

HUMAN BEHAVIOR IN DIGITAL ENVIRONMENTS: AN INTEGRATIVE CYBERPSYCHOLOGY PERSPECTIVE ON IDENTITY, COGNITION, AND SOCIAL INTERACTION

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Abstract: *The rapid expansion of digital technologies has fundamentally reshaped the ways individuals communicate, interact, and construct their identities. In this context, cyberpsychology has emerged as a key interdisciplinary field for understanding human behavior in digital environments. This article aims to provide an integrative analysis of the main theoretical perspectives on digital behavior by synthesizing contributions from social psychology, cognitive psychology, and media studies. The study examines core mechanisms such as digital identity construction, online self-presentation, and the online disinhibition effect, while also addressing the impact of digital environments on cognitive functioning, emotional processes, and interpersonal relationships. In addition, it explores how online platforms influence contemporary social behavior, including social interaction, identity negotiation, and the formation of virtual communities. By adopting an interdisciplinary approach, this paper contributes to a more coherent understanding of the relationship between individuals and digital environments. The findings highlight the dual role of digital technologies as both enabling and constraining factors, emphasizing the need for further theoretical integration and empirical research in the field of cyberpsychology.*

Keywords: *cyberpsychology, digital identity, online behavior, social media, online disinhibition effect, computer-mediated communication.*

1. INTRODUCTION

The rapid development of digital technologies in recent decades has generated profound transformations in the way individuals communicate, interact, and construct their identities. The Internet, social networks, and digital platforms have become essential spaces for socialization, information, and personal expression, influencing both individual psychological processes and the dynamics of social relationships. In this context, the field of Cyberpsychology has emerged as an interdisciplinary branch of psychology, dedicated to the study of human behavior in digital environments and to understanding how technology shapes cognitive, emotional, and social experiences.

The concept of cyberpsychology began to take shape with the expansion of Internet use in the 1990s, when researchers started to analyze the impact of digital environments on human behavior and social relationships. Early scientific concerns regarding online behavior emerged within studies on computer-mediated communication and virtual communities, areas that attracted the interest of psychologists, sociologists, and communication scholars. Although the term cyberpsychology has been consolidated relatively recently in the specialized literature, concerns about the relationship between humans and technology can be traced back to early research on human–computer interaction and digital communication.

During the 1980s and 1990s, researchers in communication and social psychology began to investigate how digital environments influence social interaction processes, interpersonal perception, and identity dynamics [1]. Among the pioneers of these studies are Sara Kiesler and Lee Sproull, who analyzed the effects of computer-mediated communication on social relationships and organizational behavior [2], [3]. The term cyberpsychology was popularized and systematized particularly by the American researcher John Suler, considered one of the pioneers of this field. In his works, especially in *The Psychology of Cyberspace* and later in *The Psychology of the Digital Age*, Suler analyzed psychological mechanisms specific to the online environment, such as digital identity, behavior in virtual communities, and the phenomenon known as the online disinhibition effect [4]. His contributions played a crucial role in defining cyberpsychology as a distinct field of research situated at the intersection of psychology, technology, and media studies. At the same time, the research conducted in the field has made significant contributions to understanding how digital technologies influence identity and interpersonal relationships [6]. In works such as *Life on the Screen* [5] and *Alone Together* [6], digital environments are shown to facilitate the exploration of multiple identities and transform the experience of social communication.

One of the central concepts analyzed in cyberpsychology is digital identity, understood as the set of representations, behaviors, and self-presentation strategies that individuals construct in online environments. Digital media allow for the selective management of personal information, facilitating the creation of multiple identities or identities adapted to different social contexts. In this regard, sociological theories of self-presentation and impression management have been extended to explain how individuals construct their public image in digital environments [7]. The specialized literature also highlights the existence of psychological characteristics specific to online interactions. Among these is the phenomenon known as the online disinhibition effect, which explains individuals' tendency to display more uninhibited, intense, or sometimes more aggressive behaviors in virtual environments than in face-to-face interactions [4]. At the same time, studies emphasize how digital technologies reshape social relationships and how individuals negotiate the balance between online and offline identities [6]. Beyond the identity dimension, the digital environment also influences cognitive and emotional processes. Constant access to information, the accelerated pace of informational flow, and the simultaneous use of multiple digital devices can affect attention, information processing, and the way individuals manage their cognitive resources [8]. Furthermore, social media platforms create new forms of social interaction and symbolic validation through mechanisms such as reactions, content sharing, and instant feedback.

Given the complexity of these transformations, the analysis of human behavior in digital environments requires an interdisciplinary approach that integrates perspectives from social psychology, cognitive psychology, sociology, and media studies. In this regard, the present article aims to examine the main theoretical perspectives on human behavior in digital environments, highlighting the key concepts and explanatory models developed within the field of cyberpsychology.

