The Influence of Digital Media on Physical and Mental Health Issues: Secondary analysis Research

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Abstract:

This research specifically sought to understand how digital media impacts health, looking at both positive and negative health implications. The research included various health-related areas, including mental health issues, physical health issues, body image, depression, and anxiety. The studies were also limited to research from the last five years (2020-2024) and included 113 foreign studies published in English. Overall, the analysis included a mix of quantitative and qualitative methods, which emerged from the studies. Surveys were one of the most prevalent methods of data collection, with researchers using surveys in 53 of the studies. Content analysis was also used as a method in 76 of the studies. However, the research did not include much diversity with regards to age as most of the studies primarily focused on teenagers and adults with only minimal mention of other age groups. The most significant finding from this research is that digital media has an enormous impact on health, the negative impacts outweigh the positive impacts. Digital media has raised awareness of specific diseases, accelerated communication between health care professionals while increasing those opportunities, and has led to health advice being dispensed without following the traditional chains of medical advice. Therefore there are significant ramifications to both mental and physical health directly attributed to digital media.

Key Words:

Digital media – social media- health issue – mental health – anxiety- depression – sleep issues – body image – self-esteem – digital awareness – screen time- gaming addiction – internet usage

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تأثير الإعلام الرقمي على قضايا الصحة الجسدية والعقلية

دراسة تحليلية من المستوى الثاني

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ملخص الدراسة:

يهدف البحث إلى فهم كيفية تأثير الإعلام الرقمي على الصحة العامة، مع تسليط الضوء على كل من الآثار الإيجابية والسلبية. وتناولت الدراسة مجموعة من القضايا الصحية المرتبطة باستخدام الإعلام الرقمي، بما في ذلك الصحة العقلية والجسدية، وتصور الذات الجسدي، والاكتئاب، والقلق. وقد اعتمد التحليل على مراجعة منهجية لـ ١١٣ دراسة أجنبية منشورة باللغة الإنجليزية خلال السنوات الخمس الماضية منذ عام ٢٠٢٠ وحتى ٢٠٢٤ وقد تضمن التحليل مزيجًا من المناهج الكمية والكيفية التي ظهرت من خلال الدراسات، حيث كانت الاستبيانات من أكثر طرق جمع البيانات شيوعًا، حيث استخدمها الباحثون في ٥٣ دراسة. كما تم استخدام تحليل المحتوى كمنهجية في ٧٦ دراسة. ومع ذلك، لم يشمل البحث تنوعًا كبيرًا فيما يتعلق بالفئات العمرية، حيث اقتصرت معظم الدراسات بشكل أساسي على المراهقين والبالغين مع إشارة طفيفة فقط إلى الفئات العمرية الأخرى. وقد توصل البحث إلى نتيجة محورية مفادها أن للإعلام الرقمي تأثيرًا بالغًا على الصحة، وأن الآثار السلبية في المجمل تفوق الإيجابيات. فمن جهة، ساهم الإعلام الرقمي في تعزيز الوعي ببعض الأمراض، وتيسير التواصل بين المتخصصين في الرعاية الصحية، وتوفير محتوى صحي مبسط خارج الأطر التقليدية للمشورة الطبية. ومن جهة أخرى، ارتبط استخدام الإعلام الرقمي بارتفاع معدلات القلق والاكتئاب واضطرابات النوم، فضلاً عن التأثير السلبي على صورة الجسد وتقدير الذات. وتعكس هذه النتائج الحاجة الماسة إلى تعزيز الوعي الرقمي، وتطوير استراتيجيات تدخل قائمة على الأدلة للحد من التأثيرات السلبية للإعلام الرقمي، لا سيما بين الفئات الأكثر عرضة للمخاطر.

الكلمات الدالة:

الإعلام الرقمي، وسائل التواصل الاجتماعي، الصحة العامة، الصحة العقلية، القلق، الاكتئاب، اضطرابات النوم، صورة الجسد، تصور الذات الجسدي، تقدير الذات، الوعي الرقمي، مدة استخدام الشاشة، إدمان الألعاب، استخدام الإنترنت.

***أستاذ الإذاعة والتليفزيون والاعلام الرقمي المساعد بقسم الإعلام، كلية اللغة والإعلام، الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري**

****باحثة ماجستير بكلية اللغة والإعلام، الأكاديمية العربية للعلوم والتكنولوجيا والنقل البحري**

Introduction:

The widespread incorporation of digital media and technology into people's daily lives creates a qualitatively unique experience by reconfiguring communication, learning, and well-being. (Naslund, Bondre, Torous, & Aschbrenner, 2021) stated, "*Digital platforms serve as mechanisms for public access to health information, telehealth, and social connectivity yet lead increased susceptibility to mental health issues such as anxiety, depression, and technology addiction*". Although technology allows users to maintain social connection, an overemphasis on social media can render social construction obsolete by promoting deviation from face-to-face interactions despite the benefits associated with well-being. Furthermore, low-quality information related to public health via digital platforms remains a concern. (Jafar, Quick, Larson, Vera, Napoli, Musuka, Dzinamarira, Meena, Kanmani, & Rimányi, 2023) suggested, "*Social media platforms are engineered primarily for commercial engagement, not for data monitoring of public health risks*" and also emphasized the importance of digital literacy, as well as critical evaluation of health information via digital platforms.

