

2022

A Case of Internet Gaming Disorder: When #PlayApartTogether Takes a Dark Turn

Jessica O'Loughlin

Department of Family Medicine, United Memorial Medical Center, Batavia, NY

Emily Pelletier

Lake Erie College of Osteopathic Medicine, Erie, PA

Elizabeth Loomis

Department of Family Medicine, United Memorial Medical Center, Batavia, NY

Richard Alweis

Department of Medical Education, Rochester Regional Health, Rochester, NY,
richard.alweis@rochesterregional.org

Follow this and additional works at: <https://scholarlycommons.gbmc.org/jchimp>



Part of the [Medicine and Health Sciences Commons](#)

Recommended Citation

O'Loughlin, Jessica; Pelletier, Emily; Loomis, Elizabeth; and Alweis, Richard (2022) "A Case of Internet Gaming Disorder: When #PlayApartTogether Takes a Dark Turn," *Journal of Community Hospital Internal Medicine Perspectives*: Vol. 12: Iss. 1, Article 6.

DOI: 10.55729/2000-9666.1005

Available at: <https://scholarlycommons.gbmc.org/jchimp/vol12/iss1/6>

This Case Report is brought to you for free and open access by the Journal at GBMC Healthcare Scholarly Commons. It has been accepted for inclusion in Journal of Community Hospital Internal Medicine Perspectives by an authorized editor of GBMC Healthcare Scholarly Commons. For more information, please contact GBMCcommons@gbmc.org.

A Case of Internet Gaming Disorder: When #PlayApartTogether Takes a Dark Turn

Jessica O'Loughlin ^a, Emily Pelletier ^b, Elizabeth Loomis ^a, Richard Alweis ^{c,*}

^a Department of Family Medicine, United Memorial Medical Center, Batavia, NY, USA

^b Lake Erie College of Osteopathic Medicine, Erie, PA, USA

^c Department of Medical Education, Rochester Regional Health, Rochester, NY, USA

Abstract

Background: The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) places internet Gaming disorder (IGD) in its research appendix as a potential new behavioral addiction diagnosis that requires further investigation. As part of the media campaign #HealthyAtHome, recommendation to relieve stress and anxiety during COVID-19, the World Health Organization (WHO) advocated for the playing of video games. The encouragement and expansion of playing video games may have led to the unintentional consequence of increasing the prevalence of IGD as IGD has been postulated to be a maladaptive response to stress.

Case: A 34 year old male presented to his primary care physician with decline in work function, increased depression, and anxiety. Before the COVID-19 pandemic he estimated that he spent 2 h a day playing games and socialized with friends weekly; however at the time of presentation, his social interactions were through online gaming only and he was playing games 14 h per day. The patient began paroxetine and bupropion, with good result, though declined concomitant psychotherapy.

Discussion: Internet Gaming Disorder is a potential new behavioral addiction that is likely to increase in prevalence over the continuing course of the COVID-19 pandemic. While initial studies show promising effects of medication and psychosocial interventions, further study on standardized diagnostic criteria and effectiveness of treatment modalities is needed.

Keywords: Addiction, Internet gaming

1. Background

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) places internet Gaming disorder (IGD) in its research appendix as a potential new behavioral addiction diagnosis that requires further investigation.¹ The DSM-5 does provide criteria for diagnosis of IGD that are similar to criteria used in gambling disorders (Table 1). Overall prevalence prior to the Coronavirus disease 2019 (COVID-19) pandemic has been challenging to measure, in part due to utilization of different diagnostic instruments and likely variation based on age.² Pre-COVID-19 studies, using the DSM-5 criteria, found widely variable prevalences around the world, ranging from less than 1% (Norway) to

50% (South Korea) with an average worldwide prevalence rate of 5.5%.^{3–5}

Studies consistently find that male gender and younger age, typically less than 19, increase risk for IGD.^{6,7} Additionally, co-existing depressive symptoms and attention disorders were more likely found in those with IGD as compared to peers.^{8–10} A more challenging relationship of IGD risk related to social isolation and poor interpersonal skills exists; studies have shown higher risk in those with poor social skills and development of social dysfunction in those who start to develop symptoms of IGD.^{10,11}

As part of the media campaign #HealthyAtHome recommendation to relieve stress and anxiety during COVID-19, the World Health Organization

Received 10 May 2021; accepted 29 September 2021.
Available online 31 January 2022

* Corresponding author at: Department of Medical Education, 100 Kings Highway South, Suite 2300, Rochester, NY 14617, USA.
E-mail address: richard.alweis@rochesterregional.org (R. Alweis).

<https://doi.org/10.55729/2000-9666.1005>

2000-9666/© 2021 Greater Baltimore Medical Center. This is an open access article under the CC BY-NC license (<http://creativecommons.org/licenses/by-nc/4.0/>).

