



The distinction between compulsive and addictive behavior in excessive use of the internet an analytical theoretical review of clinical diagnostic concepts

التمييز بين السلوك القهري والإدماني في الاستخدام المفرط للإنترنت: مراجعة نظرية تحليلية لمفاهيم التشخيص العيادي

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Article abstract :

Excessive use of the internet is witnessing a noticeable increase, which prompted researchers to study its classification as a behavioral addiction or compulsive behavior, and therefore this review aims to analyze the differences between the two patterns in terms of motives, psychological consequences, and behavioral regulation mechanisms. This article also discusses the relevant theoretical and diagnostic frameworks, highlights the similarities and differences between compulsive and addictive behavior while reviewing methodological limitations in the literature and classification criteria such as DSM-5 and ICD-11. He proposes a differential model that helps specialists in the clinical distinction between the two conditions. Finally, this paper concludes that an accurate understanding of these differences is necessary to improve diagnosis and treatment.

Key words: Behavioral Addiction; Compulsive Behavior; Excessive use of the internet; Clinical Diagnosis.

ملخص المقال:

يشهد الاستخدام المفرط للإنترنت تزايداً ملحوظاً، مما دفع الباحثين إلى دراسة تصنيفه كإدمان سلوكي أو سلوك قهري، وعليه تهدف هذه المراجعة إلى تحليل الفروق بين النمطين من حيث الدوافع، العواقب النفسية، وآليات التنظيم السلوكي. كما يناقش هذا المقال الأطر النظرية والتشخيصية ذات الصلة، ويسلط الضوء على أوجه التشابه والاختلاف بين السلوك القهري والإدماني مع استعراض القيود المنهجية في الأدبيات ومعايير التصنيف مثل DSM-5 و ICD-11. ويقترح نموذجاً تفريقياً يساعد الأخصائيين في التمييز السريري بين الحالتين. وفي الأخير تلخص هذه الورقة البحثية إلى أن الفهم الدقيق لهذه الفروق ضروري لتحسين التشخيص والعلاج.

كلمات مفتاحية: الإدمان السلوكي؛ السلوك القهري؛ الاستخدام المفرط للإنترنت؛ التشخيص العيادي.

Introduction

The last two decades have witnessed a qualitative transformation in the nature of psychological and social life as a result of the accelerated digital revolution, as the internet has become an integral part of the daily activity of the individual. Although this shift has provided cognitive and communication opportunities, it has been accompanied by a marked increase in what is known as "pathological internet use", a pattern of excessive and uncontrolled use that leads to a marked deterioration in social, academic or professional performance and raises serious clinical diagnostic questions. (Young, 1998; Fineberg et al, 2014)

In this context, a conceptual and clinical disagreement has emerged on how best to understand this pathological behavior: is it classified as a behavioral addiction characterized by the pursuit of pleasure and reinforcement, or is it a compulsive behavior associated with trying to avoid anxiety or fear of internal psychological threats. This overlap of the two patterns complicates the task of clinical specialists in diagnosis and intervention, especially in view of the lack of official recognition of "internet addiction" as an independent diagnostic category in some normative manuals such as DSM-5.

(American Psychiatric Association, 2013)

Based on this, this paper aims to conduct an analytical theoretical review of the fundamental differences between compulsive and addictive behavior in the context of excessive use of the internet, by analyzing the theoretical and neuropsychological frameworks associated with each pattern, assessing the adequacy of existing diagnostic criteria in distinguishing between them. The paper also seeks to propose a preliminary conceptual conception that will contribute to the development of the clinical classification of such modern behavioral patterns.

Theoretical and conceptual framework:

1-defining concepts:

First: Behavioral Addiction

The term "behavioral addiction" refers to a pattern of repetitive and uncontrolled behaviors, which are practiced despite the individual's awareness of their negative consequences, and share several characteristics with chemical addiction, such as loss of control, excessive attachment, and emotional withdrawal when stopped.

(Grant, Potenza, Weinstein, & Gorelick, 2010)

The World Health Organization has included "electronic gaming disorder" in the ICD-11 International Classification of diseases as a form of behavioral addiction, which enhances the recognition of this category of disorders in the clinical context.

(World Health Organization, 2019)

However, "internet addiction" has not yet been recognized as an independent diagnostic term in the fifth edition of the Diagnostic and Statistical Manual (DSM-5), where it was indicated as an area in need of further study. (American Psychiatric Association, 2013)

Behavioral addiction is defined as a compulsive and repeated engagement in a certain behavior that produces a feeling of pleasure or positive reinforcement, despite its obvious negative consequences for the individual's psychological, social and professional life.

