2020). While conversational AI can complement traditional support systems, evidence suggests that human oversight remains essential for addressing complex psychological and emotional needs.

3.2.3 AI-Powered Productivity and Learning Technologies

AI-driven productivity and learning tools have transformed educational and professional environments. Intelligent tutoring systems, adaptive learning platforms, and generative AI applications provide personalized instruction and feedback tailored to individual learning needs (Hall, 2025). Numerous studies report improvements in learner engagement, academic performance, and self-efficacy when AI-supported educational technologies are appropriately implemented.

In workplace settings, AI-powered automation reduces repetitive tasks and enhances operational efficiency. Employees can allocate greater attention to creative and strategic activities, potentially improving job satisfaction and reducing cognitive overload (Islam, 2025). For example, AI-assisted document analysis, scheduling systems, and decision-support tools have demonstrated significant productivity gains across multiple industries.

However, research also identifies concerns regarding deskilling, algorithmic management, and increased performance monitoring. Employees may experience heightened stress when workplace AI systems continuously evaluate productivity metrics. Similarly, students may become overly dependent on AI-generated assistance, potentially reducing opportunities for critical thinking and independent problem-solving (Shukla, 2025). These findings suggest that productivity gains must be balanced against potential impacts on autonomy and cognitive development.

3.3 Psychological and Social Implications of AI-Driven Digital Environments

3.3.1 Mental Health Outcomes and Emotional Well-Being

The psychological consequences of AI-mediated environments constitute one of the most extensively studied areas of digital well-being research. Findings indicate that AI technologies can both support and undermine mental health. Positive outcomes include improved access to mental health resources, enhanced emotional self-awareness, and personalized coping interventions (Dennis, 2022). AI-based mood tracking applications and digital therapeutic platforms have demonstrated effectiveness in supporting individuals experiencing stress, anxiety, and depressive symptoms.

Conversely, studies reveal that algorithmically curated social media environments may contribute to anxiety, loneliness, and emotional distress. Continuous exposure to idealized content, social comparison processes, and engagement-driven platform designs has been linked to negative mental health outcomes, particularly among adolescents and young adults. Nevertheless, individual differences, digital literacy levels, and contextual factors significantly influence these relationships (Lutz, 2019). Emerging evidence suggests that psychologically resilient individuals may derive greater benefits from AI technologies while experiencing fewer adverse effects.

3.3.2 Social Relationships, Communication, and Community Engagement

AI technologies are reshaping social interactions and communication practices. Recommendation algorithms facilitate the formation of online communities by connecting individuals with shared interests, identities, and experiences (Routray, 2025). Research demonstrates that these communities can provide valuable emotional support, knowledge exchange, and social belonging.

AI-powered translation systems and communication tools have further expanded opportunities for cross-cultural interaction. Individuals can now engage with diverse communities regardless of language barriers, promoting global connectedness (Gale, 2023). At the same time, scholars note that algorithmic content prioritization may alter communication dynamics by emphasizing engagement metrics over meaningful interaction.

Some studies report concerns regarding reduced face-to-face communication and the growing mediation of relationships through AI-driven platforms. The increasing presence of AI companions and virtual relationships has also sparked debate about the future nature of human connection (Stankov, 2021). While AI can facilitate social engagement, evidence suggests that maintaining authentic human relationships remains critical for long-term well-being.

3.3.3 Digital Addiction, Dependency, and Behavioral Risks

A recurring theme in the literature concerns the potential for AI-enhanced digital dependency. Machine learning algorithms are specifically designed to maximize user engagement through personalized notifications, content recommendations, and reward mechanisms (GBOLADE, 2018). Research indicates that these features can contribute to compulsive usage behaviors, particularly among vulnerable populations.

Studies examining social media and gaming environments have identified associations between algorithmic engagement strategies and symptoms resembling behavioral addiction, including loss of control, withdrawal-like experiences, and interference with daily functioning (Shin, 2025). Adolescents and young adults appear particularly susceptible to these effects due to developmental factors and high levels of digital exposure.