2. DIGITAL IDENTITY AND THE CONSTRUCTION OF THE ONLINE SELF

Technological transformations in recent decades have created new social contexts in which individuals can construct, negotiate, and express their identities. In the digital environment, identity is no longer merely the result of direct interactions but becomes a complex process of representing, selecting, and interpreting information about the self.

Digital platforms provide individuals with the opportunity to control how they are perceived by others, to experiment with different social roles, and to construct identities adapted to the specific contexts of online communication.

The concept of digital identity is closely related to classical theories of social identity and self-presentation. In the sociology of interactions, social behavior is described as a form of “performance” in which individuals manage the impressions they create in front of others. In the online environment, this dramaturgical perspective becomes even more relevant, as digital platforms offer tools through which users can select the information they disclose, edit content, and construct a carefully managed public image [7]. For conceptual clarity, we will rely on operationalization and the identification of its fundamental characteristics. Digital identity can be defined as the set of information, representations, and behaviors through which a person presents themselves and is perceived in the online environment. It includes elements such as social media profiles, published images and texts, the history of digital interactions, as well as the way others interpret and respond to this information. In the digital environment, identity is often fragmented and contextual. Users may adopt different identities depending on the platform used, the target audience, or the purpose of the interaction. For example, the professional identity presented on platforms such as LinkedIn may differ significantly from the personal identity expressed on social networks oriented toward socialization or entertainment.

Research has shown that the digital environment facilitates the exploration of multiple identities [6]. Moreover, digital identity is influenced by the technical mechanisms of online platforms. Algorithms, recommendation systems, and the structure of social networks contribute to shaping the visibility of certain types of content and to reinforcing specific forms of self-representation. Self-presentation refers to the process through which individuals attempt to control the impressions they create in front of others. In the digital environment, this process becomes more complex due to the technical characteristics of online communication, such as the possibility of editing messages, controlling the timing of publication, and accessing a broad audience. Impression management theory suggests that individuals adopt different strategies to present themselves in a favorable light [7]. In the digital environment, these strategies include the selection of images, the construction of a coherent identity narrative, and the use of cultural symbols associated with social status or group membership. Social media platforms amplify these processes by introducing mechanisms of social feedback, such as reactions, comments, and content sharing. These mechanisms function as forms of symbolic validation, influencing the way individuals construct their online identity. Studies indicate that users tend to publish content that is perceived as appreciated by the online community, which may lead to a certain standardization of self-presentation. In this context, digital identity becomes a dynamic process, constructed through continuous interaction between the individual and their virtual audience.

One of the central concepts in cyberpsychology is the phenomenon known as the online disinhibition effect. This concept explains individuals’ tendency to display more uninhibited or intense behaviors in the online environment than in face-to-face interactions. Several factors contribute to this phenomenon [4]: perceived anonymity in the online environment, invisibility of interlocutors, asynchronicity of communication, reduction of nonverbal social cues, perception of the online environment as a space separate from everyday reality. These characteristics can reduce social inhibitions and facilitate the expression of thoughts or emotions that would be more difficult to express in direct interactions. The online disinhibition effect can have both positive and negative consequences.

On the one hand, the digital environment may encourage authentic expression, emotional support, and the development of supportive communities. On the other hand, it may facilitate aggressive behaviors, hate speech, or cyberbullying. Therefore, the analysis of digital identity and online behavior highlights the fact that the virtual environment is not merely an extension of traditional social interactions, but a distinct space characterized by specific psychosocial rules and dynamics. Understanding these mechanisms is essential for analyzing how individuals construct their identities and social relationships in contemporary digital society.

3. PSYCHOLOGICAL PROCESSES IN THE DIGITAL ENVIRONMENT

The development of the digital environment has led to significant transformations in the way fundamental psychological processes function. In the literature within Cyberpsychology, numerous studies have examined the impact of digital technologies on cognitive, emotional, and relational processes. Constant access to information, instant communication, and continuous interaction with online platforms create a psychosocial context that differs from traditional interactions, influencing how individuals think, perceive reality, and develop social relationships. Recent research suggests that the digital environment can alter both the structure of attention and memory, as well as the ways in which individuals express emotions and build interpersonal relationships. At the same time, excessive use of digital technologies has raised concerns regarding problematic usage patterns and even addiction to the Internet and social media.