(Grant et al, 2010)

Behavioral addiction is characterized by three main components :

1.Loss of control : the individual repeatedly fails to reduce or stop the behavior despite repeated attempts.

2.Preoccupation : includes excessive thinking about behavior, planning for it, or feeling upset when not practicing it.

3.Continuity Despite Harm : where behavior is practiced even with a clear awareness of its harm.

This definition applies to many activities not related to chemicals, such as gambling, video games, shopping, and internet use. (Fineberg et al, 2014)

Neurological research confirms that these patterns activate reward circuits in the brain, in particular the dopaminergic system, in a similar way to substance addiction. (Ko et al, 2009)

Despite this, the American Psychiatric Association did not include the term "internet addiction" as an official diagnostic term in the DSM-5, but recognized "electronic gaming disorder" as a disorder in need of further study. (American Psychiatric Association, 2013)

The ICD-11 International Classification has taken a bolder step by formally including "gaming disorder", reflecting the trend towards recognizing behavioral addiction as an independent clinical classification. (World Health Organization, 2019)

Second: Compulsive Behavior : Compulsive behavior is meant as a repetitive response aimed at reducing anxiety or stress, and is usually characterized by no pleasure or pleasure accompanying the behavior, but rather a feeling of temporary relief or immunization against perceived danger. (Stein, Fineberg, & Chamberlain, 2010)

In a clinical context, it is observed that individuals with compulsive patterns are aware that their behavior is irrational, but feel powerless to stop. Obsessive-compulsive disorder is the clinical model most associated with this type of behavior (Abramowitz & Jacoby, 2015).

Compulsive Behavior is a behavior characterized by forced repetition with the aim of reducing a state of stress or anxiety caused by urgent thoughts or fears (obsessions), and this behavior is often practiced without real desire or pleasure. (Stein et al, 2010)

Compulsive Behavior is considered a temporary emotional escape or avoidance mechanism, as the individual feels good after practicing it, but this satisfaction soon disappears, perpetuating the cycle of compulsion.

- Characteristics of compulsive behavior :

- * Absence of positive reinforcement: unlike addiction, compulsive behavior does not feel pleasure, but relief from distress.

- * Its emotional function: it is used to avoid negative emotions, not to seek pleasure.

- * Pathological awareness (Insight): the patient is usually aware of the irrationality of his behavior, but cannot resist it.

The most clinical context in which compulsive behavior appears is obsessive-compulsive disorder (OCD), in which patients are forced to perform repetitive rituals to relieve anxiety caused by their obsessive thoughts. (Abramowitz & Jacoby, 2015)

According to neurological studies, compulsive behavior is associated with hyperactivity of the cortical-striatal-thalamic circuits, with dysregulation of serotonin, which differs from the dopaminergic pattern in behavioral addictions. (Gillan et al, 2016)

Third: the dialectic of the two concepts in the excessive use of the internet.

Despite the similarity between the two patterns in terms of repetition of behavior and loss of control, behavioral addiction is characterized by a pleasure-based or reward-based motivation, while compulsive behavior is associated with an attempt to alleviate internal anxiety or authoritarian thoughts. (Robbins, Gillan, Smith, de Wit, & Ersche, 2012)

This conceptual overlap has made it difficult for specialists to determine whether pathological use of the internet reflects a real behavioral addiction, or is it an extension of a regulatory compulsive behavior whose function is emotional.

Fourth: Excessive use of the internet.

"Excessive use of the internet" refers to a state of excessive and uncontrolled preoccupation with interacting with digital online activities, which leads to a deterioration in areas of everyday life, such as academic performance, social and psychological relationships. Although this concept is not

officially included as an independent diagnosis in DSM-5, it is considered a manifestation of multiple problematic behaviors, such as gaming addiction, social network addiction, or compulsive smartphone use. (Young, 1998; Brand et al, 2016)

Overuse can take various forms, including:

- Spending long hours on unnecessary activities.
- Neglect of daily obligations.
- Feeling helpless when trying to reduce the time spent.
- Anxiety or discomfort when disconnected from the internet.

Studies have shown that this use may be associated with several psychological factors such as impaired emotional regulation, impulsivity, or even attempts to escape from feelings of depression or anxiety. (Caplan, 2010)

Fifth: Clinical Diagnosis.

