

Ambientes Digitais, Desinformação e Saúde Mental: Uma Ecologia Sistêmica do Risco na Sociedade Contemporânea

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Resumo

A saúde mental global tem sido cada vez mais moldada por estressores interativos, e não por determinantes isolados. Esta revisão narrativa interdisciplinar examina como a COVID-19, o sofrimento relacionado às mudanças climáticas, o uso problemático de tecnologias e a desinformação digital interagem para intensificar a carga psicológica, especialmente entre populações vulneráveis. A busca foi realizada nas bases PubMed, Scopus e Google Scholar, contemplando estudos publicados entre 2000 e 2025, com prioridade para investigações empíricas, revisões sistemáticas e meta-análises. A síntese indica que a disrupção pandêmica, a ansiedade climática, o engajamento digital compulsivo e as infodemias produzem efeitos mutuamente reforçados, mediados por desigualdades estruturais e por ambientes digitais de alta intensidade de engajamento. As evidências sugerem que as respostas contemporâneas em saúde mental devem integrar cuidados comunitários, letramento digital, responsabilização das plataformas e suporte psicossocial sensível às questões climáticas. Argumenta-se que a crise atual é de natureza sistêmica e demanda respostas coordenadas e intersetoriais.

Palavras-chave

Saúde mental; uso problemático de tecnologias; desinformação; COVID-19; ansiedade climática; ambientes.

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Digital Environments, Misinformation, and Mental Health: A Systemic Ecology of Risk in Contemporary Society

Abstract

Global mental health is increasingly shaped by interacting stressors rather than isolated determinants. This narrative interdisciplinary review examines how COVID-19, climate-related distress, problematic technology use, and digital misinformation interact to intensify psychological burden, especially among vulnerable populations. Search was conducted in PubMed, Scopus, and Google Scholar for studies published between 2000 and 2025, prioritizing empirical studies, systematic reviews, and meta-analyses. The synthesis indicates that pandemic disruption, climate anxiety, compulsive digital engagement, and infodemics produce mutually reinforcing effects mediated by structural inequalities and high-engagement digital environments. The evidence suggests that contemporary mental-health responses should integrate community-based care, digital literacy, platform accountability, and climate-sensitive psychosocial support. The article argues that the current crisis is systemic and requires coordinated, cross-sectoral responses.

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Keywords

Mental health; problematic technology use; misinformation; COVID-19; climate anxiety; digital environments

Introduction

Contemporary mental health is increasingly shaped not by a single determinant, but by the convergence of sanitary, environmental, and digital stressors. The COVID-19 pandemic, the intensification of climate change impacts, problematic technology use, and the widespread circulation of digital misinformation have begun to interact in mutually reinforcing ways, amplifying anxiety, depression, psychological distress, social isolation, and structural vulnerabilities. Rather than merely coexisting, these processes form a systemic architecture of risk, particularly in contexts marked by structural inequalities and digital environments designed to maximize engagement.

This article starts from the premise that the current mental health crisis should be understood as a phenomenon of compounded stress, in which pandemic disruption, climate pressures, digital ecologies, and misinformation do not operate in isolation. The objective is to integrate evidence from these domains within a single interpretative framework, highlighting how social inequalities, algorithmic amplification mechanisms, and prolonged exposure to uncertainty intensify mental health outcomes.

Mental health is currently facing a global crisis, intensified by the aftermath of the COVID-19 pandemic, the increasingly visible impacts of climate change, the excessive use of digital technologies, and the spread of online misinformation (Ghosh & Scott, 2018; Silva, 2022; Zarocostas, 2020). These interconnected challenges exert considerable pressure on health systems worldwide and demand responses that are both comprehensive and multidimensional. This raises a central question: how does the convergence of pandemic disruption, climate stressors, technological dependence, and digital misinformation shape a systemic crisis in mental health? The aim of this article is to integrate evidence across these domains within a common explanatory framework, emphasizing the role of social mediators (inequalities), informational mediators (digital ecologies), and environmental mediators (climate stressors), while also deriving practical implications for public policy, digital education, and mental health equity.

In recent years, particularly during the third decade of the twenty-first century, mental health has emerged as a critical global concern, reflecting an unprecedented convergence of pressures. From the enduring effects of a pandemic that reshaped human interaction to the accelerating threats posed by

climate change, technological dependence, and the large-scale dissemination of misinformation, the burden placed on mental health systems around the world has become substantial. Addressing this multifaceted crisis requires a shift in perspective, one that integrates innovative policies with a broader collective response from society. In this context, education emerges as a central dimension for addressing these challenges, particularly through the development of critical digital literacy and the capacity to navigate complex information ecosystems shaped by algorithmic dynamics.