Beyond mental health implications, excess screen time impacts physical health, which can cause "*sleep disturbance, obesity, and eye problems*" (Han, Nagduar, & Hea-Jin Yu, 2023). Parents increasingly discover that their concerns include their child's safety in the online environment, in addition to health related content and risks; their concerns about privacy and the potential for or risk of digital addiction (Ediati, Hanafi, Tahamata, Kurnia, & Manalu, 2021). Digital media can also facilitate outstanding advancements in healthcare, such as "*telemedicine, wearable health technology, and AI-based screening and diagnostics*" (Samsuddin, 2024). Digitals surrounding health will continue to develop; therefore, researchers must continue to identify evidence-based strategies that strive to balance the benefits of their use and the risks associated with their use in order to develop policies and practices surrounding digital health that priorities public's health, safety, and wellbeing as a whole, while still promoting the responsible, conscientious use of digital media.

Research Problem:

The rise of digital media has significantly transformed the way of communication, share information, and deliver healthcare. This transformation has brought positive developments, such as enhanced communication to promote public health and the expanded use of telehealth services. However, it has also raised critical concerns regarding mental health, digital addiction, misinformation, and even physical health. the central research problem of this study is articulated as follows: *What are the physical and psychological effects—both positive and negative—associated with digital media consumption?* To address this question, the study will employ a secondary data analysis approach, utilizing previously collected datasets to examine patterns, outcomes, and implications of digital media use on individual well-being.

Research significant:

- **Theoretical Importance:**

1. The rapid expansion of digital media in everyday life warrants investigation into its effects on health:
   Digital media is always expanding and it has more "presence" in everyday life than ever before, and inquiry into its effects on health must be made. Digital media has become prevalent in how we communicate with each other, how we learn, and even how we receive medical “care,” which necessitates a direct examination of the consequences of all of this new digital media for physical health, mental health, and public health. With digital media as a central part of our lives, and the necessity to understand the multi-faceted impacts of engagement with digital media on human health, we need to further theorize health and the extent to which engagement with digital media contributes to health for individuals and society as a whole.
2. Research has included both mental (e.g., anxiety) and physical (e.g., sleep) health outcomes:This includes an assessment of all of the psychological health impacts related to propensity to digital technology usage, such as anxiety, depression, and digital technologies addiction; as well as a physiological

outlook about potential collisions with sleep impacts, vision-related detriments, and possible posture-related problems. The needed research will cover both mental health outcomes (i.e., anxiety, depression, and reliance on digital technologies) and physical health problems (i.e., sleep disturbances, visual issues, and posture-related concerns).

3. Research has examined the role of digital media in the spread of health misinformation and the resultant public health ramifications: Theoretically informed exploration must consider how digital media can facilitate the circulation of false health information, thereby presenting serious barrier to effective health communication and the corresponding loss of legitimacy in public health systems. These small research domains contribute to the larger meta-conversation regarding media effects and help theoretically situate the next round of empirical research. Furthermore, theoretically informed exploration must consider the role of digital media in the dissemination of false health information, effectively causing health communication to lose its trust in public health systems. These areas allow for the development of media effects theory and provide conceptual starting points for the next round of data-driven research.

- **Practical Importance:**

1. This research assists practitioners with the evidence-based implementation of strategies to lessen negative health effects of digital media: It helps inform practitioners, including healthcare practitioners, teachers, government, to develop research-based strategies to mitigate the adverse health effects of digital media use. This research identifies useful contributions for practitioners as it provides the basis for evidence-based strategies that health professionals, educators, and policymakers can utilize to address negative health effects associated with the use of digital media.
2. Acknowledging the dangers associated with excessive screen time and the overuse of social media, especially among the most vulnerable populations can inform subsequent public health efforts: By understanding the dangers associated with

excessive screen time and the overuse of social media, especially among more vulnerable populations, this research can inform prevention public health campaigns and intervention programs. Recognizing some of the harms associated with long periods of time spent on sudden with excessive social media involvement can provide insight into the possibilities for guiding public health prevention and intervention opportunities.

3. The research helps to build awareness campaigns for mental health, fosters healthy behaviors, and guides action against misinformation: By identifying early warning signs of deteriorating mental health that potentially stem from digital media consumption - such as social alienation, addiction, and so forth - this study is supportive of making timely, focused awareness campaigns. If this study unearths potential health hazards related to physical health, using the media to promote healthier practices in digital media consumption could also take place. Importantly, this study can already be predictive of policy shifts, in addition to aiding media literacy initiatives that address a reduction in the dissemination of misinformation to create a safer, and more informed digital space. It aids with timely awareness campaigns by emphasizing early warning signs of declining mental health related to digital media engagement - like social disengagement or compulsive behaviours. In addition, identifying physical health hazards may very well promote healthier practices in consumption of digital media. Most significantly, this study may guide policy shifts, and media literacy initiatives that target the countering of misinformation permeating the online space, which may foster a safer, and more informed digital experience.

Research Objectives:

1. To examine the relationship between the engagement in digital media use and resulting mental health outcomes with a focus on the interaction between digital engagement and mental health conditions including anxiety, depression, and self-esteem.

2. To examine the role of digital media in health-related behaviors including the dissemination of health-related information and misinformation in the public sphere.
3. To understand the extent and impact of the digital addiction, particularly in relation to screen time, and the potential impact on both psychological and physiological health.
4. To examine the relationship between digital media consumption and physical health outcomes, including sleep issues, poor body composition and eye strain.
5. To assess the effectiveness of digital health interventions (telehealth, AI-enabled health care applications, and online support communities) and highlight best practices for implementing these interventions.
6. To discover and critically analyze the theoretical models used in digital media and health research and their role gained in understanding digital media involvement.
7. To summarize current research findings to identify gaps in the literature and offer suggestions for future research, policy development, and other public health initiatives related to digital media participation.
8. To provide evidence-based recommendations for health care professionals, educators, and policymakers to promote healthy and responsible practice with digital media.

