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10. INTERNET ADICTION AND ITS EFFECTS (FROM ARTS)

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Abstract: *This study explores the impact of the internet on modern individuals, highlighting its dual role as both a tool for accessing information and a medium that shapes reality. While the internet offers benefits in education, communication, and entertainment, excessive use can lead to addiction, with negative effects on mental and physical health, such as anxiety, depression, social isolation, and decreased academic performance. Definitions of internet addiction are reviewed, and key explanatory models are brought to the forefront. Studying internet addiction remains essential for understanding its complex implications on personal, academic, and social success.*
Key words: *internet addiction, conceptualization, explanatory models, effects*

1. Preliminaries

The internet is traditionally regarded as a tool, an instrument through which modern individuals connect to a virtual reality separate from objective reality (accessing or storing information). However, there is a growing consensus that the internet is more accurately viewed as a medium/space—an infosphere (akin to an atmosphere)—that shapes the reality of modern humans, rather than simply a tool. This perspective advocates for a cognitive ecology framework and highlights a shift in understanding problematic internet use (Musetti, A., 2018). The internet is widely used for relaxation, entertainment, interpersonal communication, and managing daily life, as well as for self-education, training, and learning. However, the positive aspects of the internet come with the negative effects of excessive, uncontrolled usage, manifesting in various forms of problematic internet use, with internet addiction being among the most severe. Although internet addiction has been a subject of research for approximately 20 years, it remains a topic of interest as social conditions continually evolve. Studying its effects is essential for developing strategies to address this issue

2. Definitions of the Concept of "Internet Addiction"

In academic literature, several terms refer to the same phenomenon, such as compulsive internet use, problematic internet use, excessive internet use, computer dependency, net addiction, and internet addiction (Černja, I., 2019). Below, we review the meanings attributed to internet addiction, as identified in the specialized literature focused on this phenomenon. The first researcher who studied internet addiction was the psychiatrist Ivan Goldberg, who defined it as "pathological and compulsive internet use." Later, in 1995, Kimberly Young and Mark Griffiths expanded on the phenomenon, which was becoming increasingly prevalent. Young defines internet addiction as an impulse-control disorder, independent of substance addiction, characterized by excessive internet use with adverse consequences (Lozano-Blasco, R., 2022). For Griffiths, internet addiction is a form of technological addiction classified as a behavioral addiction. It arises from excessive human-computer/internet interaction and is driven by the stimulating and

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reinforcing characteristics specific to this technology (Lozano-Blasco, R., 2022).

Since these pioneering conceptualizations, internet addiction has been refined depending on the perspective from which it is studied. For instance, in 2008, Block, J.J., added a specific aspect common to all addictions—withdrawal. Thus, internet addiction is defined as excessive internet use with a negative impact on family life, accompanied by an increasing need for access to more advanced technology and withdrawal syndrome (Block, J.J., 2008, cited by Lozano-Blasco, R., 2022). Current studies (Jiang, Q., 2023) identify two consistent elements in describing internet addiction: compulsivity and impairment. Compulsivity in this context refers to difficulty regulating the impulse to access the internet and experiencing cravings when access is unavailable. Impairment refers to the negative effects or symptoms in the user's life, including physical pain (headaches, back pain, neck pain), insomnia, anxiety, depression, loneliness, social isolation, and poor academic performance (Jiang, Q., 2023).

3. Explanatory Models for Internet Addiction

The specialized literature identifies several prominent models explaining the development of internet addiction—referred to over time by various terminologies, such as pathological internet use, problematic internet use, generalized or specific internet addiction. These models include: the model proposed by Davis, R.A., in 2001, the model proposed by Caplan, S., in 2002, the model proposed by Brand & colleagues in 2014, the I-PACE model proposed by Brand & colleagues in 2016 (Moretta, T., 2022)

3.1. The Cognitive-Behavioral Model of Pathological Internet Use by Davis, R.A. (2001).

This model introduced, for the first time, the distinction between generalized pathological internet use (PIU) and specific pathological internet use. According to Davis, an individual's psychopathology acts as a distal trigger necessary for the symptoms of generalized PIU and promotes the development of maladaptive cognitions related to internet use. These maladaptive cognitions are categorized into two types: maladaptive cognitions about the world, maladaptive cognitions about the self. Self-related maladaptive cognitions are guided by a ruminative cognitive style about the implications of internet use on their life. This includes constantly thinking, talking, or worrying about why they excessively use the internet. These cognitions are linked to self-doubt, negative self-assessment, and low offline self-efficacy compared to online activities (Davis, R.A., 2001).

These maladaptive cognitions associated with internet use act as sufficient proximal generators for the symptoms of pathological internet use and may lead to impaired impulse control, ultimately resulting in negative consequences related to internet use. A vicious cycle of cognitive distortions and reinforcements facilitates the symptoms of pathological internet use and the negative behaviors associated with spending excessive time online. Therefore, according to this model, the cognitive symptoms of problematic internet use (ruminative cognitive style, low self-worth, depressive cognitive style, low self-esteem, and social anxiety) can precede and trigger the affective or behavioral symptoms, rather than the other way around (Davis, R.A., 2001).