Proposed conceptual framework

Macro-stressors: pandemic disruption, climate crisis, social inequality

Mediators: hyperconnectivity, problematic technology use, misinformation, high-engagement algorithms

Outcomes: anxiety, depression, psychosocial distress, reduced well-being, suicidal ideation, increased pressure on mental health services

Methodology

This study adopts an interdisciplinary analytical approach based on a narrative review, aiming to integrate contributions from public health, communication studies, and digital culture. This study is characterized as an interdisciplinary narrative review covering the period from 2000 to 2025. Literature searches were conducted in PubMed, Scopus, and Google Scholar using terms related to: (i) COVID-19 and mental health; (ii) climate change, extreme events, and psychosocial outcomes; (iii) problematic technology and social media use; and (iv) health misinformation and infodemics. The searches were carried out between January 2000 and July 2025 across the three databases. Combinations of the descriptors “mental health,” “COVID-19,” “climate change,” “climate anxiety,” “problematic smartphone use,” “social media addiction,” “digital misinformation,” and “infodemic” were employed, with adjustments according to the specific indexing structures of each database.

Priority was given to empirical studies, systematic reviews, meta-analyses, and key institutional reports addressing mental health outcomes associated with at least one of the central analytical axes of the review. Opinion pieces without a

consistent analytical basis, duplicate materials, studies not directly related to mental health, and publications whose primary focus did not engage with the intersection of sanitary, environmental, and digital stressors were excluded. Following screening by title, abstract, and full-text reading, the selected studies were organized thematically into four analytical axes, as well as their areas of intersection.

Particular emphasis was placed on systematic reviews, meta-analyses, and high-impact empirical studies, alongside reference documents from international organizations such as the World Health Organization. At the end of the selection process, 60 studies and institutional documents were identified as central to the interpretative synthesis. The review incorporated evidence describing both direct and indirect effects on mental health, as well as mediating mechanisms such as social inequalities and informational exposure. The synthesis followed an integrative thematic analysis, organizing the findings according to the four analytical axes and their interactions. This approach is particularly suited to complex and multifactorial problems, as it enables the articulation of diverse bodies of literature, the identification of knowledge gaps, and the formulation of broader interpretative and policy implications.

Results and discussion

Overview of Global Mental Health

Mental disorders affect individuals across all age groups and represent one of the most significant public health challenges worldwide. Estimates indicate that, in 2019, nearly one billion people were living with a mental disorder, approximately 14% of whom were adolescents, and the global burden continues to rise in many regions. In the same period, suicide accounted for roughly one in every one hundred deaths worldwide, with approximately 58% of these deaths occurring among individuals under the age of Fifty (WHO, 2020). Mental disorders are also a leading cause of disability globally, representing about one in six years lived with disability. Moreover, individuals with severe mental disorders experience a reduction in life expectancy of approximately 10 to 20 years, largely due to preventable physical illnesses and unequal access to health care (WHO, 2022; Vigo et al., 2016).

Several structural factors contribute to the global mental health crisis, including social and economic inequalities, armed conflicts, public health emergencies, and the growing impacts of climate change. During the first year of the COVID-19 pandemic alone, global cases of depression and anxiety increased by approximately 25%, reflecting the profound psychosocial consequences of social isolation, economic instability, and uncertainty (SANTOMAURO et al., 2021). In addition, stigma, discrimination, and violations of human rights continue to exacerbate the condition of individuals living with mental illness, frequently limiting access to care and reinforcing cycles of vulnerability and marginalization (PATEL et al., 2018).

These crises should not be understood as isolated phenomena but as interacting processes that reinforce one another. For example, climate-related anxiety may be intensified within digital environments that amplify catastrophic narratives or circulate misinformation about environmental risks. At the same time, the COVID-19 pandemic accelerated global reliance on digital technologies, increasing exposure to online misinformation and to highly engaging social media ecosystems. Evidence from systematic reviews suggests that intensive social media use and problematic smartphone use are associated with higher levels of anxiety, depression, and psychological distress, particularly among adolescents and young adults (HOGAN; BEHAR-HORENSTEIN, 2026; KELES; MCCRAE; GREALISH, 2020a; SOHN et al., 2019). These overlapping pressures create feedback loops that intensify psychological suffering and place additional strain on already overstretched mental health systems.