Table 1. DSM-5 criteria for internet gaming disorder.¹

Proposed criteria for Internet gaming disorder:

- a- Preoccupation with Internet games (individual thinks about previous gaming activity or anticipates playing the next game; Internet gaming becomes the predominant activity in daily life)
- b- Withdrawal symptoms when the Internet is taken away (typically irritability, anxiety, sadness)
- c- Tolerance (the need to spend increasing amounts of time on Internet games to achieve the same “high”)
- d- Unsuccessful attempts to control or cut down the participation in Internet games
- e- Loss of interest in previously enjoyable activities with the exception of Internet gaming
- f- Continued excessive use despite knowledge of negative psychosocial problems
- g- Has deceived family members, therapists, or others regarding time spent on gaming
- h- Use of Internet games to escape or improve dysphoric mood
- i- Jeopardized or lost relationships, jobs, educational opportunities because of Internet use

Presence of 5 or more of these symptoms in the past 12 months in addition with persistent, maladaptive and recurrent use of the Internet is required for diagnosis.

(WHO) advocated for the playing of videogames.¹² The WHO, bolstered by a partnership with the gaming industry, launched another campaign, #PlayApartTogether, in April, 2020 which included embedded WHO recommendations in the online games (e.g., reminders to practice social-distancing).¹³ The encouragement and expansion of playing video games may have led to the unintentional consequence of increasing the prevalence of IGD as IGD has been postulated to be a maladaptive response to stress.¹⁴ Current research has found increases in problematic internet use in specific populations during the COVID-19 pandemic however actual changes in prevalence of diagnosed IGD have not been comprehensively captured.¹⁵ With the widespread availability of internet gaming, as well as the increased reliance on schooling and working from home during the pandemic, it is important for physicians to be able to determine the difference between healthy and unhealthy gaming.

2. Case presentation

A 34 year old man with a history of type 2 diabetes mellitus (T2DM), obesity, depression and anxiety presented to his primary care physician with difficulty concentrating and increased time spent playing video games. He estimated that he had been playing video games for about 14 h per day and noted this had begun to affect his work. He worked from home as an information technology consultant, and his last job performance evaluation was poor, whereas previous evaluations were good or satisfactory. With the onset of the COVID-19 pandemic, work tasks initially slowed down and he spent his extra time playing games online. Additionally, given social distancing he had not needed to, nor had he been leaving his house often. He currently lives with his parents who handle the family's grocery shopping. When business improved, he found himself

struggling to complete assignments, and would be gaming during work hours. Before the COVID-19 pandemic he estimated he spent 2 h a day playing games. Prior to the pandemic he socialized with friends weekly, however at the time of presentation, his social interactions occurred through online gaming only.

The patient had no history of addiction and denied present alcohol or recreational drug use. Of note, the patient was in a car accident at the age of 12 and suffered a basilar skull fracture and concussion, resulting in a coma. He continued to have concussion symptoms for approximately 1 year and believes that is when he began to have difficulty concentrating. His current medications include metformin for his T2DM (most recent hemoglobin A1C was 7.3%). In the past he has taken bupropion and paroxetine but had not taken either for 2 years at the time of presentation. Physical exam reveals an obese male with a BMI of 46.2 kg/m², and who appears depressed. His PHQ9 score was 13 and GAD7 score was 7.

On the advice of his primary care physician, paroxetine and bupropion were resumed. The patient declined a recommended psychotherapy referral. A neuropsychological evaluation was ordered to investigate his difficulty with concentration. At follow up, the patient had reduced depression and anxiety and improved self esteem, with PHQ9 score of 1 and GAD 7 score of 1. However, he did not feel he had decreased his screen time and still estimated it to be 14 h per day. The patient canceled his neuropsychological evaluation and indicated that he would not reschedule.

3. Discussion

Our patient experienced intensified risk factors for IGD that were also experienced globally throughout the COVID-19 pandemic. Pandemic mitigation techniques such as social distancing and online

schooling increased consumption of online games dramatically in 2020.¹⁶ Surges in psychological stress from the COVID-19 illness and drastic alteration of everyday life also led to significant increases in the rates of anxiety, depression and post-traumatic stress disorder (PTSD).^{17–19} Social isolation and loneliness are particularly likely to increase depression and anxiety compounding these multiple risk factors for IGD.

Evidence-based treatment for IGD remains problematic. A recent systematic review highlighted the lack of well-designed studies on the effectiveness of treatment modalities, thereby limiting providers to anecdotal reports.²⁰ In a broad review of publications related to IGD and proposed treatments, those most suggested and found to be effective included cognitive behavioral therapy (CBT), family therapy, and motivational interviewing all with or without medication. It has also been noted that to be effective, any treatment modality or combination thereof would likely need to focus more on controlled use, not on strict abstinence.^{21–26} It is in this way that IGD and general “electronic device” or internet addiction (IA) treatment is set apart from substance abuse disorders. Therefore, even in the case of our patient, who led a productive and healthy life with internet gaming as a part of it, up to the tipping point when it became an addiction, complete abstinence was not recommended.