One of the most extensively studied topics in cyberpsychology is the impact of the digital environment on cognitive processes, particularly attention, memory, and information processing. Constant access to information and exposure to multiple digital stimuli may lead to changes in how individuals manage their attention and organize their cognitive activity. An influential study conducted by Betsy Sparrow and her colleagues demonstrated that constant access to the Internet influences how people remember information [9]. The study showed that participants tend to remember where information can be found rather than the information itself, a phenomenon sometimes referred to as “digital transactive memory.” This finding suggests that the digital environment may reshape cognitive strategies used for memory storage and retrieval. In another important study, Clifford Nass and his collaborators investigated the effects of digital multitasking on cognitive performance [10]. Their findings revealed that individuals who frequently engage with multiple media sources simultaneously perform worse on tasks requiring attentional control and the filtering of irrelevant information. Furthermore, research suggests that intensive Internet use may influence users’ cognitive style, promoting rapid and fragmented information processing at the expense of deep reading and analytical reflection [11].

In the field of neuropsychology, the impact of excessive digital technology use on cognitive functioning has been examined, arguing that intensive use of digital devices may reduce engagement in memory and deep learning processes, contributing to what is termed “digital dementia” [12]. Although this perspective has generated debate within the scientific community, it has stimulated further research on the relationship between technology and cognitive development [12]. Within the existing literature, the impact of the digital environment on cognitive functioning has generated not only empirical findings but also significant critical perspectives. Thus, the concept of “digital dementia” suggests that excessive use of digital technologies may lead to a decline in memory capacity, reduced attention, and diminished engagement in deep learning processes [12].

In a similar vein, constant exposure to online environments fosters the development of a fragmented cognitive style, characterized by rapid but superficial information processing, at the expense of analytical reflection [11]. However, these perspectives should be interpreted with caution, as part of the contemporary literature emphasizes that the effects of technology on cognition depend on the context of use and on the individual characteristics of users. Therefore, the contributions of these perspectives are relevant in shaping a critical view of the digital environment, but they should not be regarded as definitive conclusions; but rather serve as starting points for further debate and empirical investigation.

Beyond the cognitive dimension, the digital environment also influences emotional and relational processes. Online communication provides new ways of expressing emotions and new modalities for developing social relationships. An important theoretical model for understanding online relationships is the Social Information Processing Theory [13]. According to this theory, even though online environments reduce the availability of nonverbal cues, individuals can develop meaningful interpersonal relationships by adapting their communication strategies. It has been demonstrated that, under certain conditions, relationships formed online can become even more intimate than those developed in face-to-face interactions [13]. Subsequently, the “hyperpersonal communication” model suggests that online environments may amplify interpersonal idealization processes [14]. Users can selectively present information about themselves and interpret others’ messages in a positive manner, leading to idealized perceptions of communication partners. Research has explored how digital technologies influence relational experiences, arguing that while digital environments can facilitate maintaining social connections, they may also generate forms of isolation or superficiality in interpersonal relationships [6]. Another widely studied phenomenon is that of parasocial relationships, originally described in early communication studies but significantly amplified in digital contexts [15]. Users may develop emotional connections with influencers or online content creators, perceiving them as familiar or close, even in the absence of direct interaction.

Another important research direction in cyberpsychology is the analysis of problematic Internet use. In the 1990s, the concept of “internet addiction” was introduced, defining it as a pattern of excessive online use that interferes with an individual’s daily functioning [16]. One of the first assessment tools for Internet addiction, the Internet Addiction Test (IAT), has since been widely used in international research [16]. Studies based on this instrument have shown that problematic Internet use is associated with symptoms such as loss of control over time spent online, neglect of social or professional responsibilities, and the emergence of anxiety when access to the Internet is restricted. More recent studies have specifically examined social media addiction. For instance, research has demonstrated that excessive use of social networking platforms may be associated with personality traits such as neuroticism and extraversion, as well as higher levels of anxiety and stress [17]. Additionally, some studies have highlighted the role of neurobiological mechanisms involved in compulsive technology use. The brain’s reward systems, associated with dopamine release, can be activated by notifications, reactions, and social feedback provided by online platforms, encouraging repetitive checking behaviors.

At the same time, research indicates that the impact of social media use on mental health is complex and depends on multiple factors, including the type of use (active versus passive), social context, and individual characteristics of users.

In conclusion, the analysis of psychological processes in the digital environment highlights that digital technologies are not merely tools for communication, but factors that can influence how individuals think, feel, and interact. Studies in cyberpsychology emphasize the need for an interdisciplinary approach to fully understand the impact of the digital environment on psychological functioning and contemporary social behavior.

4. THE IMPACT OF THE DIGITAL ENVIRONMENT ON CONTEMPORARY SOCIAL BEHAVIOR

The expansion of the digital environment has led to major changes in the structure of social relationships, in the formation of opinions, and in the dynamics of collective interactions. Online platforms have become central spaces for communication, information, and social participation, influencing how individuals build relationships, express their identity, and engage in social life. In the literature of Cyberpsychology, these transformations are analyzed through the lens of the relationship between technology, social behavior, and contemporary cultural structures. Numerous studies highlight that the digital environment not only facilitates communication but also contributes to the reconfiguration of social norms, mechanisms of influence, and forms of social participation. Social networks, in particular, have become spaces for negotiating identity, expressing opinions, and forming virtual communities.