The trends described here cannot be explained by a single determinant. Instead, they reflect the convergence of sanitary shocks, environmental stressors, digital information ecosystems, and structural inequalities. This interdependence supports the argument that the contemporary mental health crisis is systemic in nature and therefore requires interdisciplinary synthesis and integrated policy responses capable of addressing health, environmental, technological, and social determinants simultaneously (WHO, 2022; Patel et al., 2018).

Impact of the COVID-19 Pandemic on Mental Health

Social isolation, restrictions on work and education, and the reduction of face-to-face interactions with friends and family generated unprecedented levels

of stress during the COVID-19 pandemic. Anxiety and depression became highly prevalent, driven by loneliness, fear of infection, grief associated with the loss of loved ones, prolonged uncertainty, and financial concerns. Among healthcare professionals, emotional exhaustion and burnout emerged as major risk factors associated with suicidal ideation and severe psychological distress (PAPPA et al., 2020; PFEFFERBAUM; NORTH, 2020).

Public health measures essential to containing the spread of the virus, such as quarantine, lockdowns, and physical distancing, also produced significant consequences for population mental health. Systematic reviews indicate that prolonged social isolation was associated with increased symptoms of stress, anxiety, depression, and post-traumatic stress, particularly among vulnerable groups such as older adults and individuals with pre-existing mental health conditions (BROOKS et al., 2020; SALARI et al., 2020). Moreover, prolonged uncertainty and rapid economic and social changes intensified psychological distress in many societies. Long-term consequences of the pandemic may include delayed recovery of mental health systems, increased demand for psychological services, and persistent stigma related to mental illness.

The pandemic also exposed and amplified existing inequalities in access to mental health care. Individuals with lower incomes, ethnic minorities, and marginalized communities experienced disproportionate impacts, often facing additional barriers to accessing psychological support during the crisis (GALEA; MERCHANT; LURIE, 2020; MORENO et al., 2020; PATEL et al., 2018). These disparities in the distribution of mental health services highlight the urgent need for public policies aimed at expanding equitable access to care and strengthening community-based mental health systems.

In low-income countries, the gap in access to mental health care is particularly pronounced. In many regions, there are fewer than one psychiatrist per 100,000 inhabitants, reflecting severe shortages in specialized mental health services and infrastructure (Okechukwu, 2022; WHO, 2022). Such structural limitations disproportionately affect already vulnerable populations and exacerbate the effects of economic instability, social exclusion, and systemic discrimination. Addressing these disparities requires targeted policy interventions that prioritize the allocation of resources, workforce training, and the strengthening of primary mental health care systems.

The psychological consequences of the pandemic also interact with environmental stressors, such as climate-related extreme events, high-engagement digital ecosystems characterized by intense screen exposure, and the spread of health misinformation. Together, these dynamics intensify anxiety, complicated grief, and psychosocial vulnerability among populations already exposed to structural inequalities and uncertainty (SANTOMAURO et al., 2021; ZAROCOSTAS, 2020).

Rather than representing an isolated event, the pandemic acted as an accelerator of pre-existing vulnerabilities. It expanded reliance on digital environments, increased exposure to health misinformation, and affected populations already sensitive to economic, environmental, and social stressors. These overlapping pressures reinforce the need for an integrated interpretation of contemporary psychological distress, recognizing the interaction between sanitary crises, digital environments, and broader structural determinants of mental health (WHO, 2022; Patel et al., 2018).

Climate Change and Mental Health

Prolonged exposure to extreme heat has been increasingly associated with adverse mental health outcomes. High temperatures can trigger physiological stress responses, including increased secretion of cortisol, often referred to as the “stress hormone”, which may exacerbate existing mental disorders and contribute to the onset of new psychological conditions (BASU; SAMET, 2002). A growing body of epidemiological evidence indicates that heatwaves are associated with increased suicide rates, psychiatric hospitalizations, and higher levels of psychological distress in exposed populations (BURKE et al., 2018; LAI; BAUERMEISTER; SARKAR, 2026; THOMPSON et al., 2023). International public health authorities warn that climate change poses serious risks to mental health and psychosocial well-being, contributing to emotional distress, anxiety, depression, grief, and suicidal behavior across multiple populations (WHO, 2020). Historical examples of global environmental governance also demonstrate that coordinated science–policy action can mitigate planetary risks, as illustrated by international regulatory responses following the discovery of the ozone layer depletion crisis (Silva, 2025; Solomon & Chanin, 2011).

