

BEYOND ADDICTION: RETHINKING PROBLEMATIC INTERNET USE
FROM A MOTIVATIONAL FRAMEWORK

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Abstract

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This article sheds light on the potential of a motivational framework to enhance the understanding of problematic Internet use and facilitate an in-depth analysis of the potentially pathological manifestations that become apparent in individuals' interactions with Internet applications. The motivational framework operates under the assumption that the origins of problematic Internet behaviors can be traced back to the appetitive dimension of these particular behaviors in the context of the individual's specific needs and personal history. In this framework, the Internet is not perceived as a mere instrument for multiple actions but as a genuine environment wherein individuals have the capacity to express and potentially satisfy their distinct needs. Consequently, the motivational framework advocates a model for understanding problematic Internet use that posits active agency on the part of individuals as they actively seek strategies for the management and regulation of their emotions through online activities. As a result, the framework recommends caution in categorizing dysregulated behaviors on the Internet as behavioral addictions. Instead, it advocates for a thorough evaluation of individuals exhibiting problematic use of Internet services and applications, emphasizing an assessment that scrutinizes the persistence and significance of specific Internet behaviors over time, along with an exploration of the underlying motivations driving these behaviors. Through this lens, the understanding of symptom development is significantly enriched. Recognizing the specific motivations that guide individual behaviors within the online environment emerges as a crucial component in improving case formulation and developing personalized treatment approaches.

Key words: problematic Internet use, motivations, behavioral addictions, case formulation

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Over the past decade, there has been a significant surge in the exploration of problematic Internet use in research, resulting in a substantial increase in published articles on this subject. Notably, most of these articles discuss problematic Internet use in terms of a behavioral addiction, so that the word “addiction” is frequently included in their titles, keywords, and/or abstracts. To provide concrete evidence, a search was conducted on Scopus as of October 11th, 2023, resulting in the identification of 576 articles published since 2021 that feature “problematic Internet use” in their titles, abstracts, and/or keywords; among these articles, roughly two-thirds, comprising 379 publications (65.8%), explicitly include the term “addiction” within the same search parameters.

While solid empirical evidence exists supporting the view that the misuse of the Internet includes a spectrum of distinct yet interrelated phenomena—e.g., there is empirical evidence that problematic smartphone use, problematic online gaming, and problematic cybersex

are associated among them but constitute different domains of problematic Internet use; see Baggio et al., 2018 – a serious question emerges on how the overarching term of problematic Internet use is employed in the psychiatric and psychological fields.

In fact, the common conceptualization of problematic Internet use as a behavioral addiction can hinder our understanding of the various potentially negative uses of the Internet and its applications. Moreover, examining the meaning of “problematic” in the locution “problematic Internet use” is not a trivial matter, as it may enhance our ability to better understand the numerous transformative phenomena, both normal and pathological, that the Internet continues to contribute to in our lives. Reframing the concept of problematic Internet use could enable clinicians and researchers to identify its related phenomena according to principles that could be valuable for contemporary psychiatry and clinical psychology, in terms of prevention, diagnosis, and clinical interventions.

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Problematic use does not mean addictive use

It is risky to equate problematic Internet use with addictive Internet use. In previous articles (Billieux et al., 2015; Kardefelt-Winther et al., 2017), the argument has been made that prematurely labeling excessive online behaviors as addictive, based solely on measurements that incorporate substance addiction components (i.e., salience, mood modification, tolerance, withdrawal, conflict, and relapse; see Griffiths, 2005) and show significant and positive associations with other psychometric tools that assess psychopathological outcomes, is flawed in terms of circularities of the logical argument and subsequent generalization.

Instead of following a flawed diagnostic logic, namely, one that asserts, “if certain components are present, it must be an addiction,” it would be important to consider that, within the realm of clinical science, symptom identification enables the provisional categorization of specific diagnostic entities; however, definitively ascribing a diagnostic category necessitates the exclusion of alternative factors, conditions, and even disorders that could offer a more suitable explanation for the observed symptoms.