Clinical Diagnosis refers to the process performed by a psychologist or psychiatrist to determine whether the behavioral and psychological symptoms experienced by an individual correspond to specific criteria within an approved diagnostic manual, such as DSM-5 or ICD-11. It involves the collection of comprehensive information about the condition through clinical interviews, psychological tests, and medical history, to reach an accurate understanding of the condition and develop an appropriate treatment plan.

(Grohol, 2019; First et al, 2016)

In the course of pathological use of the internet, clinical diagnosis faces several difficulties:

- The absence of a unified diagnostic definition.
- The similarity of symptoms between different patterns of problematic behavior (addictive/compulsive).
- The adoption of inadequate self-assessment tools.
- This condition overlaps with other disorders such as anxiety and depression.

These difficulties make it necessary to develop differential conceptual frameworks, such as the model proposed in this article, that support rigorous clinical assessment practices, especially in young populations.

2-Critical review of relevant theoretical models:

2-1-Psychological Dependence Model :

This model is based on the idea that some individuals develop a psychological dependence on certain activities, such as using the internet, as a result of what they provide an escape from reality or a false sense of comfort and belonging. (Griffiths, 2005) it is assumed that this dependence is similar to that found in substance addiction, but without the direct biological effect.

- **Criticism of the model:** The model focuses on individual psychological dimensions (such as inability to cope or low self-esteem), but omits neurobiological and social factors.

A state of "dependence" is assumed without sufficient clarification of the difference between it and compulsion or behavioral attachment.

It is thus criticized for being an inaccurate diagnosis, as it is difficult to determine when the attachment to use becomes pathological, and when it remains within the normal range. (Kardefelt-Winther, 2014)

2-2-Emotion Regulation Model :

This model sees excessive internet use as an avoidance strategy aimed at reducing or suppressing negative emotions such as depression, anxiety, or boredom. (Spada & Marino, 2017) According to this perception, the internet is becoming an alternative – albeit unhealthy – means of regulating the emotional state.

- **Criticism of the model:** It is a powerful model in explaining compulsive use cases, but it is insufficient to explain pleasure-and reward-based use cases, as in some forms of gaming or porn addiction.

It is based on the assumption that all pathological behaviors are caused by impaired emotional regulation, without taking into account other motives (such as thrill-seeking or amusement).

He also needs stronger Empyrean support, especially with regard to the interaction between impaired emotional regulation and other personal characteristics such as impulsivity. (Hormes, Kearns, & Timko, 2014)

2-1-Behavioral Learning Model :

This model is based on the principles of classical and procedural conditional learning, in which the use of the internet is perceived as a learned behavior that is reinforced via repetition and reward. Each time an individual receives immediate reinforcement (such as messages or likes), the desire to repeat the behavior increases. (Skinner, 1953; operant conditioning)

- **Criticism of the model:** This model is a powerful explanation for the development of pathological use through learning and reinforcement mechanisms, but is criticized for simplifying complex psychological phenomena.

It also does not take into account deep cognitive and emotional dimensions such as internal motivation or pathological perception of behavior.

It does not adequately differentiate between compulsive use caused by anxiety, and addictive use motivated by the search for pleasure.

3-Distinguish between compulsive and addictive behavior in excessive use of the internet:

3.1. Common aspects of Addiction and Compulsivity:

Despite the fundamental difference in the motives and psychological functions of both compulsive and addictive behavior, recent studies combine the presence of a number of common behavioral and emotional features, which explain the observed diagnostic overlap in the pathological use of the internet. The most prominent of these common aspects are the following:

- **Loss of Control:** Loss of control is one of the primary clinical indicators linking both compulsive and addictive behavior, with individuals reporting a persistent inability to reduce or stop the behavior despite being aware that it is excessive or unnecessary.

This weakness in self-control is often expressed by unsuccessful attempts to reduce the time of use, or a feeling of helplessness when trying to disconnect from the internet, which intersects with diagnostic criteria for both patterns in DSM-5.

(American Psychiatric Association, 2013)

Accordingly, in compulsive use, the loss of control stems from an urgent desire to reduce anxiety, and in addictive use, it is associated with the pursuit of a sense of reward or escape from psychological distress. (Fineberg et al, 2014)

- **Continuity despite negative consequences (Persistence Despite Negative Consequences) :** Both compulsive and addictive behavior are characterized by persistence despite repeated negative consequences, whether at the academic, professional, social or health level. Excessive internet users – whether motivated by addiction or compulsion – report losses in their personal relationships, decreased job performance, sleep disturbances, or even physical symptoms, but nevertheless they do not stop the behavior.