Extreme climate events (including hurricanes, floods, droughts, and wildfires) have particularly severe consequences for mental health. Systematic reviews and post-disaster studies indicate that communities affected by such events frequently experience increased prevalence of post-traumatic stress disorder (PTSD), anxiety disorders, depression, and substance use disorders. For example, research conducted after large-scale wildfires has documented substantial increases in PTSD and psychological distress within affected populations during the months following the disaster (AGYAPONG et al., 2021; TO; EBOREIME; AGYAPONG, 2021). The loss of property, displacement, community disruption, and the trauma associated with environmental catastrophes often produce long-lasting psychological impacts.

Recent international research has also highlighted the growing phenomenon of climate anxiety, particularly among younger generations. Large-scale global surveys indicate that approximately 60% of young people report being very worried about climate change, while many also report feelings of sadness, anger, and fear that negatively affect their daily lives and outlook on the future (HICKMAN et al., 2021; LEE et al., 2020). The uncertainty surrounding political responses to climate change and the perception of insufficient global action contribute to a growing sense of helplessness and existential concern among Youth (OGUNBODE et al., 2022). Increasingly frequent and severe climate-related disasters also deepen existing social vulnerabilities, disproportionately affecting communities already exposed to poverty, marginalization, and limited access to mental health services (CLAYTON; MANNING, 2018).

Climate-related psychological stressors (including climate anxiety, post-disaster trauma, and chronic heat exposure) often interact with broader societal dynamics such as post-pandemic recovery, high-engagement digital environments, and the widespread circulation of misinformation. Digital platforms can amplify catastrophic narratives or climate denial, intensify emotional responses and shape perceptions of environmental risk. As a result, feedback loops may emerge between environmental stressors and digital information ecosystems, reinforcing anxiety, uncertainty, and psychological distress (BERRY; BOWEN; KJELLSTROM, 2010; CLAYTON, 2020; HICKMAN et al., 2021).

From an analytical perspective, the mental health impacts of climate change should not be understood merely as background environmental conditions. Instead, climate stressors function as active drivers of insecurity, prolonged uncertainty, and psychosocial suffering, particularly when mediated by digital information flows that amplify fear, polarization, or denial of environmental risks. Understanding these interactions is essential for developing integrated mental health policies capable of addressing both environmental and informational determinants of psychological well-being.

Smartphone Addiction and Social Media Use

Although the terms “smartphone addiction,” “digital dependence,” and “problematic technology use” frequently appear in the literature, they are not always employed in equivalent ways. In this article, the expression *problematic technology use* is adopted as an umbrella concept referring to persistent and dysfunctional patterns of digital engagement associated with emotional, cognitive, relational, and behavioral impairments, particularly in contexts characterized by intense exposure to social media platforms and mobile devices (ELHAI et al., 2017; ELHAI; LEVINE; HALL, 2019; SOHN et al., 2019).

The excessive use of smartphones and social media has emerged as a significant challenge for mental health, especially among adolescents and young adults. Evidence from systematic reviews indicates that prolonged screen exposure is associated with increased levels of anxiety, depression, psychological distress, and sleep disturbances (Silva, 2025a; Twenge & Campbell, 2018). These effects appear particularly pronounced during periods of intensive online engagement, such as those observed during the COVID-19 pandemic and in highly connected digital environments (TWENGE; CAMPBELL, 2018; YIGITER; DEMIR; DOGAN, 2024). The intensive use of social media may also amplify feelings of inadequacy, loneliness, and low self-esteem, particularly among young individuals undergoing critical stages of emotional and social development (Glazzard, 2019; Keles et al., 2020a; Silva, 2020). These dynamics are deeply embedded in contemporary digital culture, where attention economies and algorithmic systems shape patterns of behavior, perception, and emotional response.

Several systematic reviews and meta-analyses have documented a significant association between social media use and symptoms of depression and anxiety among adolescents. Negative content exposure, constant social comparison, and online performance pressures may intensify psychological distress, generating cycles of dependency and emotional vulnerability. (Keles et al., 2020a; Silva, 2025b; Yigiter et al., 2024). Furthermore, social media platforms rely on algorithmic systems designed to maximize engagement, often prioritizing emotionally charged content capable of eliciting strong reactions such as fear, anger, or outrage. These mechanisms increase exposure to polarizing or distressing information, thereby amplifying emotional instability and psychological stress (BAKSHY; MESSING; ADAMIC, 2015; MONTAG et al., 2021).