In no way does this consideration undervalue the progress achieved in the field of addiction through the application of the component model, as it has significantly bolstered scholarly investigations in this area. Yet, this recommendation is indispensable to avoid the potential risk associated with an excessively broad application of the component model, which could lead to an overestimation of addictive behaviors and the provision of unsuitable addiction-related treatments to individuals who would benefit more from alternative treatments (Marazziti et al., 2014).

An instance of this notable concern can be illustrated by cyberchondria, which refers to the repetitive search for health information online and is associated with heightened levels of health anxiety and distress (Starcevic, 2017). Studies indicate a moderate to strong positive correlation between cyberchondria and excessive Internet use (Fergus & Spada, 2017), potentially causing misclassification of patients with cyberchondria as having a behavioral (Internet) addiction, if considering the criteria of the component model of addiction (e.g., individuals with cyberchondria may exhibit symptoms such as salience, mood modification, withdrawal, and conflict with respect to their Internet searches). Nevertheless, expert clinicians are unlikely to prioritize addressing Internet addiction tendencies when treating patients with cyberchondria, as they would interpret this syndrome differently from a behavioral addiction. Instead, their focus would be on managing health anxiety (Santoro et al., 2022) and obsessive-compulsive traits (Starcevic, 2023) that might drive individuals with cyberchondria to seek reassurance through repeated online searches. Certainly, specific aspects of problematic interactions with the Internet of these individuals, which are concerning but cannot be considered addictive, may also receive some attention during treatment (e.g., the unrealistic expectations regarding the complete reliability of search results for health information on the Internet), but it would be inappropriate to make these behaviors the main target of clinical interventions.

The other side of the coin of the current discourse is that it poses a challenge when attempting to clinically define what may be considered “problematic” in relation to Internet usage. There is a plethora of problematic behaviors on the Internet that can be associated with psychopathological conditions or outcomes, and these

behaviors are not necessarily addictive in nature. Examples of such behaviors include the compulsive online search characteristic of cyberchondria (Starcevic, 2017), intentionally generating and promoting content related to conspiracy beliefs (Greenburgh & Raihani, 2022; Suthaharan & Corlett, 2023), as well as serious offenses like cyberbullying (Brown et al., 2019) and online grooming (DeMarco et al., 2017), among many others.

It is important to acknowledge that the sheer volume of problematic behaviors observed on the Internet simply mirrors the diverse capacity of individuals to express their own psychopathology and engage in inappropriate conduct. However, the current inclination to propose new diagnostic categories and nosographic terminologies (Starcevic et al., 2018) for problematic behaviors on the Internet may lead to a collapse in our ability to engage in complex clinical thinking when examining the psychopathology underlying these behaviors. For instance, can watching online videos be addictive, or is the overuse of online videos merely driven by a desire for connection and a sense of belonging to an online community (Yang et al., 2021)? Similarly, should a gamer with hikikomori (i.e., a severe condition of social withdrawal often associated with excessive Internet gaming; see Sales-Filho et al., 2023) be classified as suffering from social anxiety and/or avoidant personality disorder, or is the excessive gaming that leads to social withdrawal the primary factor? Answering these and similar questions is not straightforward, particularly because some evidence indicates that there is an interaction between media usage and brain development (Small et al., 2020). Circular mechanisms should be anticipated when assessing the role of Internet activities in psychopathology; nonetheless, the risks of overpathologization, misdiagnosis, and moral panic with respect to Internet activities need to be addressed.

The issue at hand is the existence of a problem regarding terminology alongside difficulties in conceptualizing and clinically diagnosing problematic behaviors related to Internet usage. Specifically, the assumption that problematic Internet use is synonymous with addictive Internet use may be inaccurate. However, it could be equally erroneous to create new diagnostic classifications for any problematic behavior related to Internet use. Additionally, terms such as “problematic Internet use”, “problematic online behaviors”, or similar expressions, fail to articulate the various ways in which inappropriate behaviors, symptoms, and disorders can manifest through the Internet, making them too broad and nonspecific for clinical practice.

Delineating the primary focus: behaviors or individual characteristics?

