Should Internet Gaming Disorder be defined within the ICD-11: A Literature Review

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Abstract. Gaming disorder (GD) is ubiquitous worldwide, particularly in Asian nations. This paper synthesized and analyzed evidence from different perspectives, including (a) clinical background, (b) psychological perspective, and (c) social condition, to determine whether the gaming disorder should be defined in the 11th revision of the International Classification of Diseases (ICD-11) or not. Consequently, debates on the incorporation of GD in ICD-11 continue to exist and will take time to resolve, despite the vast amount of research conducted in this area.

Keywords: Gaming disorder; ICD-11; Literature review.

1. Introduction

Internet activities are extremely prevalent worldwide, particularly among adolescents. According to ICD-11, however, there is a new disorder called "gaming disorder" that is characterized by (a) impaired control over gaming, (b) gaming priority, and (c) continuation and escalation of gaming despite negative consequences. (World Health Organization, 2016). GD is a global problem, particularly in Asian nations. The prevalence of GD in China is 10.4% (Wu et al., 2016), which is higher than the prevalence in Europe (1.6%; Müller et al., 2015). Although the prevalence data is sufficient to garner attention, there are some debates as to whether or not GD should be considered a disease and included in ICD-11.

1.1.Debates Under Clinical Background

Previous research supports the inclusion by discussing the enhancement of treatment capacity and quality, the acceleration of the disorder classification process, and the negative effects of excessive gaming behaviors.

First, according to data from a professional institution for the treatment of Internet addiction, many help-seekers were addicted to online games and exhibited severe symptoms, such as day-night reversal, verbal/physical aggression, social withdrawal, and financial issues. (Higuchi et al., 2017). According to Higuchi et al. (2017), the incorporation of GD in ICD-11 could increase the number of professionals and treatment facilities to satisfy the high demand. Nonetheless, Van Rooij et al. (2018) stated that regardless of whether IGD is included in ICD-11 or not, people with game-related issues can receive professional assistance. If a large number of people with game-related problems seek professional help, clinics and professional services would form and expand, just as there are numerous services for sexually-related treatment because a sufficient number of people have sexually-related issues.(Van Rooij et al., 2018).

In addition, Van Den Brink (2017) supports the inclusion by suggesting that the identification of a disorder could be the beginning of the process, leading to the possibility of generating a disorder classification because researchers could concentrate on patients as opposed to normal people or other non-representative online samples. In contrast, Van Rooij et al. (2018) proposed that the inclusion could impede the development of related research because, if GD is included in ICD-11, researchers would rather prove the necessity of the IGD should be included in ICD-11 (e.g. existence, utility) than address fundamental questions.

GD is associated with a variety of negative outcomes, such as seizures, financial, marital, family, and/or professional difficulties, irritability, diurnal lethargy, and depressed mood, among others. (Chuang, 2006; Wu et al., 2016). Consequently, the GD should be included in ICD-11 in order to receive sufficient attention. In contrast, should GD be classified as a disease as opposed to a symptom?

GD overlaps with other mental disorders such as anxiety and depression. Identify whether the aforementioned negative effects are caused by GD or other mental disorders. Przybylski, Weinstein, and Murayama (2017) isolated the symptoms of GD and concluded that there is no direct correlation between GD and detrimental behavioral and clinical consequences.

Rather than adopting a merely criterion-based approach, researchers should adopt an approach that focuses on the inner involved mechanism; otherwise, addiction categories will continue to proliferate. (Billieux, Schimmenti, Khazaal, Maurage, & Heeren, 2015). In addition, the criteria for GD are based on those of wagering disorders and other substance use disorders.(Aarseth et al., 2017). The comparison of GD to other substance use disorders should not be made during the expulsive phase, as there are numerous distinctions between GD and substance use disorders, particularly regarding withdrawal and tolerance criteria. (Griffiths et al., 2016).

In conclusion, it appears difficult to resolve disputes in the clinical background because researchers may hold divergent opinions based on varying circumstances. In addition, GD frequently coexists with other mental disorders; therefore, the damage caused by GD must be investigated further in order to distinguish it from other disorders.

1.2.From A Psychological Perspective, Debates

Supporters of inclusion concentrate on the biological mechanism, the brain' s response to game-related clues, genetic polymorphisms, and the intervention of GD.

GD should be included in ICD-11 because its biological mechanism is analogous to that of wagering. Patients with GD also exhibit decreased sensitivity to loss, enhanced reactivity to related signals, increased impulsive choice behavior, aberrant reward-based learning, and no changes in cognitive flexibility (Fauth-Bühler & Mann, 2017).