Research Questions:

1. What are the primary positive and negative impacts of digital media usage on mental and physical health, as identified in previous studies?
2. How does social comparison on digital media platforms relate to the prevalence and severity of anxiety, depression, and body image issues, according to recent research?
3. Which specific physical health problems (such as those associated with sleep, obesity, and vision) have past studies linked to different levels of media consumption and screen time?
4. Does contemporary research indicate that interaction with digital media can be regarded as an addictive behavior

(including internet and gaming addiction), and what psychological and behavioral effects have been observed?

5. How has digital media influenced the dissemination and impact of health misinformation on public health awareness and behaviors, based on earlier research findings?

Research Variables:

- **Independent Variables (Digital Media Factors):**
  1. **Digital Engagement:**
     To what extent individuals interact with digital media, including the frequency, duration, and types of platforms and activities they use online.
  2. **Content Exposure:**
     The types of information and media people are exposed to online, like ideals and idealized images, accurate and inaccurate health news, and potentially harmful or addictive material.
  3. **Digital Health Intervention Use:**
     The use of digital tools and digital platforms created for the purpose of supporting or improving ones' health, including telehealth, online therapy, and health-encouraging applications.
- **Dependent Variables (impacts on physical and mental health):**

1. **Physical Health:**
   The way the digital media use can affect the body, including sleep patterns, weight, vision, and overall physical well-being.
2. **Mental Health:**
   The psychological impacts associated with digital media use, such as anxiety, depression, self-esteem, body image, and social connections.
3. **Public Health Impact:**
   The large population effect of digital media on health, which includes the dissemination of health-related information and misinformation, and influence on public health behaviours.

4. **Digital Addiction:**
   The problematic and compulsive use of digital media that can lead to negative consequences in various aspects of an individual's life.

Data Collection and Analysis:

Number of Studies:

There were 113 studies of the topic 'Digital Media and Health Issues' were published in English, in which a number of these studies investigated a range of subtopics related to digital media. The studies considered complexity associated with or between digital media and different aspects of health (e.g., mental, and physical health issues), investigated the emergence of issues related to digital addiction (i.e., internet or gaming addiction and the psychological or behavioral outcomes), in addition to studies of the influence of prolonged screen time. Overall, these studies help elucidate the multi-faceted nature of how digital media influences health and well-being in contemporary society."

Source of Studies:

The study population is represented by all the media studies examined that analyze the effects of digital media on health both “physical and mental” collected from multiple databases that were accessed through a Google search using a variety of keywords like “Digital media – social media- health issue – mental health – anxiety-depression – sleep issues – body image – self-esteem – digital awareness – screen time- gaming addiction – internet usage”. These databases included “Google Scholar, Research Gate, ARCIF, UNESCO, MDPI, Academia.edu, ASSP, and others”. For general studies and for studies related to the medical field, key sources included, “The Lancet (a general medical journal published weekly and peer-reviewed), National Library of Medicine (NIH), and Lippincott”.

Table 1: Number of Authors

Authors	Numbers	Percentage
1	18	15.93
2	26	23.01
3	16	14.16
4	21	18.58
5	8	7.08
6	7	6.19
7	4	3.54
8	0	0
9	2	1.71
More than 9	11	9.73
Total	113	100

The data suggest that most of the studies involved teams of two to four researchers “about 70%”. Almost 40 % of them with one and two authors, with 26 having two authors, 18 having one author, 21 having four authors, and 17 having three authors. This indicates that many of the studies were conducted independently. Studies with larger research teams (six or more authors) were widespread, but there were not as many studies with larger teams compared to teams of two to four authors. However, an exception was noted for 11 studies with more than nine authors.

The overall data suggest that research that involves digital media and health generally may be collaborative in nature especially for researchers who analyze large data sets, or study interdisciplinary subject matters. Two and three-author studies possibly indicate more even collaboration compared to single-author studies, and could also indicate individual constitutive approaches to theoretical or conceptual papers, rather than empirical or large studies. Studies that included teams with six or more authors likely involved more complexity due to a data-driven approach or multi-institutional research and interdisciplinary expertise, like psychology, public health, and data science.

For example, major collaborations may have played an important role for work related to public health studies, misinformation tracking, or digital health interventions that involved a significant amount of data collection and analysis. In contrast, smaller groups or individual researchers may have focused on theoretical discussions, literature studies, or small experimental studies. The above description

illustrates the collaborative nature that we see when we are addressing complex issues about digital health, is also connected to the individual opportunities to do research and conduct work.

Table 2: Number of Researches per Year

Year	Number	Percentage
2020	52	46.02
2021	12	10.62
2022	10	8.85
2023	17	15.04
2024	22	19.47
Total	113	100

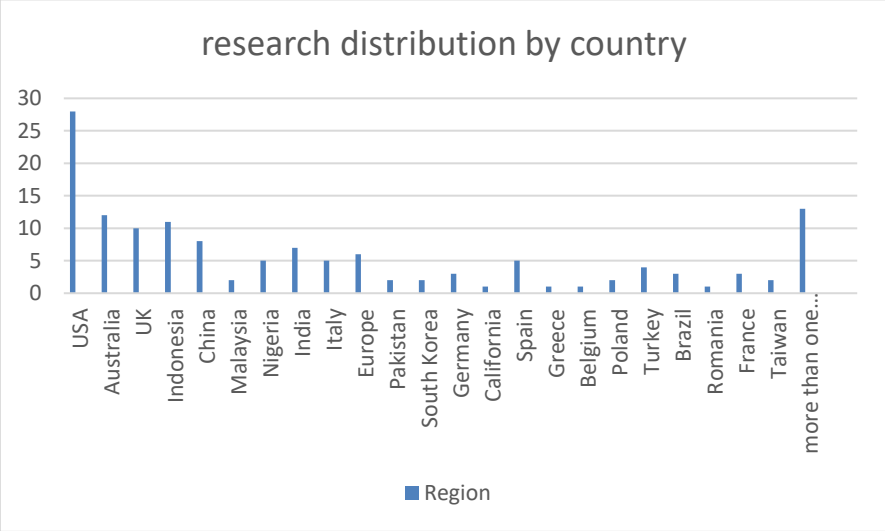
The results showed that the number of studies conducted in the area of health communication rose sharply in 2020 (52), likely due to the emerging pandemic and the subsequent dependence on the use of digital media for health information and communication. The COVID-19 pandemic was relatively under studied after this peak with only a few studies in 2021 (12) and even fewer in 2022 (10), which may be a shift in research focus, or possibly a gap in the publication of papers. However, the trend reversed, and in 2023 (17), the number of studies slowly increased and continued to increase into 2024 (22). There appears to be a second wave of interest again in health communication issues within the context of digital media for the COVID-19 pandemic.