In a seminal paper, Kardefelt-Winther (2014) pointed out the necessity to redefine research on problematic Internet use, transcending the conventional addiction framework. He observed that the extensive collection of empirical data related to potentially addictive online behaviors has not resolved the lack of conclusive results in this field. In response to this, the author introduced an alternative conceptualization, known as the “compensatory model” of Internet use, aimed at defining a different framework for understanding individuals’ excessive or otherwise dysregulated use of the Internet. He suggested that some individuals may turn to the Internet to escape real-life problems or alleviate negative emotional states, which

sometimes results in adverse consequences. Notably, he stressed the importance of integrating insights from the literature on Internet addiction research with studies on the motivations behind Internet usage.

A few years later, Brand and colleagues (2016) introduced a widely recognized framework for understanding specific Internet-related disorders. They formulated the Interaction of Person-Affect-Cognition-Execution (I-PACE) model to serve as a theoretical framework elucidating the processes involved in the emergence and persistence of addictive use of specific Internet applications or websites. The I-PACE model was conceptualized as a process-based model for understanding the progression of addiction to certain Internet applications and services, and specific Internet-use disorders were conceived as outcomes stemming from interactions among predisposing factors (e.g., neurobiological characteristics and personality traits), moderating elements (e.g., coping styles and Internet-related cognitive biases), and mediators (e.g., reactions to situational triggers, executive functioning). Subsequent investigations into the predictions of the I-PACE model indicated that the model might have relevance not only for specific Internet-use disorders but also for multiple forms of addictive behaviors (Brand et al., 2019). The revision of the I-PACE model suggests that factors specific to Internet use can either expedite or hinder the development of an addictive disorder, but they are not at the core of that disorder. Importantly, what initially began as an examination of specific factors tied to potentially addictive Internet use later evolved into a comprehensive etiopathogenetic model for the entire diagnostic category of addictive disorders. Such extension of perspective in the conceptualization of the I-PACE model is well-justified. Epistemologically, the I-PACE model elaborately describes several neurobiological and psychological processes and their interactions that can result in the category of addictive-related disorders. However, what becomes overlooked is the specificity of the medium, namely the Internet.

This leads us back to the question of what is specific to the Internet medium that potentially makes its usage problematic. The answer may seem paradoxical, but it is likely that there is nothing inherently problematic in the use of the Internet and its applications. What can be problematic, and certainly in many ways, is the individual who uses some Internet applications, sites, and services in a dysregulated and pathological manner, e.g., excessively, impulsively, compulsively, antisocially, and so on. At first glance, this claim might give the impression of being stigmatizing for individuals who misuse the Internet; however, it enables a shift from the examination of specific problematic behaviors on the Internet to a contemplation of the specific individuals manifesting these behaviors.

Internet as a motivational environment

To better understand the role of the Internet in contemporary life, a necessary paradigm shift is warranted, moving away from perceiving the Internet as a mere tool for either functional or dysfunctional actions and instead acknowledging it as an integral component of the human landscape that significantly influences the cognitive and emotional processes of individuals (Musetti & Corsano, 2018). This conceptualization, which regards the Internet as an environment, challenges the conventional demarcation between the physical and virtual realms, highlighting the artificial nature of such a dichotomy rooted in dualistic thinking.

In fact, traditional models that treat the Internet as a separate domain of services and tools disconnected from a “real” world are inadequate. Similarly, a classical model that frames problematic Internet use as an addiction to some appetitive behavior specific to the Internet (e.g., one or more online applications) is grounded in a theoretical perspective that perceives the Internet as a distinct dimension, which is external to our daily lives and—perhaps for this very reason—potentially problematic. This viewpoint is untenable in the present information and communication society, where individuals engage in work, social interactions, leisure activities, and, significantly, demonstrate both their adaptive and maladaptive psychological functioning on the Internet.

A truthful examination of problematic Internet use in our contemporary lives should take into consideration the underlying pathological conditions that may predispose individuals to difficulties in adapting to the online environment. This because the Internet is a dynamic environment in which cognitive and affective agents operate.