3.2. The Problematic Internet Use Model by Caplan, S. (2002)

This model builds on Davis's work, revising and expanding it by incorporating cognitive and behavioral variables associated with the negative outcomes of internet use. Caplan explains that problematic internet users prefer online social interactions to reduce stress caused by face-to-face interactions. This preference increases the likelihood of repeated communication via computers. When online interactions are used for mood regulation, such behavior is correlated with poor self-regulation, leading to obsessive thoughts about the internet and compulsive internet use. Poor self-regulation results in negative consequences for individuals' lives.

3.3. The Generalized Internet Addiction Model (Brand, M., Laier, C., Young, K.S., 2014)

This model distinguishes between **generalized internet addiction (GIA)** and **specific internet addictions (SIA)**. It identifies three categories of explanatory elements for the development of GIA: (1) Predictors: Predisposing factors such as emotional loneliness, low social support, psychopathological factors (depression, anxiety), and personality traits (low self-esteem, low self-efficacy, vulnerability to stress); (2) Mediators: Specific cognitions involving dysfunctional coping strategies (avoidance, maladaptive problem-solving, suppression) and certain expectations about internet use (avoiding negative emotional states or enhancing positive ones); (3) Symptoms of GIA: loss of control, time management difficulties, and craving (Brand, M., et al., 2014). According to this model, individuals with strong coping skills and no expectations that the internet will improve their mood (positively or negatively) are less likely to engage in problematic internet use, even when other personality or psychopathological vulnerabilities are present.

3.4. The I-PACE Model (Interaction of Person–Affect–Cognition–Execution) by Brand, M., Young, K.S., et al. (2016)

The I-PACE model is one of the most comprehensive theoretical frameworks for explaining excessive internet use. It systematically combines personality traits, affective mechanisms, and cognitive processes to explain the development and maintenance of addictive behaviors related to problematic internet use in gaming, gambling, pornography, shopping, and social networking. The model postulates that internal triggers (e.g., negative or positive mood, stress) or external triggers (e.g., an advertisement, a game sound, or phone notification) facilitate reactions to these signals, leading to cravings or desires. Experiencing immediate gratification and reward, especially during negative emotional states, reinforces these behaviors, as individuals may learn that engaging in specific activities alleviates unpleasant emotions.

Over time, stronger cravings—associated with a hyper-reactive reward system at the neuronal level—impair inhibitory control processes. As prefrontal control mechanisms become less effective in overriding the reward system, individuals are more likely to make impulsive decisions or develop habitual behaviors. Positive and negative reinforcement through these behaviors establishes reward expectations, leading to the adoption of specific coping styles. Simultaneously, reinforcement mechanisms heighten attention to internal and external triggers associated with the activity, further facilitating craving and reactivity to signals (Brand, M., et al., 2016).

4. Educational and Personal Impacts

Internet addiction can significantly affect the educational process, impairing students' concentration, motivation, and academic performance (Caplan, 2003). Overreliance on online resources and tutorials may diminish critical thinking and creativity, as students often seek quick solutions instead of employing their imagination or problem-solving skills.

Excessive internet use can hinder creativity and productivity, especially through information overload and constant distractions (Baturay, M.H., & Toker, S., 2019). Overconsumption of online content, such as images, videos, or trends, may inhibit originality, as the mind becomes more inclined to imitate rather than create (Wang, J.L., 2024). Fragmented attention caused by digital multitasking affects the ability to complete complex tasks and think deeply (Gentile, D.A., 2012; Nikkelen, S.W.C., 2014, cited by Wang, J.L., 2024).

Moreover, internet addiction profoundly impacts mental and physical well-being. Excessive social media use amplifies feelings of anxiety and depression, especially through constant comparisons with others and the pressure to maintain a perfect online image (Saikia, A.M., et al., 2019). Self-esteem is negatively affected (Armstrong et al., 2000; Baturay, M.H., & Toker, S., 2019). Another consequence of internet addiction is social isolation, as time spent online replaces real-life interactions, reducing the sense of genuine connection with others (Ghassemzadeh et al., 2008).

5. Conclusions

Internet addiction, often referred to as compulsive internet use, problematic internet use, or excessive internet use, has been extensively studied in academic literature. Early definitions identified it as a pathological, impulse-control disorder, while Mark Griffiths framed it as a behavioral addiction driven by technology's reinforcing qualities. Subsequent models, such as Davis's (2001) cognitive-behavioral model, emphasized maladaptive cognitions as precursors to behavioral symptoms. Caplan (2002) extended this by linking online interactions to stress reduction and poor self-regulation. Brand's (2014) Generalized Internet Addiction Model highlighted predictors like loneliness and mediators such as dysfunctional coping strategies. The I-PACE model (2016) integrated personality, affective, and cognitive factors, focusing on reinforcement and impaired inhibitory control as central to addiction's development and maintenance.

These models collectively underscore the complex interplay of cognitive, emotional, and behavioral mechanisms underlying internet addiction. Internet addiction adversely affects education, creativity, and productivity by impairing concentration, critical thinking, and originality, while also harming mental and physical well-being through increased anxiety, depression, low self-esteem, and social isolation. The concept of internet addiction is continuously evolving, with thousands of researchers dedicated to understanding its multiple dimensions. Whether studied independently or in relation to other psychological phenomena, internet addiction remains a topic of interest due to its human, psycho-social, and public health implications.

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