In addiction, the motivation to continue may be the expected reward, while in compulsive it is the fear of anxiety or discomfort that prevents stopping, despite the obvious damage.

(Grant et al, 2010)

- **Feeling guilty or remorseful after the behavior (Post-Behavior guilty) :** A lot of studies have indicated that individuals with pathological internet use show feelings of regret and self-blame after engaging in behavior, especially when it affects their daily lives or relationships.

This feeling of guilt is a common feature, but it is used psychologically differently: in addiction, it is the result of the perception of the negative impact of behavior, in compulsive, it may be part of the obsessive cycle – guilt leads to more anxiety, fueling the repetition of the same behavior (Stein et al, 2010).

3.2. Fundamental differences between compulsive and addictive behavior in excessive internet use: Although there are morphological intersections between the two patterns, the subtle conceptual distinction between compulsive and addictive behavior becomes clear when examining psychological motivation, neural structure, and response to treatment. These differences are essential to effectively guide diagnosis and therapeutic intervention.

- **Internal motivation of behavior:** Internal motivation is the primary driver of any pathological behavior, and represents a fundamental difference between addiction and Compulsivity:

* In compulsive behavior, the primary motivation is to alleviate or avoid a state of anxiety or internal tension, the behavior is practiced against the will of the individual, as a "neutralizing" means to reduce distress, and not with the aim of pleasure. For example, a person who is very worried about losing control over the course of his day, resorts to checking his email dozens of times an hour despite knowing that it is not necessary.

* In addictive behavior, behavior is practiced with the aim of striving for immediate pleasure or reward, that is, internal positive reinforcement. The use here provides a feeling of satisfaction or pleasure (even if it is temporary), for example, an individual is addicted to electronic games because he feels triumph, belonging, or escape from reality.

(Brand et al, 2016)

Therefore, this difference is central to the clinical understanding: is the internet a way to reduce internal suffering (compulsive), or to satisfy a need for pleasure or reinforcement (addictive)

- **Neuropsychological structure (Neuropsychological Basis) :** Recent research shows a marked difference in the neural pathways associated with the two patterns:

* Behavioral addiction is associated with excessive activity of the dopaminergic reward system, especially in:

- Nucleus accumbens
- Anterior prefrontal cortex
- Amygdala of the brain

This activity is very similar to what happens in substance addiction, producing intense craving (craving) and repetitive reinforcement-driven behavior. (Ko et al, 2009)

* Compulsive behavior is associated with a malfunction of the cortical-striatal-thalamic circuit (CSTC loop), the network responsible for executive regulation and inhibition of inappropriate responses.

Such a circle includes:

- Orbitofrontal Cortex
- Caudate nucleus
- Thalamus

This explains the tendency of compulsive behavior to be accompanied by pathological perception (insight) and internal suffering without an actual feeling of pleasure.

(Gillan et al, 2016; Stein et al, 2010).

- **Response to psychotherapy:** The distinction in the nature of the impulse and the neural pathway leads to a difference in the response of each mode to treatment:

* Addictive behavior shows an effective response with:

- Cognitive behavioral therapy (CBT): by modifying beliefs related to the internet, and developing self-regulation skills.
- Behavioral stimulation and harm reduction programs: to gradually reduce the hours of use.

(Young, 2011)

* Compulsive behavior responds better to:

- Exposure behavior therapy (ERP): by confronting anxiety without performing compulsive behavior.
- Drug therapy with serotonin reuptake inhibitors (SSRIs): especially in cases accompanied by pronounced obsessive symptoms (Stein et al, 2010).

Misdiagnosing compulsive behavior as addictive (or vice versa) can lead to a failure to respond to treatment, prolonging the course of therapeutic suffering.

4-Critical analysis of clinical diagnostic challenges

First : the limitations of DSM-5 in differentiating between the two styles.

Despite the inclusion of "internet gaming disorder" as a condition in need of further research in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), disorders related to internet use in general, are still not explicitly classified, either as behavioral addiction or compulsive behavior. (American Psychiatric Association, 2013)

The problem is that the DSM-5 standards tend to the addictive model, focusing on:

- * Loss of control
- * Continuity despite the consequences
- * Withdrawal (Withdrawal),
- * Tolerance (tolerance) in behavior.