These considerations do not dispute the fact that certain Internet applications and services may be deliberately designed to promote and amplify their usage (King et al., 2019). Nevertheless, irrespective of whether this is achieved through established mechanisms documented in scientific literature, such as random reinforcement, or relies on more complex conditioning processes grounded in the principles of behavioral economics, redirecting the diagnostic focus solely towards the specific maladaptive Internet behaviors while disregarding the individuals—with their unique characteristics—who exhibit these behaviors can be misleading and even potentially hazardous. In essence, this approach risks conflating clinical symptoms with the online environment in which they manifest, potentially pathologizing the environment itself rather than accurately identifying the sources of the symptoms.

Hence, we return to the initial hypothesis regarding the compensatory function that the Internet might fulfill for some individuals (Kardefelt-Winther, 2014). If we conceptualize the Internet as a real environment for human experiences, as opposed to a mere tool, the behaviors exhibited within this environment are propelled by the individuals’ psychological needs. In this context, the Internet can be viewed as one of the many potential laboratories where individuals engage in self-defining experiences (Schimmenti & Caretti, 2010).

Notably, numerous studies focusing on the characteristics of individuals who exhibit problematic behaviors on the Internet have delved into the motivations underpinning their actions. One of the most influential theories of motivation employed in research concerning problematic Internet use is the self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2017). SDT is a theory encompassing human motivation and personality, and it delineates three fundamental and universal psychological needs: autonomy, competence, and relatedness. The fulfillment of these needs is pivotal for an individual’s optimal functioning. Specifically, autonomy pertains to the desire to be the causal agent of one’s life, competence reflects the aspiration to control outcomes and attain mastery, and relatedness involves the willingness to interact, connect with, and experience caring for others. SDT suggests that humans exhibit inherent proactivity in their pursuit of self-realization and mastery over their needs, with an innate inclination towards growth

and integrated functioning. Consequently, when these needs are met, a heightened sense of psychological liberty, internal autonomy, connectedness, overall well-being, and personal growth can be anticipated. Conversely, if these needs are thwarted, unmet, or denied, the potential for problematic behaviors and psychopathological outcomes is elevated. Indeed, there is supporting evidence indicating that individuals with unsatisfied basic needs are at a higher susceptibility to cultivating an overreliance on Internet applications as a means to fulfill these needs (Wong et al., 2015).

An additional viewpoint to complement the humanistic motivations delineated in SDT is the ethological perspective concerning mammalian motivational systems. It is noteworthy that a variety of fundamental human needs are deeply rooted in our innate biological motivational systems (Gilbert, 1995, 2005), encompassing various domains including attachment, caregiving, social hierarchy, affiliation, and sexuality. Ethologically, these systems can be conceived as organized sets of behaviors, often incorporating a variety of thematically related objectives rather than a singular overarching goal. It is important to highlight that these motivational systems play a central role in shaping an individual's self-concept, and in turn, they are influenced by it (Lichtenberg et al., 2011). Within this framework, the Internet could potentially serve as one of the settings in which the needs associated with these innate motivational systems may either find suitable or unsuitable avenues for fulfillment.

Understanding problematic Internet use from a motivational framework

Examined from a motivational perspective, problematic behaviors on the Internet become more readily understandable. Even when these behaviors define psychopathological conditions characterized by functional impairment, motivational theories aid in the understanding of these conditions and their origins, thus facilitating case formulation and tailored treatments that address the patients' unique cognitive, emotional, and relational difficulties.

Illustrative examples can provide clarity. Research findings indicate the presence of distinct groups among problematic online gamers. In a study involving 1057 players of massively multiplayer online role-playing games, Billieux and colleagues (2015b) identified five gamer clusters, with three of them categorized as problematic. These three groups, labeled as unregulated achievers, unregulated escapers, and hardcore gamers, exhibited distinct psychological profiles and in-game motivations. Notably, both the unregulated achievers and the unregulated escapers (but not the hardcore gamers) displayed increased impulsivity traits. However, the unregulated achievers also demonstrated high self-esteem and heightened motivation for in-game progress and sensation seeking; conversely, unregulated escapers exhibited low self-esteem and played games as a means to escape real-life problems and difficulties. The authors of this study aptly suggested that classifying problematic use of massively multiplayer online role-playing games as a behavioral addiction may oversimplify the heterogeneous and multi-determined behaviors of excessive gamers. From the motivational perspective, it is conceivable that unregulated achiever gamers were primarily motivated by a desire to enhance their social hierarchy and social ranking, seeking avenues to demonstrate their competence through videogames; in contrast, it