Researchers increasingly argue that digital addiction should be understood as a socio-technical phenomenon rather than solely an individual behavioral problem. Platform design choices, algorithmic incentives, and attention-based business models all contribute to patterns of problematic use (Burr, 2020). Consequently, promoting digital well-being requires both individual-level interventions and systemic design reforms.

3.4 Ethical, Privacy, and Governance Challenges

3.4.1 Data Privacy, Surveillance, and User Autonomy

The literature consistently identifies privacy as a central challenge in AI-enabled environments. AI systems rely on extensive data collection to personalize services and improve predictive accuracy. While these capabilities can enhance user experiences, they often raise concerns regarding surveillance and autonomy (Santiago-Torner, 2025). Studies reveal that many users possess limited awareness of how their data are collected, processed, and shared.

Researchers argue that extensive monitoring practices may undermine perceived control and psychological well-being. The tension between personalization and privacy remains a persistent challenge (Narayan, 2020). Evidence suggests that transparent data governance, informed consent mechanisms, and user-centered privacy controls are essential for preserving autonomy and fostering trust in AI systems.

3.4.2 Algorithmic Bias, Fairness, and Inclusion

Algorithmic bias represents another significant concern. Numerous studies have documented instances in which AI systems produce unequal outcomes across demographic groups due to biased training data or flawed design assumptions (Polanco-Diges, 2022). Such biases have been observed in recruitment, healthcare, education, and content moderation systems.

The implications for digital well-being are substantial. Discriminatory outcomes can reinforce social inequalities, reduce trust, and negatively affect marginalized communities. Researchers emphasize the importance of inclusive datasets, fairness auditing, and participatory design approaches to ensure equitable AI deployment (Wahed, 2025). Evidence suggests that fairness and inclusion are not merely technical issues but essential components of well-being-oriented AI development.

3.4.3 Regulatory Frameworks and Responsible AI Development

Governments, international organizations, and technology companies have increasingly developed governance frameworks to address AI-related risks. Principles such as transparency, accountability, fairness, privacy protection, and human oversight appear consistently across major policy initiatives (Fei, 2024). The literature indicates growing support for regulatory approaches that balance innovation with user protection.

Responsible AI frameworks emphasize continuous monitoring, impact assessment, and stakeholder participation throughout the AI lifecycle. Scholars argue that digital well-being should become an explicit objective within AI governance policies (Musikanski, 2020). Existing evidence suggests that effective regulation can help mitigate harms while preserving the benefits associated with technological advancement.

3.5 Emerging Trends and Future Directions for Digital Well-Being

3.5.1 Human-Centered and Well-Being-Oriented AI Design

An important trend in recent literature is the shift toward human-centered AI design. Researchers increasingly advocate for systems that prioritize user welfare rather than solely maximizing engagement or profitability. Human-centered approaches emphasize transparency, explainability, user agency, and ethical design principles (Samuel 2021).

Studies demonstrate that users are more likely to trust and benefit from AI systems when decision-making processes are understandable and controllable. Well-being-oriented design frameworks encourage developers to assess psychological, social, and ethical impacts throughout system development (Männikkö, 2025). This trend reflects broader recognition that technological success should be measured by contributions to human flourishing.

3.5.2 AI for Digital Health and Preventive Well-Being Interventions

AI applications in digital health represent a rapidly expanding area of innovation. Research highlights the growing use of AI for mental health monitoring, early risk detection, personalized wellness interventions, and digital therapeutics. Machine learning models can analyze behavioral patterns, sleep data, physical activity levels, and communication behaviors to identify potential well-being concerns before they become severe (Green, 2025).

Preventive interventions supported by AI have demonstrated promising outcomes in stress reduction, chronic disease management, and mental health promotion. Personalized recommendations and adaptive support mechanisms enable more targeted and timely interventions than traditional approaches (Islam, 2023). Although long-term effectiveness remains under investigation, current evidence suggests substantial potential for AI-driven preventive well-being strategies.