This tendency neglects the essential features of compulsive behavior, such as:

- * Self-imposed repetitive character
- * Ritualism and anxiety that precede behavior
- * And the high pathological perception (insight) that usually accompanies compulsive.

(Fineberg et al, 2014)

This is what leads to the risk of misclassifying compulsive online behaviors as behavioral addictions, which affects the accuracy of the diagnosis and the therapeutic intervention plan.

Second: The opinions of researchers proposing a hybrid model

Under this taxonomic ambiguity, a number of researchers have proposed a hybrid conceptual model, combining the characteristics of behavioral addiction and compulsive behavior, taking into account the cognitive and neurological overlap between them:

- * Kardefelt-Winter (2014) suggested that pathological use of the internet may be a "compensatory behavior", a multidimensional psychological reaction, exhibiting addictive characteristics in some and compulsive in others.
- * Brand et al (2016) called for the development of a three-dimensional model that takes into account:
 - Poor self-tuning.
 - Emotional and cognitive incentives.
 - Contextual characteristics.
- * Fineberg et al (2021) advocated the inclusion of compulsive-addictive behavior patterns within a common disorder spectrum (Compulsive and Addictive Behaviors Spectrum), rather than categorical classifications.

This hybrid model helps to bypass the traditional binary (compulsive/addictive) and enables the construction of more flexible and contextual intervention protocols.

Third: difficulties of clinical diagnosis in non-clinical settings (e.g. universities)

In fact, the challenges are particularly pronounced in non – clinical settings – such as universities or schools-where many students practice excessive digital behaviors, without being clearly defined in terms of "pathological nature".

-The most prominent of these challenges:

- * Blurred boundaries between normal and pathological: with the dominance of the internet in academic and social activities, it is difficult to separate overuse from functional use.
- * Lack of diagnostic awareness among educational professionals: most mentors or teachers do not have accurate assessment tools to distinguish whether a student's digital behavior is caused by a compulsive disorder or an addiction.
- * Difficulty in accessing a comprehensive psychological assessment: the absence of clinical specialists in educational institutions makes the diagnosis often based on superficial observation or self-report questionnaires, which do not show the exact difference between compulsive and addictive.

These constraints justify the need for multidimensional assessment models that take into account the environment, motivation, and personal context of internet use.

(Pontes et al, 2015)

5-Towards a Differential Taxonomic Model :

General background :

Given the conceptual and behavioral interweaving of compulsive and addictive behavior in excessive use of the internet, it seems necessary to adopt a flexible differential model, taking into account not only behavioral characteristics, but also the motives of behavior, its psychological consequences, the individual's resistance to it, and the pathological history. This model does not claim to be decisive, but rather represents an initial auxiliary tool in diagnosis and therapeutic guidance.

5-1-Intentions of Behavior:

* **In compulsive behavior:** the intention is often defensive/avoidant, as the individual seeks to reduce feelings of anxiety or internal tension, without expecting pleasure.

* **In addictive behavior:** the intention is reinforcing / motivational, that is, it aims to reach a psychological reward or a positive feeling (such as pleasure, escape, euphoria).

Example: checking notifications every 10 minutes out of "stress from missing something", compulsive. While playing for hours with the aim of "excitement and immersion", my addiction.

5.2. Psychological results after performance:

* **Compulsive behavior:** it often leads to a temporary relief of anxiety, followed by a wavering feeling of relief, and then often followed by New regret or anxiety.

* **Addictive behavior:** causes immediate euphoria or positive reinforcement, but is often followed by a "mood drop", a feeling of emptiness or guilt.

This therefore suggests that compulsive is a closed loop driven by anxiety, while addictive is a wave driven by Reward and then breakdown.

5-3 - Resistance and Insight behavior :

* **In compulsive behavior:** there are real attempts to resist, usually with an internal realization that the behavior is irrational or superfluous, but the individual feels "forced" to perform.

* **In addiction behavior:** resistance is weak or absent, especially in the initial stages, due to the strong attachment to pleasure. Sometimes an individual does not see that there is a problem fundamentally (lack of pathological awareness).

5-4-Patient's medical history: (Clinical History)

* Compulsive behavior often appears within a broader context of anxiety disorders, obsessive-compulsive disorder, or anxious personality traits.

* Addictive behavior may be associated with impulsivity, ADHD, or other behavioral addictions.

Therefore, the medical history is a differentiating factor in differential diagnosis, especially in adolescents and young adults.