The apparent growth of academic publications in the year 2020, which appears to have increased to 52 total publications form 21 in previous years, is most likely related to the COVID-19 pandemic. During this time, digital media acted as a key communications medium by sharing health-related information (both true and false), as well as providing psychological support and information on the outbreak. Additionally, questions were raised regarding the effect of continued excessive screen time due to lockdowns on mental health and physical well-being. The rise of academic publications may have also been influenced by an initial and significant emphasis by researchers on understanding and examining pandemic impacts from a digital media and health perspective during the pandemic.

There may be several reasons for the decrease in the number of academic studies in 2021 and 2022. First, it is possible that research concerns began to shift from the pandemic's early impact, as it related to digital media and health, to other new health concerns. Secondly, it could be that researchers felt that the early even indirect impact of digital media on health had been adequately researched in real-time academic studies, resulting in less research in this area, particularly when concerned with the immediacy of health concerns during the early pandemic. Lastly, a lag in research and publication may also explain this downward trend or decline, as studies stemming from late 2020 or 2021 may not have occurred until publication in subsequent years.

The observed growth of academic scholarly work in 2023 and 2024 indicates a revitalization of academic exploration of the evolving intersection of digital media and health, likely as a result of new health concerns created by the emergence of new digital technologies (e.g., artificial intelligence in digital health) and ongoing challenges of health misinformation through online platforms (i.e., social media related platforms). Additionally, following an initial wave of academic work, perhaps scholars felt a need to engage with a complex intersection of digital media and health once again, to explore potentially more disciplinary-specific angles or methodological approaches. The after-effects of the pandemic on health, mental health, and health behaviours have likely also led to ongoing research in this topic area as well.

Graph 1: Researches Region



The geographic distribution of the 113 studies shows a distinct pattern that indicates the vast majority of studies occur within Western countries, with the U.S. largely responsible for the lion's share of this work at 28 studies. This finding may signify the extensive academic and support system that is established in the U.S. on research examining online media and health. Australia (12 studies) and the United Kingdom (10 studies) have also contributed considerably to this body of work, focusing on mental health, behavior among youth, and the psychology of social media.

It was notable that, Indonesia is reflected in 11 of the studies, a figure that is higher than the number for many countries with larger output of research, suggesting a growing regional focus on digital health topics from Southeast Asia. Indonesia's studies, along with India's (7 studies), tend to focus on topics such as health misinformation, digital public health messaging, and online public engagement, especially during the context of the COVID-19 pandemic.

Several other countries participated in the global discussion, as seen in the numbers in parentheses: 5 from Nigeria; 4 from Turkey; and 3 from Brazil; and the European representatives were more scattered among (6) different countries, namely Italy, Spain, France, Germany, Poland, and Greece, which all contributed smaller numbers of studies.

Importantly, six of the studies designated "Europe" as a contemporary regional category. These studies were defined as examining health effects and trends across multiple European countries instead of a single nation. All 13 studies also included participants from multiple countries and focus on the processes and practices of cross-cultural communication, and contextically inform practices across culture and society.

Research conducted in Arab regions numbering 5, generally identified the variable of religion, social conservatism, and effects of the cultural stigma of mental health, as well as the variable of social media to counter the traditional belief in all above studies. Several countries had only 2 published studies; for example, Malaysia, South Korea, Pakistan and Taiwan, but only published studies just once, or in isolated countries. The concentration of research suggests gaps and/or under-representation. This lack of representation could also be due to logistical support issues, language barriers, or lesser consideration of these regions in the international literature. Overall, the distribution reflects the movement of the discipline growth, but also biases related/recognized to regional need, priorities, or response to global health events such as COVID-19. Sources and related content

Table 3: Data Collection Method

Method	Number	Percentage
Survey	53	39.70
Content Analysis	67	51.15
Focus Group	11	8.40
Total	131	100

The results show that data collection methods are dominated by content analysis (67 studies) and surveys (52 studies), while in-depth interviews (only 1 study) and focus groups (11 studies) were used less than more frequently. Thus, it appears that researchers in this area tend to favor data collection in large settings in structured around instruments (like surveys) and secondary data analysis (content analysis) to examine trends as opposed to smaller, interactive qualitative methods. The limited examples of focus groups and in-depth interviews may indicate that either time is a barrier, difficulty finding participants is an issue, or some topics may be sensitive in

nature (for example, mental health or digital addiction) that may stop subjects from talking freely in a group context.

For instance, the research article "Can Digital Media Be a Voice for Men, Too?" studied men sharing experiences of sexual assault on social media and required individual, in-depth interviews to better understand their personal and sensitive stories and the context behind their social media post, which did not rely on statistical inquiry and analysis. In contrast, studies of youth digital behavior and health communication utilized focus groups to look closely at, and use group interaction to describe, youth's shared experiences and perceptions of digital media that enabled a more theoretical and exploratory conversation. Taken together, this trend suggests an ambivalence about the use of quantitative survey and text types of inquiry and analysis in digital media and health research.