3.5.3 Research Gaps and Future Research Agenda

Despite significant progress, several research gaps remain. Much of the existing literature relies on cross-sectional designs, limiting understanding of long-term well-being outcomes associated with AI use. Longitudinal studies are needed to examine causal relationships and developmental trajectories (Mandal, 2025). Additionally, current research disproportionately focuses on populations in high-income countries, creating substantial gaps regarding experiences in low- and middle-income regions.

Cross-cultural perspectives remain underexplored despite evidence that cultural values influence technology adoption and well-being perceptions. Future studies should investigate how AI impacts diverse demographic groups, including older adults, children, individuals with disabilities, and marginalized communities (García-Madurga, 2024). Methodological improvements are also needed, including mixed-method approaches, experimental designs, and standardized measures of digital well-being.

Finally, emerging technologies such as generative AI, immersive virtual environments, affective computing, and autonomous agents present new opportunities and challenges. Future scholarship should prioritize interdisciplinary collaboration to ensure that technological innovation aligns with human well-being, ethical principles, and social sustainability (Mayiwar, 2025). The evidence reviewed suggests that achieving digital well-being in the AI era will require continuous dialogue among researchers, policymakers, developers, educators, healthcare professionals, and end users.

4. Conclusion

The rapid integration of artificial intelligence into digital environments has transformed the way individuals interact with technology, creating both unprecedented opportunities and significant challenges for digital well-being. This review examined emerging research on digital well-being in the age of AI, synthesizing current conceptualizations, key opportunities, associated risks, and evolving strategies for promoting healthier digital experiences. The findings indicate that AI technologies have become deeply embedded in everyday life through personalized content delivery, intelligent assistants, recommendation systems, educational platforms, healthcare applications, and workplace technologies. These innovations offer considerable benefits by enhancing productivity, accessibility, learning, decision-making, and user engagement.

At the same time, the review highlights growing concerns regarding the impact of AI-driven systems on psychological, social, cognitive, and behavioral well-being. Algorithmic manipulation, excessive personalization, digital addiction, information overload, privacy intrusions, surveillance practices, misinformation, and the erosion of user autonomy have emerged as critical challenges. Evidence from recent studies suggests that while AI can improve user experiences, poorly designed systems may contribute to stress, anxiety, reduced attention spans, social isolation, and diminished control over digital interactions. These findings underscore the complex and multidimensional nature of digital well-being in contemporary technology-mediated societies.

The review further demonstrates that digital well-being should not be viewed solely as an individual responsibility but rather as a shared outcome shaped by technology designers, policymakers, educators, organizations, and users themselves. Ethical AI design, transparency, accountability, privacy protection, algorithmic fairness, and digital literacy initiatives are increasingly recognized as essential components of sustainable digital well-being frameworks. Emerging research also emphasizes the importance of human-centered AI systems that prioritize user welfare alongside technological efficiency and commercial objectives.

Despite the growing body of literature, several knowledge gaps remain. Current research is heavily concentrated in technologically advanced regions, while evidence from developing countries remains limited. Longitudinal studies examining the long-term effects of AI on well-being are also scarce. Furthermore, inconsistencies in the definition and measurement of digital well-being continue to hinder the development of standardized assessment frameworks. Future research should focus on establishing comprehensive theoretical models, exploring cross-cultural perspectives, and evaluating the effectiveness of AI-driven well-being interventions across diverse populations and contexts.

In conclusion, digital well-being represents one of the most important societal considerations in the ongoing AI revolution. As artificial intelligence continues to evolve and shape human experiences, ensuring that technological advancement aligns with human flourishing will become increasingly critical. Building digital ecosystems that promote autonomy, psychological health, meaningful engagement, and social well-being will require collaborative efforts across disciplines and sectors. By prioritizing ethical, inclusive, and human-centered approaches to AI development and governance, societies can harness the benefits of artificial intelligence while mitigating its potential risks, ultimately fostering a healthier and more sustainable digital future.

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