Diagnosis of internet gaming disorder: issues, impact, and recommendations

Ziming Wang[1,*]

[1]Psychology Department, Weinberg College, Northwestern University, 633 Clark St., Evanston, Illinois, 60208, United States

*Correspondence Author

Abstract. With the development of the Internet in the 21st century, video gaming became available for the public. However, with the increasing popularity of gaming, issues regarding gaming addiction are unveiled. In response to these problems, the American Psychiatric Association classified Internet Gaming Disorder (IGD) as a psychological disorder in 2013 and created diagnostic criteria for it. However, the criteria for IGD have received a lot of criticism since its creation. This paper aims to explore the issues and impact of the current diagnostic criteria for IGD and come up with recommendations to revise the criteria based on the information. The major approach this paper employs to analyze the diagnostic criteria of IGD is through literature review of existing articles regarding IGD. The results show that the diagnostic criteria of IGD are vague and inaccurate and fail to distinguish between high-engagement gamers and addictive gamers. To resolve these issues, this paper provides recommendations on revising the diagnostic criteria of IGD such as adding defining information, prioritizing crucial information, and searching for underlying causes to increase the accuracy of IGD's criteria. This information will be helpful for diagnosing potential patients of IGD and distinguishing between high-engagement gamers and addictive gamer.

Keywords: Gaming addiction, Gaming Disorder (IGD), psychological disorder.

1. Introduction

Video gaming has become more and more popular in the 21st century with the help of the Internet and electronics. Today, approximately 227 million Americans play games, which is more than two-thirds of America's population. These video gamers are spread across all ages: 80% of players are over 18 and the average age of a gamer is 31 [1]. Additionally, with the advent of COVID-19, players are spending more time on games. More than 50% of the players said that they played more video games during the pandemic, and 90% of them state that they will continue playing after COVID-19 ends [1].

With the mass number of video-game players also comes issues regarding excessive video gaming and Internet usage. According to the Nielsen 360° Gaming Report, gamers increased the time they spend gaming by 12% within only two years, averaging their play time to more than 6 hours per week. These numbers are boosted by the advent of multi-platforms for gaming, such as consoles, mobile, tablets, computers, and VR devices, which increased gamers' play time even more [2]. Some gamers at the extremes of the scales even spend more than 80 to 100 hours on games per week, jeopardizing their educational or work activities, social relationships, and physical well-being [3].

In response to these increasing excessive gaming trends, the American Psychiatric Association includes the diagnostic criteria for Internet Gaming Disorder (IGD) in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorder (DSM-5) in its 2013 publication. This was the first time in diagnostic history that IGD was categorized as a behavioral addiction disorder rather than an impulse control disorder. The nine proposed diagnostic criteria for IGD are the following: (i) preoccupation with gaming; (ii) withdrawal symptoms when not playing games; (iii) tolerance, spending more time on games to satisfy desire; (iv) unable to reduce or stop gaming; (v) loss of interest in other previously enjoyable activities; (vi) continue gaming regardless of issues; (vii) deceive people around about time spend on gaming; (viii) use gaming as a way to relieve negative emotions; (ix) and risking an important relationship, work, or educational opportunities or roles due to gaming [4].

Since the publication of the IGD diagnostic criteria, many people have questioned its accuracy. Heavy gamers and people who work professionally as gamers are affected by the vague categorizations of IGD, making it hard for them to distinguish themselves from addictive gamers who need help. Given this concern, this paper discusses the accuracy and impact of the diagnostic criteria of IGD and offers recommendations for rephrasing the IGD criteria for clarity in the field.

2. IGD Diagnosis: Issues and Impact

2.1 Inaccurate Categorizations

The diagnostic criteria of IGD have received a lot of criticism due to their vague categorizations. The preoccupation criterion (e.g., spending a considerate amount of time playing games or thinking about games when not playing) does not clearly define the term "preoccupation". It fails to explain how much time spend on playing games or thinking and planning about games is sufficient for meeting the criterion. For professional gamers, it is natural for them to spend many hours per day playing games and discussing gaming strategies with their teammates when not playing [2]. Their preoccupation with gaming certainly does not qualify them for IGD since they are simply fulfilling the necessary tasks for their jobs and careers. For gamers who are considered high-achievers in gaming, it is also necessary for them to spend a lot of time gaming and think about strategies to conquer the most difficult levels [11]. However, the vague preoccupation criterion fails to draw a clear boundary between high engagement gamers, such as professional gamers and high achievers, and addictive players, making these people who game as a career vulnerable to potentially negative public opinions.