The total number of studies in the current analysis is considerably greater than the previous one. This increase is largely due to the fact that a number of studies explore multiple platforms of digital media in a single research framework; obviously, these studies are classified across multiple media types which results in a shared classification. As a result, one study may appear in more than one category, creating an increase in number of analyzed cases. This aspect of methodology underscores the complexity of digital media research, since platforms are often interlaced in relation to influences on health-related issues.

Table 4: Target Audience

Age Group	Numbers	Percentage
Children (school) + preteenager	24	10.17
Teenagers	72	21.61
adults	100	33.47
Seniors	11	4.66
Not specified	8	3.39
Total	215	100

The distribution of studies across age groups suggests that researchers focus largely on teenagers and adults. Based on the number of studies (72) that focus on teens it is likely due to the substantial volume and intensity of digital media that teens consume, and the complexities of developing a healthy brain during such a sensitive time of cognitive

growth.Throughout adolescence, a period described as particularly fragile, teens will often experience mental health challenges, such as anxiety, depression, or issues with self-esteem and body image, all of which are likely tied to their use of digital media. Concerns about adolescents and digital media are evolving and becoming exaggerated, as they often reflect, historically, more stable concerns about engaging with digital media during a time of lower cognitive maturity.

Adults are also a significant focus of studies with 100 studies dedicated to adult users. The focus on adults is understandable as adults are a large, diverse digital media user group, using technology for work, social, and information needs. Adult studies may examine the influence of digital media on work-life balance, stress, and health-related information, including misinformation. The growing volume of studies may indicate growing concern about the long term effects of digital media on adults' mental and physical health.

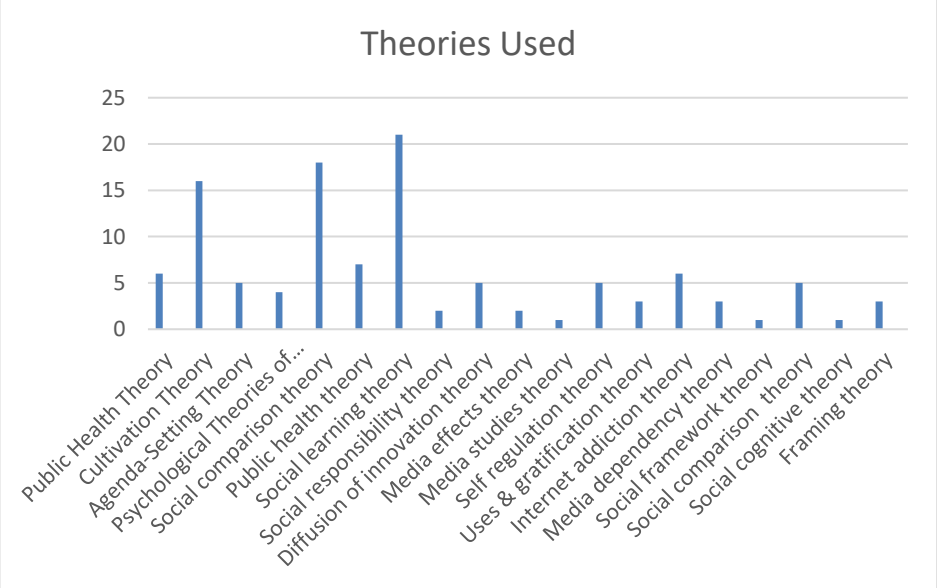
For example, the study entitled "A Social IoT Hybrid Scenario to Promote the Physical, Psychological, and Social Well-Being of the Elderly" set out to investigate the topic of older adults and advancing technology for enhanced social connection and care. "Digital Addiction and Related Factors amongst College Students" studied young adults, while increasing awareness of the problem of digital addictions.

In comparison, children and pre-teens received relatively little attention, with a total of only 24 studies. Research with younger children offers unique ethical and methodological difficulties that could account for this smaller number of studies as well as, other reasons, as children’s use of digital media, is often mediated by their parents or guardians-articulating different level for research. Nevertheless, the research acknowledges that as a field of study we do not have fully developed understandings of the impacts of digital media on children’s developmental and wellbeing in the areas of screen time, online content, or exposure to social media, especially at a young age.

Likewise, seniors were included as a focus in only 11 studies. The number could be small due to the relatively recent uptick in the amount of digital media adopted among older adults, alongside the unique difficulty in studying older adults in research settings. Research about seniors may be about how digital media can facilitate healthy aging with telehealth, social connection, and similar opportunities, though more research is needed to better understand older adults' needs and experiences of the digital era.

In general, the emphasis of the studies on teenagers and adults infers these two populations receive the greatest contact with digital media with the most measurable effects, while younger children and older adults are comparatively absent, leading to methodological or ethical challenges.

Graph 2: Number of Theories Used



The research indicates a strong focus on social and psychological conditions in the body of research focused on how online media impacts health. Specifically Social Learning Theory and Social Comparison Theory were the two most referenced (21 and 18, respectively) in examining how agents, specifically adolescents, were modeling behaviors from online media, and experiencing online comparisons, leading to impacts of self-esteem and mental health.

Social Learning Theory (21 studies): A significant amount of research has used social learning theory to understand how individuals, adolescent individuals in particular, learn behavior based on experiencing digital media in their daily lives. For example, the many studies on cyberbullying, body issues, and digital addiction used social learning theory to understand how individuals observe and engage with behaviors displayed through social networking platforms. Social Comparison Theory (18 studies): Social comparison theory was also highly referenced in the literature and has a wealth of evidence in the field of mental health research, specifically regarding self-worth, depression, and body image issues from exposure in social media. Well-documented studies associated with Instagram and TikTok have identified exposure to unrealistic perceptions and displays leads to increased anxiety and dissatisfaction.