In addition, it has been demonstrated that the responses of the brains of individuals with GD are similar to those of individuals with substance use disorder. L. Liu et al. (2017) hypothesized that during the processing of related cues in the brains of GD patients, there is a transition from ventral to dorsal striatal, which is consistent with substance abusers. Moreover, when patients with GD are stimulated, regions that can be identified as neural substances of clue-induced gaming craving are activated. These regions include the right orbitofrontal cortex, bilateral anterior cingulate and medial frontal cortex, right dorsolateral prefrontal cortex, right nucleus accumbens, and right caudate nucleus.(Ko et al., 2009). These activations mirror the response of patients with substance use disorder to drug cues.

The similarity in genetic polymorphisms between individuals with GD and those with substance use disorder and pathological wagering provides additional evidence that GD should be included in ICD-11. People with excessive gaming behavior have a higher frequency of the Taq1A1 allele of the dopamine D2 receptor and low activity Catecholamine-O-Methyltransferase alleles, which are associated with reward dependence.(Han et al., 2007). Similar findings were observed in substance use disorders such as nicotine dependence (Beuten, Payne, Ma, and Li, 2006), alcohol dependence (Blum et al., 1990; Yoshimoto, McBride, Lumeng, and Li, 1992), and cocaine dependence.(Noble et al., 1993).

Finally, drug and psychological interventions are effective for individuals with GD, proving that GD is a disease. Previous research has demonstrated that pharmacotherapy, psychotherapy, and a combination of both can substantially reduce the frequency of gaming behaviors. Both bupropion and escitalopram can reduce the frequency of gaming behaviors, but bupropion is more effective.(Song et al., 2016). In addition, cognitive behavioral therapy (Li & Wang, 2013) and family therapy (Q.-X. Liu et al., 2015) have been demonstrated to be effective for individuals with GD. Combined cognitive behavioral therapy and bupropion can finally reduce on-time gaming.(Kim, Han, Lee, & Renshaw, 2012).

Nonetheless, several objections to the inclusion were raised, including the fact that GD is characterized by excessive gaming behaviors, which could be categorized as a coping mechanism or compensatory behavior.

Excessive gaming behaviors may be a strategy for coping with negative events or real-life issues, such as loneliness and low self-esteem, through virtual social contact and Internet success (KardefeltWinther, 2017). KardefeltWinther (2017) cast doubt on the notion that excessive gaming behavior is a disorder by arguing that, while it is true that dealing with real-world events by continuously adopting an excessive gaming behavior strategy can result in negative consequences and problematic outcomes, excessive gaming behavior should not be classified as a disorder merely because this repeated pattern is similar to an addiction pattern. What is the difference between coping and addiction if this occurs? However, this objection also appears to lack merit. If excessive gaming behavior should be considered a coping mechanism, could imbibing be considered a coping mechanism rather than an addiction? Previous research has demonstrated that alcohol consumption combined with other mental health disorders, such as depression and PTSD, reduces stress and damage, but alcohol consumption can lead to alcohol dependence, a form of addiction.(Cooper, Russell, Skinner, Frone, & Mudar, 1992). The elimination of alcoholism contributes to the alleviation of depressive symptoms.(Brennan, SooHoo, Lemke, & Schutte, 2016). Clearly, alcoholism should be classified as an addiction rather than a coping mechanism, but what about excessive gaming behavior?

To determine the cause of gaming behavior, a model of compensatory Internet usage was proposed. (Kardefelt-Winther, 2014). According to this paradigm, negative life circumstances or events can lead to a desire to engage in gaming to alleviate negative emotions. Gaming behavior is a method to acquire psychological stimulants and demands, but this behavior can lead to addiction-like symptoms as a result of the continuous compensation behaviors. Researchers refer to this condition as gaming disorder.

In conclusion, the psychological evidence is more convincing than the clinical evidence. Previous research has demonstrated that there are a number of similarities between GD and other substance use disorders and gambling, providing strong evidence for those who hold supportive opinions, despite the existence of a number of controversial explanatory models.

1.3.The Importance Of Social Situation

Whether or not the GD should be included in CID-11 is the subject of numerous social debates, including stigmatization and moral terror.