Problematic smartphone use has also been associated with measurable neurobiological changes. Neuroimaging studies suggest that excessive smartphone and social media use may affect brain regions involved in emotional regulation and reward processing, including alterations in gray matter volume in areas related to impulse control and affective processing (HE et al., 2017; MONTAG et al., 2021). In adolescents, excessive digital engagement has also been linked to disruptions in cognitive development, including reduced attention span, impaired emotional regulation, and difficulties in executive functioning (SHALABY, 2024; SOHN et al., 2019; YOUNG; DE ABREU, 2017). Furthermore, social media platforms rely on algorithmic systems designed to maximize engagement, often prioritizing emotionally charged content capable of eliciting strong reactions such as fear, anger, or outrage. These mechanisms increase exposure to polarizing or distressing information, thereby amplifying emotional instability and psychological stress (BAKSHY; MESSING; ADAMIC, 2015; ELHAI et al., 2016; MONTAG et al., 2021).

The social pressure to maintain a constant presence on digital platforms also contributes to stress and anxiety. Social media environments often promote what has been described as a “culture of perfection,” in which individuals feel compelled to present idealized versions of themselves, reinforcing unrealistic social comparisons and increasing feelings of inadequacy and dissatisfaction with one's own life circumstances (FARDOULY et al., 2015).

Hyperconnectivity and algorithmic reward mechanisms further increase exposure to anxiety-inducing and misleading content. In digital environments characterized by high engagement, emotionally charged or controversial information tends to circulate more widely, including misinformation and sensational narratives (Silva, 2025b). These dynamics may intensify anxiety, depression, and social polarization, particularly in contexts already marked by pandemic stressors and climate-related uncertainty. In this sense, problematic technology use should not be understood merely as excessive digital consumption but as a central mediator of the contemporary mental health crisis, extending exposure to social comparison, algorithmic reinforcement, emotionally destabilizing content, and misinformation ecosystem (MONTAG et al., 2021; YIGITER; DEMIR; DOGAN, 2024).

Mental Health and Digital Misinformation

The digital era has brought unprecedented technological innovation and access to information, but it has also introduced new challenges, particularly for generations growing up in highly connected environments (Silva, 2025a). The widespread circulation of misinformation, especially health-related misinformation, has emerged as a significant risk factor affecting psychological well-being and public health decision-making. During the COVID-19 pandemic, the phenomenon described as an “infodemic,” defined as an overabundance of information including false or misleading content, significantly complicated public health responses and contributed to heightened anxiety, confusion, and psychological distress among populations exposed to conflicting or unreliable information (WHO, 2022; Pandey et al., 2021; Zarocostas, 2020). These processes highlight the central role of communication dynamics in shaping perceptions of risk, trust in science, and health-related decision-making in digital environments.

A growing body of research indicates that exposure to misinformation can lead individuals to make harmful health decisions, including the rejection of vaccines, scientifically validated treatments, and preventive health behaviors. Such decisions can place both physical and mental health at risk, particularly in contexts where fear, uncertainty, and distrust in institutions are already elevated (Gorman & Gorman, 2021; Loomba et al., 2021; Nayyar, 2023; Roozenbeek et al.,

2020; Silva, 2024; Van der Linden et al., 2017). Recognizing the magnitude of the problem, the World Health Organization has identified misinformation as a major threat to global public health and has urged governments and digital platforms to implement coordinated strategies to mitigate the spread of false information (WHO, 2020, 2022).

At the same time, recent developments in the digital information ecosystem suggest that some of the largest global technology platforms have reduced or discontinued certain fact-checking initiatives in recent years, potentially weakening mechanisms designed to limit the circulation of misleading information. In contexts where such safeguards are reduced, exposure to misinformation may intensify, potentially amplifying anxiety, mistrust, and psychological distress associated with health crises and global risks.

Several recent studies have examined the complex relationship between social media environments and mental health. Digital platforms can serve as important spaces for connection, identity exploration, and community building, particularly for individuals who might otherwise experience social isolation. However, these platforms may also reinforce harmful patterns through algorithmic recommendation systems that limit informational diversity and amplify emotionally charged content. This dual nature of digital environments has been widely discussed in the literature on social media use and psychological well-being (ADEYANJU et al., 2021; CHENG et al., 2023; KELES; MCCRAE; GREALISH, 2020a; VARLEY et al., 2022; YIGITER; DEMIR; DOGAN, 2024).