Other influential theories are Cultivation Theory (9 studies) and Agenda-Setting Theory (3 studies) which both focus on the mechanisms of media explicitly related to shaping one's perception and public discourse.

Cultivation Theory (9 studies) involves how people create their perceptions of the world around them in a protracted process of exposure to media content. Cultivation Theory is often used as a lens through which to look at studies of news consumption, misinformation, and unrealistic health standards from social media. Agenda-setting Theory (3 studies) addressed how digital platforms have managed the public conversation surrounding health topics such as misinformation of vaccination campaigns.

The Psychological Theories of Addiction (4 studies) and Internet Addiction Theory (6 studies) exemplify the increasing concern of addiction to technology and compulsive behaviors related to increased screen time, social media use, and online gaming. The Diffusion of Innovation Theory (5 studies) and Self-Regulation Theory (5 studies) discuss both the diffusion of digital health interventions and self-controlling consumption of digital technologies. These are primarily evident in the literature on telemedicine, health technology, and digital health.

The fact that Framing Theory (3 studies) and Social Cognitive Theory (1 study) also suggest, while some literature examines how health information is framed in relation to behavior change via forms of communication and media, these theories have not been adopted to the same extent as psychological and behavioral theories.

Literature Review

1. Digital Media and Health Issues:

While recognizing the issues created by dependence on digital platforms and messaging. Digital media may be an effective method of health messaging, providing timely, accessible health information, telehealth services, and digital health interventions. Overuse of digital media has been associated with mental health issues, risks to physical health, meme streaming, and misinformation. (Sultan , Amir, 2023) suggest that "existing social media are not suitable for public health, most of them were designed for commercial purposes and are incapable of monitoring health." They highlight the need to acknowledge and address if there are positive or negative effects of social media messaging in health communication and public health. If we are to improve public health from social media, we have to be certain that digital messaging creates benefits without causing harm.

Mental health is the most commonly investigated topic related to digital platforms. Research has identified links between excessive social media use and increased stress, anxiety, and depression. (Ameen, Faye, 2024) note that "the more time you spend on social media, the lower your self-esteem will be, while you are also more likely to experience some depression and anxiety, and to be a victim of cyberbullying," highlighting concerns about the negative consequences of being online. Additionally, problematic internet use has been identified as an increasing concern, especially among adolescents, and it has been implicated in social withdrawal and distress (Ahuja, Elavia, 2024).

In addition to mental health, there are physical health concerns related to the use of digital media. Concerns that come with excessive use of screens include poor sleep patterns, obesity, and eye strain. A recent report (Bassam, 2022) states that "students reported the highest scores

for addiction when using devices for more than nine hours a day", showing the relationship between excessive screen time and poorer health outcomes. There is another notable public health risk that may be connected with the use of digital media, specifically in relation to misinformation that may be touted during a public health crisis, such as the COVID-19 pandemic. Evidence has shown that misinformation on health can disseminate rapidly on digital media, challenging and changing how the public reacts to and views valid health information distributed by trusted sources and ultimately impacting all important health-related behaviours and outcomes, such as vaccinations and the uptake of untested medications (Balcombe, De Leo, 2024).

Given these considerations, research must continue in order to arrive at a complete understanding of the interplay of benefits and harms from the use of digital media in the realm of health and in general life. There are ways to lessen the negative impacts experienced without giving up the promise of using digital media as a means of health education and communication. Research needs to help continue the development of effective approaches to digital literacy programs, responsible digital media usage, and changing the policy to lessen negative outcomes related to digital media use.

2. Digital Media and Mental Health Issues:

Mental health and digital media use have been a major focus of recent research, as researchers have correlated use of social media platforms (both usage and interactions) and consumption habits of digital media with different forms of mental health challenges. Current studies highlight strong links between excessive digital media use and adverse mental health outcomes for youth and young adults, particularly anxiety, depression, and social isolation. (Ezemonye, Nwachukwu, 2024) state that "social media use is associated with lower self-esteem, depression, anxiety, and being bullied on the internet," highlighting the psychological risks associated with high levels of engagement and exposure to digital environments.

A substantial concern regarding the effect of digital media on mental well-being is social comparison and self-esteem. Social Comparison Theory explains that we measure our lives against idealized versions of other people’s lives that we see online, which has been shown to be

associated with feelings of unhappiness and emotional distress. Bucci, Schwannauer, & Natalie Berry, 2024) found "higher levels of social media engagement are correlationally associated with greater body dissatisfaction and negative self-appraisal", especially among young women. Another phenomenon that has been fully studied is FOMO (Fear of Missing Out), where studies show chronic exposure to curated lives on digital platforms worsen feelings of anxiety and lead to compulsive behaviours (Marciano, Ostroumova, Schulz, Camerini, 2021).

In addition to social networking sites, excessive internet use and problematic internet use have been linked to a decline in mental health improvement. (Dadi, A. Dachew, & A. Tessema, 2024) state, "Problematic Internet Use (PIU) is becoming a larger issue and is associated with rising rates of loneliness, stress, and compulsive behaviors among adolescents." Excessive stimulation from digital engagement often leads to sleep disruption, emotional dysregulation, and diminished productivity, resulting in worsened mental health concerns.

Although these concerns do exist, there are also opportunities afforded by digital media to support mental health, ranging from online therapy platforms to digital mental health interventions, to virtual support communities. “Nonetheless, the conflict between the positive and negative uses of digital media remains a significant unresolved research area” (Twenge, Martin, 2020). As a form of digital engagement continues to change, it is important to develop models of responsible usage, promote digital literacy, and develop systems of psychological supports aimed at reducing harm and enhancing possible benefits on mental health caused by digital engagement (Sultan, Amir, 2023).