- Abstract of the model:

This proposed model does not aim at a final classification, but rather to provide a practical framework that helps to:

* Build flexible clinical assessment protocols.

* Design of detailed therapeutic interventions.

* Strengthening the orientation towards a spectral classification (Dimensional) instead of a binary classification.

Conclusion

Excessive use of the internet is one of the growing psychological problems in the digital age, a problem that is not limited to the volume of use, but is related to the nature of the motives and the psychological structure underlying behavior. This article, through an analytical theoretical review, showed that the conceptual distinction between compulsive behavior and addictive behavior is not just

a theoretical classification, but a crucial clinical necessity to ensure the accuracy of diagnosis and the effectiveness of therapeutic intervention.

The analysis also revealed that both patterns share phenotypic characteristics such as loss of control and continuity despite the consequences, but the fundamental differences – in internal motivation, neural structure, and the pattern of response to treatment – impose a deeper differential reading of behavior, taking into account the individual and psychological context of the patient.

Accordingly, he proposes a preliminary taxonomic model that helps practitioners distinguish between the two patterns by four main dimensions: intentions of behavior, psychological results after Performance, degree of resistance, and pathological history.

The limitations of the current tools, especially in the DSM-5 manual, also call for updating international standards to include these nuances, moving away from rigid binary classification. There is also an urgent need to conduct future experimental studies, testing the proposed model in various samples, assessing its predictive and diagnostic truthfulness.

In view of this, it can be argued that progress in understanding the pathological use of the internet requires moving beyond outdated conceptual areas, adopting a flexible spectral approach that takes into account the complexity of the phenomenon and the interweaving of its psychological and neurological dimensions.

Recommendations:

First: Recommendations at the clinical and diagnostic level

1-Development of differential diagnostic tools: the need to design multidimensional diagnostic scales that take into account the differentiation between compulsive and addictive motives, rather than just the current scales that tend towards the addictive model only.

2-Adoption of the spectral model (Dimensional Model): the paper recommends the adoption of a flexible taxonomic model that takes into account the overlap between compulsive and addictive, and allows a gradual and complex understanding of the pathological use of the internet, instead of strict binary classifications.

3-Include qualitative indicators in clinical interviews: such as the analysis of intentions of behavior, the level of feeling of pleasure or anxiety, the amount of self-resistance, which contributes to the differential diagnosis between the two patterns.

4-Updating the DSM and ICD standards: call for updating the global diagnostic manuals (especially DSM-5) to include the category of compulsive internet use disorders, next to addiction disorders, due to their neurological and behavioral differentiation.

Second: Recommendations at the research and scientific level

1-Conducting experimental studies that verify the veracity of the proposed model: by testing its dimensions (intention, emotional outcome, resistance, pathological history) on clinical and non-clinical samples, using psychoneurometric and neuroimaging techniques.

2-Focus on neural differences: encourage research into the neural differences between the two patterns using brain imaging techniques (e.g. fMRI) to confirm the differentiation between the reward system and the compulsive regulation system.

3-Analysis of the dynamics of the interaction between the two patterns: the paper recommends expanding the understanding of the possible relationship between compulsive and addictive behavior in some cases (eg: transformation from compulsive to addictive or vice versa) within a long-term evolutionary model.

Third: Recommendations at the therapeutic level

1-Design personalized therapeutic protocols: customize the therapeutic intervention according to the type of pattern:

- Compulsive pattern therapy → SSRIs exposure behavior therapy

- Addictive pattern therapy → cognitive-behavioral therapy + incentive management and digital rewards.

2-Training of specialists on differential diagnosis: the inclusion of training programs for clinical practitioners on how to distinguish patterns of pathological use, based on the proposed model, and interpret its results in the therapeutic context.

3-Designing preventive interventions in educational environments: developing workshops and early detection procedures aimed at students, taking into account the nature of the behavioral pattern (compulsive or addictive) and directing the appropriate intervention.

Fourth: recommendations at the societal and policy level

1-Raising community awareness about the differences between compulsive and addictive behavior: through educational media campaigns highlighting the signs of difference between pathological use of electronics and patterns of normal or excessive unsatisfactory behavior.

2-Integrating digital psychological considerations into health policies: urging health authorities to integrate internet use disorders into public mental health policies, while supporting youth-oriented digital counseling centers.

3-Encouraging technology supporting mental health: developing smart digital applications that adopt the proposed differential model, helping users assess their usage pattern and monitor their motives and feelings during use.

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