The withdrawal criterion (e.g., feeling of sadness, anxiety, or irritability when not playing) is also problematic since IGD differs from conventional substance-related addictions in the sense that there isn't any substance consumed that directly influences the neurological system of a person. Therefore, the irritable feelings that arise after the discontinuation of gaming are most likely a result of emotional rather than biological changes in the brain. It is possible for psychiatrists to falsely identify short-span negative emotions after a sudden cession of gaming as long-term withdrawal symptoms, making the diagnoses and criteria erroneous [2]. Similarly, the tolerance criterion (e.g., the need to increase game time to feel satisfaction) has the same problem. Since there are no substances consumed directly that affect gamers' physiological state, it is hard to detect signs of tolerance only relying on patients' self-report. This criterion is basically a residual from substance abuse disorder that doesn't fit into IGD [12]. All of these inappropriate criteria can make psychiatrists' diagnoses of patients inaccurate.

The deception criterion (e.x. deceiving family members or people around about gaming) is also under a lot of controversies. This criterion is built on a premise that a gamer is not living by himself. If a gamer lives by himself and earns a living by playing games, psychiatrists can't diagnose the patient based on the deception criterion since he has no one to talk to or deceive around him. Furthermore, since many parents nowadays consider gaming as a useless aspect of life, it is natural for young people to deceive their parents about their playing time simply to spend more time on games. This deception happens in many households where there are adolescents who play games and is not indicative of IGD [5]. This type of deception is culturally and socially subjective and depends on the people around the gamers rather than the gamer himself [12].

The lost interest criterion, gaming despite problems, and jeopardizing relationship criteria are all similar in nature and vague in their definition and severity. It is natural for gamers to lose interest in other activities, meet problems in their daily lives, and harm relationships and opportunities in the process of gaming, especially extensive gaming. Games offer people a sense of achievement in a very short time. The goal of people engaging in any activities is to experience a sense of achievement. While normal activities offer a sense of achievement only after a lot of effort and time, games offer this feeling almost immediately. It is no wonder that people will lose interest in other activities after playing games. Similarly, for gaming despite problems, it is natural for gamers to sacrifice other

things to game when they have already lost interest in other activities. These sacrifices may include not doing assignments or work, not sleeping sufficiently, or even not eating properly. The jeopardizing relationship criterion is also similar. It is only another aspect of life that gamers are sacrificing to play games.

The problem with these three criteria is that they didn't define the extent of severity of these problems. If a gamer loses interest in doing sports and going out with friends, it might not be a too serious issue that can affect his health significantly or make him a game addict. It is only a choice of how this gamer allocates his time. However, if a gamer loses interest in eating food or going to work due to gaming, it becomes a serious problem. Not eating and not contributing to society will cause serious health and societal problems for this gamer and needs to be corrected quickly. Gaming despite problems and jeopardizing relationship is similar. If a gamer misses the deadline for a few assignments or several dates with his partner, it might not be a serious problem. However, if this gamer constantly misses everything in his life, it is a serious problem that needs to be treated.

The escaping negative mood and unable to reduce gaming criteria are more accurate predictors of IGD compared to the rest, but there are still issues with their definition and scope. The escaping negative mood criteria does not draw a clear line between high engagement and addictive gamers. Any gamer who has had a bad day will naturally turn to games to relieve their negative emotions. This soothing aspect of games has been considered as an advantage of gaming by many gamers [6]. In addition, based on research, the escaping negative mood criterion is more predictive of depression, anxiety, or other disorders rather than gaming disorder [2]. Games are a way for patients with depressive or anxiety disorders to escape from their negative thoughts and experience from daily life rather than something they are addicted to. In comparison, the unable to reduce gaming criterion fails to limit its cause to gaming addiction. There are reasons other than addiction that might cause this criterion. One of the reasons can be social pressure. Gaming, especially among adolescents, can possess a societal requirement. When most people around are playing games and talking about games, the rest feel an urge, or even a need, to join and play or else they might be excluded. Research shows that adolescent males play games to pursue feelings of achievement and social contact rather than just enjoying the games [11]. Therefore, addiction may not be the reason that compulsively drive people to play games and the unable to reduce game time criteria fails to recognize this.