3. Digital Media and Body Image:

The relationship between digital media and body image has been examined for many years, with a particular focus on how social media relates to body dissatisfaction and self-esteem. Social Comparison Theory suggests that people are always using the images and lifestyles of others through social media, as a social measuring stick that can be detrimental. According to research, vision-based social media

platforms like Instagram and TikTok may be effective in creating unrealistic beauty standards and body image (F. Rodgers, Tiffany Melioli, 2020). (Khairunnisa, Putri, Siregar, Jannah, Zafira, Dalina, Fariha, Farida, Sari, Putri, Aji, Efendi, Raranditha, Fardana, Amelia, 2022)"More frequent use of social media is associated with lower self-esteem, depression, and anxiety and greater body dissatisfaction." Ultimately, social media-users can find themselves in a social risk by voluntarily viewing idealized bodies, through social media.

Multiple studies have indicated that young women typically experience the worst body image issues associated with their use of digital media. The systematic review study by (Tiggemann, Slater, 2021) showed the result that "body dissatisfaction level was positively associated with the level of digital addiction due to social comparisons as continuing online users." This indicates that as long as the scaffolding of body image continues to be centered on appearance it can navigate negativity on self-evaluation or invoke an eating disordered behavior. The additional layers of filters and enhancements that users experience online further serve to corrupt reality as users cannot distinguish between 'real' or 'altered' leading to a more severe body dissatisfaction (Tiggemann, Slater, 2021).

Despite there are concerns associated with this topic, digital media also provides opportunities to promote body image positively. Some channels and influencers are advocates of body positivity, and in doing so, they provide alternatives to society’s conventional beauty standards and promote self-acceptance (F. Rodgers, Melioli, 2020). Such movements can, however, be a mixed bag when looking at both idealized bodies and more inclusive bodies, it can lead to comparisons and self-evaluations regardless of whether the body image is body positive. We need to think about some of the steps we can take to improve digital literacy skills in individuals to encourage how they interact with digital content and lessen the adverse effects of social comparison.

4. Digital Media and Sleep Issues:

Research discussing the effects of digital media on sleep-related behavior has grown rapidly in health-related research settings, with many researchers documenting the adverse effects associated with prolonged digital screen time and sleep. The widespread use of smartphones, social platforms, and digital, or streaming, entertainment in the hours preceding sleep has been implicated in delayed bedtime through sleep initiation, shortened sleep duration, and decreased sleep quality. For instance, (Ansari, Naz, 2021) state "students spending more than nine hours a day on digital devices had the highest scores of addiction, which had very strong associations with sleep disturbance and irregular sleep schedules." This could be evidence that more prolonged screen time, particularly later in the evening, may be a negative influence on the body's natural circadian rhythm of sleep and wake (Ediati, Hanafi, Tahamata, Kurnia, Manalu, Kaloeti, 2021).

Digital media has changed sleep in several different ways, including stimulating melatonin production with blue light emitted from screens. As research suggests, exposure to blue light decreases the secretion of melatonin sleep hormone which may delay the ability to fall asleep, and it correlates with decreased sleep duration (Mylona, S. Deres, Tsinopoulos, Dere, Glynatsis, 2020). Furthermore, scrolling, gaming, or streaming genres, for example, could produce an increase in psychological arousal while a person is engaging in a given activity when the necessary condition is to slightly lessen mental activity in order to fall asleep. (Almuaigel, Alanazi, Almuaigel, Alshamrani, Alsheikh, Almuhana, Zeeshan, Alshurem, Alshammari, Mansi, 2021) state that, "frequent social media usage prior to sleep are associated with longer sleep latencies, nighttime awakenings, and lower overall sleep hygiene."

Along with physiological and cognitive effects, the use of digital media may produce behavioral sleep disturbances such as bedtime procrastination, which is delaying going to sleep for screen time (Taliaz, Souery, 2021). Previous studies noted that social media users, especially adolescents, have difficulty sustaining a healthy sleeping pattern due to the addictive nature of the digital world. For example, (Dadi, A. Dachew, A. Tessema, 2024) noted that "Problematic

Internet Use (PIU) has a strong relationship with sleep disturbance because of the excessive time spent on the Internet leading to later bedtimes and less sleep."

Since sleep is crucial for cognitive functioning, emotional regulation, and general well-being, it is important to address the negative impact of digital media on sleep (Linares, Yubero, Medrano, Cardoso-Moreno, 2024). Researchers recommend digital curfews, blue-light filters on devices and an increase in knowledge of healthy digital habits to combat sleep problems associated with delay and excessive screen time. Identifying the relationship between Internationals, digital consumption and sleep problems will aid in examining effective public health strategies aimed at promoting sleep hygiene as a social norm in the digital age.

5. Digital Addiction:

Digital addiction has become an area of considerable interest for today's health research community and has been linked to impairments in mental health, cognition, and multiple areas of wellbeing. Digital addiction, or the excessive and compulsive use of digital technology and media, has been shown to adversely impact adolescent and young adult populations in several ways, particularly by negatively impacting psychological and behavioral dimensions of wellbeing. Research ordinally suggests a positive correlation between increased screen time and stress, anxiety, and attention deficits. (Han, Nagduar, Yu, 2023) reported that "students who spent more than nine hours a day with digital devices had the highest addiction scores," which supports the prior assertion and suggests that time spent engaged with digital media is associated with some form of psychological harm.

Part of the problem with digital addictions deals with the underlying aspects of self-regulation and impulse-control challenges. Research has indicated that the individuals to experience digital addiction do have difficulty regulating their screen-time, which can impact their sleep, their performance in class, and their social life (Wolf, Wolf, Weiss, Nino, 2021). (Ahuja, Elavia, 2024) suggest, "Problematic Internet use has emerged as an increasing complication of adolescent health, which can lead to social isolation, low self-esteem, and compulsive internet use." This suggests that the addictive nature of

digital media maintains the potential for dependence through algorithmic content, instant gratification, and social validation.