Research has also identified associations between intensive use of platforms such as Instagram and increased symptoms of anxiety, depression, loneliness, and reduced self-esteem, particularly among adolescents and young adults. Exposure to idealized representations of lifestyles and bodies may intensify social comparison processes, contributing to feelings of inadequacy and dissatisfaction with one's own life circumstances (BONFANTI et al., 2025; FARDOULY et al., 2015; TWENGE; CAMPBELL, 2018).

While social media platforms can foster a sense of connection, they may also generate feelings of isolation, anxiety, and social pressure. In highly urbanized environments characterized by individualization and reduced face-to-face interaction, excessive engagement with digital platforms may exacerbate perceived loneliness. Continuous exposure to curated and idealized images can distort perceptions of reality and increase dissatisfaction with personal life

experiences. The global expansion of misinformation highlights the urgent need for robust educational strategies aimed at strengthening digital literacy and critical thinking skills, particularly among younger populations who are more exposed to online environments (CALED; SILVA, 2022; CARMI et al., 2020; GUESS; NYHAN; REIFLER, 2020; VRAGA; BODE, 2020).

Efforts to combat digital misinformation have shown promising results in countries where media literacy and digital literacy programs are integrated into school curricula. Educational initiatives in countries such as Finland and Sweden, for example, have sought to equip students with critical thinking skills necessary to identify and challenge misleading information circulating online. These programs emphasize analytical reasoning, verification strategies, and awareness of algorithmic amplification processes (GIROUX, 2018; GUESS; NYHAN; REIFLER, 2020; HEYNEMAN, 2021; ROOZENBEEK et al., 2020).

Digital platforms themselves also play a crucial role in mitigating the impact of misinformation. Stronger fact-checking systems, transparent content moderation policies, and partnerships with public health institutions may help reduce the spread of misleading information and its associated psychological consequences. Collaborative approaches that involve educators, policymakers, scientists, and technology companies are essential for addressing the infodemic and protecting mental health in increasingly digital societies (WHO, 2022; Zarocostas, 2020).

Pandemic disruption, climate stressors, problematic technology use, and digital misinformation should therefore not be interpreted as parallel phenomena. Instead, they form a systemic ecology of risk affecting contemporary mental health. Structural inequalities, engagement-driven digital architectures, and environmental vulnerabilities act as mediating mechanisms that connect and amplify the effects across these domains, reinforcing the need for integrated and intersectoral responses.

In this context, misinformation functions not merely as cognitive noise but as a factor capable of reshaping risk perception, weakening institutional trust, influencing health-related decision-making, and intensifying psychological suffering in environments already marked by uncertainty, hyperconnectivity, and social polarization.

Discussing a Systemic Ecology of Risk to Mental Health

The literature analyzed suggests that the current mental health crisis cannot be adequately explained by isolated determinants. What emerges instead is a systemic ecology of risk in which pandemic disruption, climate-related stressors, problematic technology use, and digital misinformation interact through reinforcing feedback loops. Structural inequalities, engagement-driven algorithmic architectures, and prolonged exposure to uncertainty function as mediating mechanisms that connect and intensify these processes across multiple domains of contemporary life (WHO, 2022; Patel et al., 2018). From this perspective, digital environments should be understood not only as technological infrastructures, but as sociocultural spaces that actively mediate health, knowledge, and social interaction.

This interpretation carries several important implications. First, it shifts the analytical framework from a model based on independent risk factors to one centered on cumulative vulnerability and interacting stressors. Second, it highlights that responses limited to clinical or sector-specific interventions are insufficient to address the complexity of the current crisis. Third, it reinforces the need for mental health policies that engage with broader societal dynamics, including digital literacy, platform governance, public communication, climate justice, and the reduction of structural inequalities. Recent interdisciplinary research has increasingly emphasized that mental health outcomes are shaped by the intersection of social, technological, and environmental determinants, requiring integrated and multisectoral policy approaches (BERRY; BOWEN; KJELLSTROM, 2010; CLAYTON, 2020).