is possible that unregulated escaper gamers have been pushed to engage excessively in gaming as a means of escaping from the lack of fulfillment of their basic needs in the offline environments. In a similar vein, Schimmenti and colleagues (2012) examined a cohort of online gamers who displayed severe attachment insecurity. In this context, they recounted the case of a woman whose traumatic childhood experiences had left profound scars. This woman adopted the persona of a powerful magician within the virtual game, capable of mending the wounds of in-game companions with potent magic. From a motivational perspective, it is possible to infer that this woman had discovered, within the realm of the video game, a unique avenue to express her attachment and caregiving motivations that had been adversely impacted during her childhood. Furthermore, the mastery of healing skills in the game might have fostered her sense of relatedness and affiliation with other players.

Evidently, when considering the Internet as a motivational environment, the influence of motivations on problematic Internet use transcends the confines of online gaming and extends to encompass a wide array of activities. For example, some studies focusing on problematic social media use have revealed diverse motivation profiles. In a study by Lo Coco and colleagues (2018) involving 811 Facebook users, three distinct classes of users were identified, defined as mild users, committed to Facebook, and online socially oriented classes. It is worth noting that individuals classified under the "committed to Facebook" class exhibited characteristics such as high self-esteem, extraversion, need for approval in attachment relationships, and low emotional stability. This suggests that some individuals in this specific class may tend to excessively use social media platforms motivated by intense needs of attachment and relatedness when experiencing distress. Likewise, Gu, Gao, and Li (2022) conducted an examination of the motives driving TikTok usage in a sample of 384 participants. They identified three subgroups characterized by low, medium, and high motives, along with an additional subgroup, which displayed high motives for escapism and novelty but scores in the normal range for motives concerning a socially rewarding self-presentation and the trendiness associated with the app's usage. It is conceivable that some individuals within this specific subgroup are primarily motivated by a search for autonomy and the innate need for exploration; simultaneously, their inclination towards novelty-seeking may push them to seeking refuge within the online environment, providing an escape from unmet needs other life domains. Another relevant study (Sumter et al., 2017) delved into the primary motivations of 163 Dutch emerging adults, aged 18 to 30, in their utilization of the dating app Tinder. The researchers identified six distinct motivations for using this app: love, casual sex, ease of communication, self-worth validation, thrill of excitement, and trendiness. Consequently, their findings suggest that young individuals may engage with dating apps for varied reasons: some young adults may be primarily propelled by excitement and sexual arousal (consequently, being driven by sexual motivation), while others may prioritize online interactions to fulfill needs of attachment and relatedness (e.g., because they feel more comfortable establishing relationships online than offline or due to a belief that dating apps can facilitate the discovery of long-term committed relationship).

These selected illustrations serve to underscore the importance of investigating the motivations underpinning

the misuse of particular Internet applications before formulating a diagnosis or implementing treatment. They also illuminate how, in certain circumstances, the motivations behind problematic Internet use may involve individuals' efforts at self-medication.

Motivations, self-regulation, and self-medication

When investigating the motivations underlying potentially addictive use of Internet applications, even in the context of the component model of addiction, it is noteworthy to consider the applicability of the self-medication hypothesis developed by Khantzian (1985) for substance use disorders, because recent research suggested that this hypothesis also holds relevance in understanding problematic online behaviors (Di Blasi et al., 2020). Khantzian (1997) originally posited that individuals' substance preferences are influenced by their unique vulnerabilities, leading these individuals to actively seek out specific substances that can alleviate their distinct difficulties and distress. Additionally, Khantzian (2021) emphasized the significant role of self-regulation in substance abuse. Individuals suffering from substance abuse often exhibit substantial vulnerabilities, including difficulty in identifying and regulating emotions, struggles in establishing and maintaining a coherent sense of self and healthy self-esteem, challenges in forming and sustaining fulfilling relationships, and difficulties in effective behavioral regulation, particularly in terms of self-care (Costanzo et al., 2023). Therefore, individuals who are dependent on substances continuously strive to regulate their emotions, self-concept, relationships, and behaviors through drug use.