Additionally, theories of psychological-type addiction provide a context for compulsivity with aspects of digital media consumption, particularly Internet Addiction Theory. Numerous studies found that many forms of digital technology, especially social media applications and video games, utilize psychological vulnerabilities to encourage users' habitual use through reward systems that can result in compulsivity. (Khairunnisa, Farida, Fariha, Putri, Siregar, Jannah, Zafira, Dalina, Sari, Putri, Aji, Efendi, Raranditha, Fardana, Amelia, 2024) articulate that the "rise of digital dependency is linked to the very 'platform' that encourages habitual usage while decreasing the likelihood of withdrawal."

Due to new concerns about digital addiction, researchers are signaling a need for a greater emphasis on digital literacy, self-regulation, and public policy as a means to diminish or counteract some of the undesirable negative aspects of digital addiction and consumption. If we are to progress to manage and mitigate digital addiction, it is likely going to take a collaborative and multi-faceted approach, some of which may include therapeutic approaches, behavioral approaches such as behavioral change techniques, and the very design of these technologies to promote the desirable healthy behaviors related to media consumption in digital technologies.

6. Internet and Gaming Addiction:

The impact of social media and gaming dependency is a rising research issue and area of focus in digital health and well-being considering the avenues and access we provide our family members to the online space in the current world, alongside a greater level of fun-oriented, broad-based, and immersive gaming experiences, and their association with their psychological and behavioral issues. "Youth, adolescents, and young adults are vulnerable to their compulsive use or usages as a result of access, speed, and levels of ease and unlimited access to a wider range of online immersive experiences"(Mylona, S. Deres, Tsinopoulos, Dere, Glynatsis, 2020). The use of these activities may become compulsive, especially in youth, adolescents, and young adults because of how easy it is to use those experiences and what

seems like unlimited access speed to those experiences. The research shows that gaming and other internet-related activity can affect social isolation, impair or decline cognitive processing, and impair emotional regulation. (Ahuja, Elavia, 2024) noted that "Problematic internet use (PIU) is an important concern for adolescent health" which could be linked to social withdrawal from socializing or relationships, being engaged in school, or limited instances of anxiety.

Addiction to gaming is a type of internet addiction defined as a behavioral disorder by the World Health Organization (WHO) and is characterized by losing control, gaming taking priority over daily routines, and continuing to game even when it reverses the person's quality of life. (Reer, Quandt, 2021) described that, "excessive gaming resulted in disrupted sleep, increased strain, and reduced social behavior, especially for younger gaming users who spend large amounts of time in virtual environments" Ultimately, gaming restraint behaviors are reinforced by reward systems, in-game reward systems, and gaming social connection, which makes it difficult for people to stop gaming.

Studies have also shown that gaming addiction can lead to lasting psychological distress, which can present in a manner consistent with substance addiction. (Aziz, Nordin, Abdulkadir, M. Salih, 2021) state, "compulsive gaming behavior activates dopamine-driven reinforcement mechanisms, making it even more difficult for individuals to self-regulate their screen time." The social aspect of gaming, created by features such as multiplayer coordination and competitive eSports, can reinforce gaming addictions by providing feelings of belonging, in a virtual setting, as a means of escape from stressors in their daily lives.

Alarm over potential internet and gaming addiction has led some researchers to recommend solutions such as a digital detox, parental supervision, time management interventions, and cognitive behavioral therapy (CBT). Future research should continue to build an understanding of the psychological and neurological mechanisms associated with digital addiction, so that researchers can establish interventions to support productive online activities.

Conclusion:

This secondary analysis, which included reviewing 113 studies conducted between 2020 and 2024, clearly demonstrates the multifaceted and pervasive effects of digital media on physical and mental health. While there are clear benefits to digital media and digital platforms, such as public health awareness campaigns and quicker, more efficient communication among healthcare professionals, as well as new forms of healthcare delivery (telehealth, remote monitoring) (Samsuddin, 2024), the research revealed that this multifaceted research presents a complicated mix of positive and negative effects that need to be considered.

Specifically, there are ongoing valid concerns that excessive or unhealthy use of digital media may further worsen existing or create new mental health issues including, but not limited to, higher incidence of anxiety and depression, especially among vulnerable populations, and developing potentially addictively behaviours about the use of the internet and gaming (Naslund, Bondre, Torous, & Aschbrenner, 2021). Additionally, there are independent sources of our analysis on how digital media contributes physical health concerns. Most studies identify a high correlation between more time interacted with digital media and various outcomes related to: fewer hours of sleep, sedentary behaviour, including the health-related risks of obesity, and other potential problems associated with eye strain (Han, Nagduar, & Hea-Jin Yu, 2023). The ubiquity of social comparison included in these digital platforms was also highlighted as a major contributor to body image dissatisfaction and self-esteem.

In addition to unique health choices, this review also highlights the important issue of health misinformation. Digital misinformation is a public health crisis because it disseminates misinformation to the public quickly, potentially undermining evidence based practice and eroding trust in the healthcare system (Jafar, et al., 2023).

Importantly, this review reinforces the need for balance and breadth beyond simple comparisons. While a simpler understanding of the promise and danger of digital media is needed, one must see this analysis with both the transformative potential and the risks of digital media. Moving forward, our research and interventions should focus

on three areas: the development at a national scale and implementation of effective digital literacy training programs, promotion of responsible, engaged, and reflective use of digital media at all levels of age, and the development and rigorous evaluation of evidence based programs that will work to minimize the negative health outcomes while maximizing occasion for appropriately engaged tools and technologies within the health and public health sectors

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