Social networks represent one of the most influential communication environments in contemporary society. Digital platforms allow individuals to maintain extensive social relationships, participate in virtual communities, and share information in a rapid and accessible manner. Research has shown that social networks function as digital public spaces in which individuals construct their identity and negotiate their social status [18]. These platforms can be understood as “networked publics,” meaning socially structured spaces mediated by technology, where interactions are shaped by features such as visibility, persistence of content, and replicability of information. Moreover, studies have demonstrated that the use of social networks can contribute to the strengthening of social capital [19]. In a study on Facebook users, it was found that online interactions can facilitate the maintenance of existing relationships and support the development of extended social networks [19]. However, some research suggests that intensive use of social networks may influence the quality of interpersonal relationships. Studies on the impact of technology on social relationships argue that dependence on digital communication may reduce the depth of face-to-face interactions and may generate forms of social isolation [6].

A relatively recent phenomenon associated with the development of the digital environment is the emergence of influencer culture. Influencers are individuals who have accumulated a large number of followers on social media platforms and who can influence the opinions, preferences, and behaviors of their audience. From a psychosocial perspective, the success of influencers can be explained through mechanisms such as social identification, perceived trust, and social comparison processes. Research has examined how influencer culture contributes to the development of specific forms of digital celebrity, characterized by symbolic proximity and perceived authenticity [20].

Another important element of the digital environment is represented by mechanisms of social validation. Reactions, comments, and content sharing function as indicators of social recognition and can influence how users construct their online identity. Studies suggest that social feedback in the online environment can influence users’ decisions and behaviors, amplifying tendencies toward social conformity and imitation of popular behaviors.

The digital environment also influences how social and political opinions are formed. Online platforms enable rapid access to information and facilitate participation in public debates; however, they may also contribute to the emergence of social polarization. A central concept in this context is that of the “echo chamber,” which describes situations in which individuals are predominantly exposed to opinions that align with their own beliefs. Research shows that the online environment can foster the emergence of relatively isolated ideological communities, in which existing opinions are reinforced and rarely challenged [21].

Additionally, studies on digital platform algorithms suggest that recommendation systems may contribute to the amplification of social polarization by promoting content that generates strong reactions and high levels of engagement. In analyzing the relationship between technology and social power, the concept of “surveillance capitalism” refers to how user-generated data are utilized to shape behaviors and preferences [22]. Therefore, the digital environment is not merely a space for communication but also a complex system of social influence, in which technology, culture, and human behavior interact dynamically. The analysis of these processes highlights that the transformations produced by digital technologies have profound implications for how individuals interact, form opinions, and participate in social life.

CONCLUSIONS

Digital technologies have fundamentally transformed the structure of social interaction, redefining how individuals construct identity, process information, and engage in interpersonal relationships. The digital environment emerges not as a mere extension of offline reality, but as a distinct psychosocial context characterized by specific interactional mechanisms, including anonymity, asynchronicity, and reduced nonverbal cues.

This study contributes to the existing literature by integrating key theoretical perspectives from cyberpsychology, social psychology, and media studies, offering a comprehensive framework for understanding the interplay between digital environments and human behavior. The findings highlight that digital identity is a dynamic and context-dependent construct, shaped through continuous interaction between users, technological systems, and virtual audiences. Furthermore, the analysis emphasizes that digital environments reshape cognitive functioning by promoting adaptive yet potentially fragmentary information-processing strategies, while also reconfiguring emotional and relational experiences through new forms of social connection and validation. At the same time, the results underscore the ambivalent nature of digital environments. While they enable novel opportunities for self-expression and social interaction, they are also associated with significant challenges, including problematic technology use, diminished depth of interpersonal relationships, and increased social polarization. These findings have important implications for both research and practice, suggesting the need for interventions aimed at promoting balanced and adaptive engagement with digital technologies.

However, several limitations should be acknowledged. The present study is primarily theoretical in nature, relying on the integration of existing literature rather than empirical data. Additionally, the rapid evolution of digital technologies may limit the generalizability of certain conclusions over time. Future research should incorporate empirical methodologies, longitudinal designs, and cross-cultural perspectives in order to better capture the dynamic and context-dependent nature of digital behavior.

In conclusion, understanding human behavior in the digital age requires an interdisciplinary approach that bridges psychological, social, and technological perspectives. As digital ecosystems continue to evolve, cyberpsychology remains essential for advancing knowledge on the complex relationship between individuals and digital environments, as well as for informing evidence-based practices in education, mental health, and digital policy.

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