2.2 High Engagement versus Addiction

As mentioned above, the preoccupation criterion fails to draw a clear line between high engagement and addiction to gaming, making it hard to distinguish between heavy gamers and addictive gamers. The current criteria blur the fact that excessive gaming does not equal gaming disorder, and that playing multiple hours of games every day without interfering with daily life and activities is not a sign of addiction. These criteria bolster the misconception that the everyday gaming experience of children, adolescents, and adults is pathological, causing the people around these gamers to judge their choices and high engagement in gaming [7].

Kirk Mober, MD, addiction specialist for UnityPoint Health, states that the easiest way to understand gaming addiction is by comparing it with alcohol addiction. Most people who play games do not have a gaming addiction, just like most of the people who drink alcohol won't become addicted to it. The disorder is not determined by a large amount of time spent on gaming but rather by compulsive use regardless of negative consequences [8]. In fact, of the hundreds of millions of video game players worldwide, only around 3% of them have a game addiction [9], which validates Mober's point that even though many people play games, most of them are not addicted to gaming. However, the inaccurate criteria for IGD foster the misconception that excessive gaming equals gaming addiction, widening the gap between gamers and non-gamers, consequently causing them to face more problems and prejudices when gaming and failing to recognize the patients who have IGD and are desperately in need of help.

3. Recommendations

3.1 Add Defining Information

All the diagnostic criteria of IGD receive a certain level of criticism and fail to accurately distinguish between high-engagement gamers and addictive gamers. It is proposed that more accurate and defining information should be added to the current criteria for IGD.

The best criteria for IGD should be derived and based on real case studies of IGD. A case study from Universitas Sumatera Utara hospital psychiatric clinic describes detailed experience and behavior of an IGD patient. The patient, Mr. A is a 28-year-old man from a Javanese tribe. He was married and had two children. However, instead of spending time with his children and providing living for his family, Mr. A put all his time into gaming. According to his wife, Mr. A spent more than 10 hours on gaming every day for one year. This extensive gaming habitat severely disrupted his daily activities such as eating, sleeping, and working a job to support his family. Mr. A had trouble sleeping at night and barely slept in weeks when his wife brought him to treatment. Mr. A felt worthless and guilty for his family most of the time, but he couldn't stop gaming. During short period when he was not playing games, Mr. A experienced feelings such as anxiety, fear, confusion, boredom, sadness, and panic [10]. This case study of Mr. A offers a lot of valuable information regarding IGD patients and provides a basis for revising the current diagnostic criteria.

For the preoccupation criterion, a time limit should be added into the definition to increase its accuracy. This time limit should be determined by data collected from case studies of IGD patients. In the case of Mr. A, he spent more than 10 hours playing games every day and the rest of the time thinking about games [10]. Therefore, 10-12 hours can be a starting point for the time limit. In addition to adding a time limit, a caption should also be added stating that this preoccupation is not related to career or academic purposes since professional gamers spend a lot of time thinking about games and scholars who are researching in game-related fields also spend a lot of time thinking about games. The revised criterion should be "more than 10-12 hours spend on playing or thinking about games per day unrelated to professional or academic purposes".

The withdrawal criterion and tolerance criterion should be combined to create a more accurate criterion since it is hard for addictive gamers to experience and demonstrate the same biological response as substance-abuse disorder patients. In the case study of Mr. A, general physical examination showed no signs of any abnormalities in his body. Most of the withdrawal and tolerance behavior Mr. A exhibited were emotional based, such as anxiety, fear, sadness, and panic [10]. These emotions experienced by Mr. A should be added into the criterion for withdrawal and tolerance. The revised criterion should be "experiencing withdrawal or tolerance symptoms with emotions such as anxiety, fear, sadness, and panic for a prolonged period".