Significantly, Khantzian (2003) expanded on the notion that resorting to addictive substances primarily represents a pursuit of self-correction that ultimately proves inadequate. A noteworthy parallel can be drawn here: concerning functionally impairing Internet use, it is plausible that the motivations driving individuals toward the pathological use of a specific Internet application are linked to efforts at addressing particular challenges associated with emotional dysregulation and other personal and interpersonal difficulties.

Individuals experiencing the fear of missing out (FoMO) may serve as a pertinent example of such failed efforts to self-regulate unmet needs. FoMO centers around the apprehension of potentially missing valuable information, events, experiences, or life opportunities that could enhance one's well-being. Consequently, individuals with FoMO are characterized by a persistent desire to stay informed about the activities of others. FoMO comprises two fundamental components: the initial perception of missing out and the subsequent compulsive behaviors aimed at maintaining social connections, which leads to multiple problems and reduced well-being (Gupta & Sharma, 2021). FoMO might be relevant for the so-called "social media addiction" (Fioravanti et al., 2021). In fact, despite the immediacy of interactions facilitated by social media, online communication can lead to misunderstandings and emotional dissatisfaction, thereby contributing to feelings of loneliness and social detachment, which perpetuates a cycle in which individuals turn to social media in an effort to alleviate their loneliness, but in reality, this exacerbates their feelings of isolation. Przybylski and colleagues (2013) proposed indeed that FoMO emerges from unfulfilled needs for relatedness, involving the desire to belong and cultivate nurturing

interpersonal relationships. Furthermore, two separate studies conducted by Holte and Ferraro (2020) and Durao and colleagues (2023) have identified positive and significant associations between FoMO and anxious attachment. This association suggests elevated levels of separation anxiety, an excessive preoccupation with relationships, and an increased need for approval among individuals with FoMO. Hence, it is plausible that individuals experiencing FoMO may resort to excessive use of social media as a means of self-medication for their unmet need for relatedness, stemming from an intense activation of their attachment motivational system.

When analyzing actual clinical cases in the literature involving an addictive use of particular Internet applications, the significant interplay between the emotional dysregulation resulting from an intense activation of motivational systems and the attempts at self-medication, becomes notably evident. For example, Schimmenti and Caretti (2017) presented a clinical vignette of a patient who exhibited marked attachment insecurity rooted in his early relationship with his mother. This insecurity was mirrored in his romantic relationship, where he faced significant challenges due to an extremely demanding and devaluing fiancée who also engaged in acts of infidelity. During clinical interviews, the patient tended to deny the negative aspects of his fiancée, idealizing her instead. However, following a clear incident of her infidelity and his subsequent forgiveness, he embarked on a compulsive pattern of contacting unknown women via social networks. He initiated explicit sexual conversations, frequently adopting a dominant and occasionally aggressive tone. This behavior persisted for several months and began to pose problems by consuming his leisure time, infringing upon other activities, and disrupting his sleep. Within this context, it became evident that the patient's compulsive pursuit of other women through social networks, where he assumed a distinctive and notably domineering identity, was driven not solely by sexual motivations but also by competitive motivations related to establishing a sense of elevated social rank and status, which led to the inappropriate attempt at self-medication by sexually molesting women: specifically, this patient's online behaviors seemed to pathologically fulfill a need for exerting influence over the female gender, which appeared to be lacking in his life.