From the perspective of addiction research and digital behavior studies, the findings also indicate that problematic technology use occupies a strategic position within this contemporary risk configuration. Digital platforms extend exposure time, intensify reward-based engagement mechanisms, and facilitate the circulation of emotionally charged content, including misinformation and polarizing narratives. These dynamics contribute to patterns of behavioral dependence and compulsive use, reinforcing cycles of anxiety, social comparison, emotional dysregulation, and psychological distress (AUGNER et al., 2023; ELHAI et al., 2017; MONTAG et al., 2021; SOHN et al., 2019).

In this sense, problematic technology should not be interpreted solely as excessive screen time but rather as a structural mediator within the broader ecosystem of contemporary mental health risks. By amplifying emotional stimuli, prolonging exposure to uncertainty, and reinforcing algorithmic feedback loops, digital environments can contribute to the accumulation of psychological stressors already intensified by global crises such as pandemics and climate change. Understanding these interconnections is therefore essential for developing integrated public health strategies capable of addressing the complex and interdependent determinants of mental health in the twenty-first century (HUANG, 2022; PATEL et al., 2018).

Conclusions

The contemporary mental health crisis should be understood as a systemic and intersecting phenomenon rather than the outcome of isolated pressures. The convergence of pandemic disruption, climate-related stressors, problematic technology use, and digital misinformation has produced a landscape in which multiple vulnerabilities interact and reinforce one another. These dynamics are further intensified by structural inequalities and by digital environments designed to maximize engagement. As a result, mental health systems around the world are facing increasing demand, while vulnerable populations experience disproportionate psychological and social impacts.

The evidence examined in this study suggests that the current crisis is driven less by the simple accumulation of problems and more by the interaction between them. Pandemic disruption, environmental uncertainty, digital hyperconnectivity, and misinformation form a structure of cumulative vulnerability that affects individuals and communities in complex ways. In this context, fragmented responses are unlikely to produce meaningful improvements. Addressing contemporary mental health challenges requires integrated strategies capable of linking public health, digital governance, social protection, and environmental resilience.

Several practical directions emerge from this analysis. Strengthening community-based mental health care remains essential, particularly in underserved areas and regions affected by environmental disasters. Expanding territorial psychosocial services, reducing financial barriers to treatment, and prioritizing vulnerable populations can significantly improve access to care. At

the same time, education systems must play a more active role in developing critical digital literacy, equipping individuals with the skills needed to recognize misinformation, understand attention-based digital environments, and navigate information ecosystems more responsibly.

Improving the health of digital environments is also a central challenge. Greater transparency in algorithmic systems, the development of well-being-oriented platform metrics, and stronger cooperation between technology companies and public health institutions may help reduce the circulation of harmful content and mitigate the psychological consequences associated with high-intensity digital engagement. In parallel, climate-related mental health preparedness should become part of broader public health planning, including psychological first aid protocols and communication strategies designed to reduce fear and misinformation during extreme events.

A further implication concerns the need for stronger intersectoral coordination. Mental health cannot be addressed exclusively within healthcare systems. Effective responses require collaboration among sectors such as education, social protection, environmental governance, and digital regulation. Shared data systems, coordinated communication strategies, and joint policy initiatives can contribute to more resilient mental health infrastructures capable of responding to complex global stressors.

This study also presents limitations that should be acknowledged. As a narrative review, it does not follow the full methodological procedures of a systematic review and therefore remains more susceptible to selection and interpretation biases. In addition, the interdisciplinary scope of the analysis prioritizes conceptual integration and synthesis across fields, which may limit the depth of discussion devoted to certain specific subtopics. Nevertheless, this approach proved appropriate for examining interactions among diverse risk domains and for identifying broader analytical and policy implications.

Future research should explore these interactions through longitudinal studies, comparative international analyses, and evaluations of interventions aimed at improving digital literacy, strengthening platform governance, and expanding community-based mental health care. Greater attention should also be given to inequality-sensitive analyses that consider how gender, race, socioeconomic status, and territorial vulnerability shape exposure to digital, environmental, and informational stressors.

Thus, the contemporary mental health crisis reflects a complex interaction between global disruptions, technological transformations, and structural inequalities. Policies and practices grounded in equity, digital literacy, and environmental awareness will be essential for mitigating psychological suffering and strengthening mental health systems in an increasingly uncertain world. Strengthening digital literacy, critical education, and responsible communication practices becomes essential for mitigating the impacts of misinformation and promoting healthier digital environments.

Conflict of Interest

The author declares that he has no conflict of interest.

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