The deception criterion, although not evident in Mr. A's case, should also be revised for accuracy. Nany teenagers lie to their parents about their game time, but this level of deception is not sufficient for IGD. Only when gamers lie to others about conditions that are serious enough to affect their health or daily activities, such as not sleeping or eating for days, should these deceptions be consider as diagnostic criterion for IGD. The deception criterion should be revised to include the severity of the deception. Furthermore, the current criterion only account for gamers who live with other people around. For gamers who live by themselves, it is hard for them to be diagnosed under the current criterion. Therefore, the criterion should encompass deception in any form, including face-to-face conversation, texting, emailing, video-chatting, and so on. The revised deception criterion should be "deception regarding conditions or behavior that are serious enough to affect physical health and daily activities through conversation or any media".

For the lost interest criterion, gaming despite problems, and jeopardizing relationship criteria, more information should be added to them to define their severity. The behavior described in these criteria are all evident in the case study of Mr. A. According to the record, Mr. A lost interest in everything except gaming, continued playing games regardless of his health and job, and didn't care

or provide for his wife and children [10]. As aforementioned, the current definitions of these three criteria are not accurate regarding the severity of the behavior. Mr. A's case study offered a good example for how to rephrase the current criteria. The lost interest criterion should be revised to "loss of interest in important or daily activities, such as working, eating, and sleeping". The gaming despite problems criterion should be revised to "gaming despite encountering serious problems in daily life, such as family issues, risks of losing a job, and health concerns". The jeopardizing relationship criterion should be revised to "risking indispensable relationships or even ignoring people with those relationships, such as parents, wife, and children".

The escaping negative mood criterion can also be improved by adding defining information to distinguish between high-engagement gamers and addictive gamers. In the case study of Mr. A, he was diagnosed with anxiety disorder aside from IGD. Mr. A had problems in daily interactions, which led him into playing games extensively and completely shunning social interaction with anyone, even his family members [10]. A revised criterion can be created based on this information to draw a line between high-engagement gamers and addictive gamers: "using games as a way of relieving negative emotions and completely avoiding reality and social interactions".

3.2 Prioritize Crucial Criteria

The current diagnostic requirement for IGD is meeting five of nine criteria within a period of twelve months. However, some of the criteria are behavior common among many gamers without IGD, such as preoccupation, lost interest, and deception criteria. Thus, only meeting five of the nine criteria is not sufficient for a IGD diagnose. It is proposed that several of the more predictive and crucial criteria should be prioritized and set as prerequisite criteria for any IGD diagnose.

Based on the case study of Mr. A, several obvious criteria for IGD can be detected. The most obvious of them are lost interest in other activities, gaming despite problems, jeopardizing relationships due to gaming, and unable to stop or reduce gaming. It is proposed that at least one of these four criteria should be fulfilled for an IGD diagnose since these four criteria are more crucial and predictive of IGD.

It is also proposed that an additional symptom should be added to the list and put into the prerequisite list, which is significant health impairment or mental distress caused by gaming, either directly or indirectly. For example, a gamer who forgets to eat or sleep and develop serious health issues can fall in this category. Or a gamer who is unable to stop playing games despite the pressure from his family or people around him and feels distressed about his behavior can fulfil this criterion. Although DSM-5 states that gaming must cause impairment and distress in its explanation of IGD, it did not include it as a requirement for diagnosis [4]. It is necessary to include this criterion in the diagnosis to identify IGD patients more accurately.

After the revisions on the diagnostic criteria of IGD, a patient can only be diagnosed with IGD if he meets the distress criteria, one of the four crucial criteria (lost interest, gaming despite problems, jeopardizing relationship, and unable to stop gaming), and three of the rest of the criteria within a period of one year.