Wéry and colleagues (2019) presented another detailed case of a patient whose life outside of work was characterized by extreme isolation and a lack of significant emotional connections. This patient displayed symptoms clearly consistent with a diagnosis of sexual addiction—according to diverse nosographic models—marked by prolonged and continuous consumption of sadomasochistic online pornography videos. A thorough examination of the patient's personal history unveiled a challenging upbringing within a family dominated by an harsh and abusive father who significantly distorted the patient's approach to sexuality and hindered his need for self-assertion. Consequently, through the compulsive viewing of these online pornographic videos, the patient was trying to address longstanding unmet needs dating back to his childhood and adolescence: his behaviors on the Internet functioned both as an escape from actual stress and as a response to innate motivations related to sexuality, social rank and dominance, intriguingly encompassing elements related to attachment as well. Notably, the process-based conceptualization of the clinical case proved highly insightful for shaping the

treatment strategy, as it emphasized the importance of addressing the patient's underlying motivations driving his addiction to online pornography, and also involved interventions aimed at developing self-care and behavioral regulation. The interventions led to a substantial improvement in the patient's condition and, ultimately, his successful recovery from sexual addiction.

In a recent clinical report, Le and colleagues (2023) detailed the case of a 24-year-old male diagnosed with gaming disorder and paranoid schizophrenia. The patient's psychotic symptoms exhibited a clear association with video game themes, as he maintained the belief that he inhabited a video game world, and that the real world adhered to the rules and mechanics of games, portraying other people in the role of non-playable characters. Notably, the onset of psychosis at the age of 16 in this patient was linked to relevant psychosocial stressors, including academic underperformance, the termination of a romantic relationship, and exclusion from his football team. Consequently, psychotic symptoms surfaced when the patient experienced separation from an attachment figure and his needs for competence and relatedness were also dramatically thwarted. These distressing circumstances, in conjunction with potential genetic factors, likely contributed to the onset of psychotic symptoms. Therefore, it is plausible that the negative emotions associated with the distressing experiences and the disturbing symptoms of the patient – such as command auditory hallucinations instructing him to harm others or himself and the belief in being possessed by a demon – compelled him to seek solace in the familiar and secure realm of video games. Indeed, within the gaming environment, he could preserve a sense of autonomy, competence, and power, which was in stark contrast to a physical world perceived as rejecting, challenging to comprehend, and populated by disconnected, non-playable characters.

Hence, the self-medication hypothesis applied to the Internet environment can contribute to comprehending that inclinations of individuals toward distinct pathological behaviors on the Internet are motivated by their efforts to seek, within particular Internet applications, potential strategies that can alleviate the dysregulated feelings associated with their unmet needs. This understanding of problematic Internet use can be applied to enhance the quality of case formulation and develop tailored treatment for individuals exhibiting clinical conditions associated to their misuse of Internet applications.

Conclusive remarks

Adopting a motivational perspective to address the issue of problematic Internet use facilitates the analysis of the potentially pathological manifestations that may be evident in individuals' interactions with Internet services and applications. This approach significantly deepens the comprehension of symptom development, consequently leading to more effective case formulation. In employing a motivational framework for understanding problematic Internet use, it is imperative to conceive the Internet not merely as a tool but as a genuine environment for human self-defining experience, providing a platform for the expression and potential fulfillment of specific needs, frequently rooted in the individuals' innate motivational systems.

Hence, the motivational framework advocates a model for understanding problematic Internet use that

centers on the role that online behaviors may play for the particular individual. It confronts the idea of the individual as a passive consumer of Internet applications and, alternatively, asserts that the individual pursues potential methods to proactively manage and regulate their own emotions through the Internet.

The motivational framework cautions against making premature and overly simplistic classifications of excessive or otherwise dysfunctional Internet behaviors as behavioral addictions. It promotes a thorough evaluation of the persistence and clinical relevance of specific behaviors over time, along with an exploration of the underlying motivations for these behaviors. This approach is conducive to the development of personalized treatment strategies. Moreover, the motivational framework does not dispute the possibility that a minority of individuals might develop an addiction to specific Internet applications. Instead, it stresses that the eventual origin of an Internet-related behavioral addiction lies in the appetitive dimension of some specific behaviors for a particular individual, contingent on his or her unique needs and personal history.

A central premise of clinical wisdom maintains that diagnoses categorize disorders, not individuals. We should continue to improve our capacity to refine the emerging diagnostic categories in the field of human-technology relationship, to provide relevant pictures of individuals who display significant problems in the Internet environment; at the same time, we should also improve our capacity to better understand how the specific individuals make experience of the Internet environment, to provide better treatment.

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