Online gaming is a common and widespread activity with numerous advantages. A significant quantity of time is devoted to gaming, which is a characteristic of the GD. Given the hazy line between problematic gaming behavior and normal, high-engagement gaming behavior, there is a danger of over-pathologizing GD and stigmatizing regular gamers.(Dullur & Starcevic, 2018). The opposing view is that the inclusion of GD does not result in stigmatization because it does not imply that gaming behavior is inherently detrimental or generally hazardous and unhealthy.(King et al., 2018). In addition, these non-clinical opinions should not be given undue weight when discussing inclusion.(Rumpf et al., 2018). Should anxiety not be recognized as a mental health disorder for the same reason that people fear worry? In addition, previous research has demonstrated that eating disorder is relatively uncommon but has a significant deleterious impact on a person' s life (Smink, Van Hoeken, & Hoek, 2012). Should eating disorder not be included because individuals experience anxiety when they want to consume more or less?

GD is regarded the result of media-created moral distress (Bean, Nielsen, Van Rooij, and Ferguson, 2017).(Ferguson & Beaver, 2015). In addition, the incorporation of GD in ICD-11 would heighten moral panic (Bowman, 2015), which could lead to the implementation of inappropriate or ineffective government policies, thereby infringing on the rights of all game players by limiting their restful game time. In addition, the rising moral concern may increase the burden on physicians, resulting in an increase in false-positive diagnoses and superfluous intervention.(Aarseth et al., 2017). However, Király and Demetrovics (2017) argued that providing a precise definition of GD, particularly the distress threshold, could prevent moral hysteria and confusion.

Concerning debates under the consideration of social consideration, the researcher believes that these considerations could contribute more to policy formulation, implementation, publicity, and

other social measures than to the decision to include GD in ICD-11. If there is sufficient medical and psychological evidence that excessive gaming behavior can develop into a disease, then this disease should be defined and the negative effects associated with it could be mitigated by other means.

2. Discussion

From a clinical, psychological, and social standpoint, this paper examines various pieces of evidence supporting and opposing the inclusion of GD in the ICD-11. Existing debates include whether inclusion could enhance the efficacy and quality of treatment, whether inclusion could increase the number of in-depth studies, and whether there is a correlation between GD symptoms and health. Changes in the brain' s central nervous system, biological mechanisms, and genetic polymorphisms were among the fundamental mechanisms investigated and models of interpretation posited. In addition, negative social influences such as stigmatization and moral panics were taken into consideration.

3. Why are there still so many debates even though WHO has already included GD in ICD-11?

The scientific foundation of GD is relatively feeble, which is the primary reason. As a concept proposed in recent decades, GD has been the subject of relatively limited research. Among the existing studies, certain mechanisms or relationships require additional investigation. Previous studies have shown, for instance, that there are changes in the brain system that are similar to those seen in individuals with substance use disorder, but it is unknown whether these changes are caused by GD or risk factors.(Paulus, Ohmann, Von Gontard, & Popow, 2018). Therefore, if more in-depth and exploratory research is conducted in the future, the researchers will reach a consensus regarding GD.

In addition, differences in cultural and social actuality between countries may contribute to the debates. As previously stated, the prevalence of GD varies by country; therefore, researchers from different countries may hold divergent views. For instance, Higuchi et al. (2017) argued that GD should be included in ICD-11 based on their concerns regarding the social climate in Japan. In addition, the cultural distinction should be factored into the criteria of GD, where there are also debates. For instance, there are so many esports athletes and game commentators in China that they devote the majority of their time each day to improving their game level, which should be categorized as achievement motivation as opposed to disease. Future research would reach a consensus on whether gaming disorder should be recognized as a disorder, but it is worth considering whether the criteria for gaming disorder should vary between countries based on cultural norms.

To reach a consensus on GD in the future, additional research must be conducted on the following topics: whether the criteria for GD are adequate, what are the risk and protective factors of GD, what comorbidities are associated with GD, and how do they interact with each other, and if GD is a recognized addiction, what is its etiology, internal mechanism, treatment method and efficacy, recovery and relapse process? These previous results are insufficient to reach a consensus.

4. Limitation

This study' s reliance on the relatively limited Google Scholar database may result in an analysis that is incomplete. In addition, this study' s research methodology may have a resource selection bias; future studies could employ a systematic review method with defined inclusion and exclusion criteria and select research materials from multiple databases to reduce the selection bias. At the stage of selecting research materials, this study incorporates only English literature. In the future, researchers could select documents in different languages and from different countries, which could enhance the reliability and validity of their studies.

5. Conclusion

This study utilized the literature review method, synthesized and evaluated pieces of evidence from a clinical background, psychological perspective, and social condition for and against the inclusion of GD in ICD-11, including clinical practice, impact on future research, the relationship between impairments and excessive gaming behavior, biological mechanism and brain changes caused by excessive gaming behavior, and genetic polymorphism of individuals with gaming disorder. And concluded that, despite the fact that many related studies have been conducted in the past, more in-depth research should be conducted in the future to reach a consensus regarding GD.

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