3.3 Search for Underlying Causes

Aside from adding defining information and prioritizing crucial criteria, IGD should be categorized and diagnosed in separate terms, based on the different causes of gaming addiction. Psychiatrists should search for underlying causes of patients' gaming addiction rather than attributing everything to the huge category of games. Since games can take many different forms, there are various potential reasons for people to become addicted to gaming. On one hand, people who engage in online gambling games or lottery games might be more inclined to have gambling addiction rather than IGD. On the other hand, people who are using games as a way of escaping reality and negative emotions might have depression or anxiety disorder rather than IGD [2]. In the case of Mr. A, he was diagnosed with anxiety disorder and IGD at the same time. His anxiety disorder pushed him to play

games extensively to avoid reality, eventually making him addicted to games [10]. Therefore, it is important for psychiatrists to identify the true causes of patients' gaming addiction for better and more accurate diagnoses.

4. Conclusion

The increasing popularity of video games rises potential problems regarding excessive gaming and addictive gaming. As a response to this addictive behavior, the diagnostic criteria for IGD are coined in order to help people with a gaming addiction identify their illness.

Nevertheless, the inaccurate categorization of the criteria of IGD causes numerous issues and negative impacts on gamers and researchers in the field. These inaccurate criteria make it hard for psychiatrists to correctly identify those who have a gaming addiction and blur the boundary between high engagement and addiction to games.

Several recommendations are given to rephrase the IGD criteria for clarity in the field. By adding defining information, prioritizing crucial criteria, and searching for underlying causes, this paper hopes to increase the specificity of the IGD diagnostic criteria, helping psychiatrists to identify people who are suffering from gaming addiction more accurately.

References

[1] Entertainment Software Association: 2021 Essential Facts about the Video Gaming Industry. Entertainment Software Association, https://www.theesa.com/resource/2021-essential-facts-about-the-video-game-industry/, last accessed 2022/08/18.

[2] D. J. Kuss, M. D. Griffiths, H. M. Pontes, Journal of Behavioral Addictions, Chaos and confusion in DSM-5 diagnosis of Internet Gaming Disorder: Issues, concerns, and recommendations for clarity in the field, 6(2), 103-109 (2017).

[3] D. L. King, P. H. Delfabbro, M. D. Griffiths, Journal of Cyber Therapy & Rehabilitation, Cognitive behavioral therapy for problematic video game players: Conceptual considerations and practice issues, 3(3), 261-273 (2010).

[4] H. M. Pontes, M. D. Griffiths, Computers in Human Behavior, Measuring DSM-5 internet gaming disorder: Development and validation of a short psychometric scale, 45, 137-143 (2015).

[5] D. Kardefelt-Winther, Addiction Research & Theory, A critical account of DSM-5 criteria for internet gaming disorder, 23(2), 93-98 (2015).

[6] R. T. A. Wood, M. D. Griffiths, International Journal of Mental Health and Addiction, Time Loss Whilst Playing Video Games: Is there a Relationship to Addictive Behaviours?, 5, 141-149 (2007).

[7] D. Kardefelt-Winther, Addiction, Meeting the unique challenges of assessing internet gaming disorder, 109(9), 1568-1570 (2014).

[8] UnityPoint Health: Video Game Addiction: Signs, Effects and Treatment, https://onlinelibrary.wiley.com/doi/10.1111/add.12645, last accessed 2022/08/18.

[9] I. L. Lemos, C. Nabuco, E. B. Sougey, Archives of Clinical Psychiatry, Internet and video game addictions: a cognitive behavioral approach, 41(3), (2014).

[10] F. A. Nasution, E. Effendy, M. M. Amin, Open Access Macedonian Journal of Medical Sciences, Internet Gaming Disorder (IGD): A Case Report of Social Anxiety, 7(16), 2664-2666 (2019).

[11] C. Ko, J. Yen, C. Chen, S. Chen, C. Yen, The Journal of Nervous and Mental Disease, Gender Differences and Related Factors Affecting Online Gaming Addiction Among Taiwanese Adolescents, 193(4), 273-277 (2005).

[12] D. Kardefelt-Winther, Addiction Research & Theory, A critical account of DSM-5 criteria for internet gaming disorder, 23(2), 93-98 (2015).