Similar to treatment of other behavior-based addictions, recommendations focus on a treatment plan that encompasses psychosocial interventions. In screening for IGD and prior to initiating treatment, it is important to diagnose and treat psychosocial and behavioral comorbidities such as attention deficit hyperactivity disorder (ADHD), PTSD, anxiety and depression.^{24,25} As with smoking cessation, it is important for providers to follow the patient's level of motivation and meet them where they are, validating their readiness for change and illuminating the possible negative effects that IGD is having on the patient's personal and professional life. Relapse is likely, and can be a normal part of recovery. It is important that clinicians continually educate their patients on coping mechanisms and ensure that plans for relapse prevention and treatment are in place.^{24,27}

While there are no medications explicitly approved for the treatment of behavioral addictions, bupropion, methylphenidate and escitalopram have all been examined for this purpose alone and in concert with other therapeutic modalities.^{24,27} To date studies evaluating these medications included small sample sizes and have not been double

blinded, though a few have been randomized control trials. Escitalopram has not been shown to have a significant effect on IGD or IA.^{20,25} As comorbidities such as ADHD and depression/anxiety have a higher correlation with IGD, bupropion and methylphenidate both show promise in treatment of IGD.^{20,25} Studies of bupropion demonstrate decreased cravings and methylphenidate, used specifically to treat minors diagnosed with ADHD that had not been medicated previously, was able to significantly decrease the amount of time they spent using the internet.^{20,25}

Internet Gaming Disorder is a potential new behavioral addiction that is likely to increase in prevalence over the continuing course of the COVID-19 pandemic. While initial studies show promising effects of medication and psychosocial interventions, further study on standardized diagnostic criteria and effectiveness of treatment modalities is needed.

References

1. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders fifth edition DSM-5TM*. Arlington: American Psychiatric Association; 2013.
2. Petry NM, Rehbein F, Ko CH, et al. Internet gaming disorder in the DSM-5. *Curr Psychiatr Rep*. 2015;17:72.
3. Lemmens JS, Valkenburg PM, Gentile DA. The internet gaming disorder scale. *Psychol Assess*. 2015 Jun;27(2):567–582.
4. Bickham DS. Current research and viewpoints on internet addiction in adolescents. *Curr Pediatr Rep*. 2021 Jan 9:1–10.
5. Paulus FW, Ohmann S, von Gontard A, Popow C. Internet gaming disorder in children and adolescents: a systematic review. *Dev Med Child Neurol*. 2018;60:645–659.
6. Desai RA, Krishnan-Sarin S, Cavallo D, Potenza MN. Video-gaming among high school students: health correlates, gender differences, and problematic gaming. *Pediatrics*. 2010; 126(6):e1414–e1424.
7. Festl R, Scharnow M, Quandt T. Problematic computer game use among adolescents, younger and older adults. *Addiction*. 2013;108(3):592–599.
8. Van Rooij AJ, Kuss DJ, Griffiths MD, Shorter GW, Schoenmakers MT, Van de Mheen D. The (co-)occurrence of problematic video gaming, substance use, and psychosocial problems in adolescents. *J Behav Addict*. 2014;3(3):157–165.
9. Ko CH, Yen JY, Chen CS, Yeh YC, Yen CF. Predictive values of psychiatric symptoms for Internet addiction in adolescents: a 2-year prospective study. *Arch Pediatr Adolesc Med*. 2009; 163(10):937–943.
10. Rehbein F, Kleimann M, Mössle T. Prevalence and risk factors of video game dependency in adolescence: results of a German nationwide survey. *Cyberpsychol, Behav Soc Netw*. 2010;13(3):269–277.
11. Romer D, Bagdasarov Z, More E. Older versus newer media and the well-being of United States youth: results from a national longitudinal panel. *J Adolesc Health*. 2013;52(5):613–619.
12. <https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome—mental-health>. Accessed April 13, 2021.
13. <https://www.businesswire.com/news/home/20200328005018/en/Games-Industry-Unites-to-Promote-World-Health-Organization-Messages-Against-COVID-19-Launch-PlayApartTogether-Campaign>. Accessed April 15, 2021.

14. Snodgrass JG, Lacy MG, Dengah HF, Eisenhauer S, Batchelder G, Cookson RJ. A vacation from your mind: problematic online gaming is a stress response. *Comput Hum Behav.* 2014;38:248260.
15. Masaeli N, Farhadi H. Prevalence of Internet-based addictive behaviors during COVID-19 pandemic: a systematic review. *J Addict Dis.* 2021 Mar 22:1–27.
16. Ko CH, Yen JY. Impact of COVID-19 on gaming disorder: monitoring and prevention. *J Behav Addict.* 2020 Jun 6;9(2): 187–189.
17. Souza ASR, Souza GFA, Souza GA, et al. Factors associated with stress, anxiety, and depression during social distancing in Brazil. *Rev Saude Publica.* 2021;55:5.
18. Talevi D, Succi V, Carai M, et al. Mental health outcomes of the CoViD-19 pandemic. *Riv Psichiatr.* 2020;55(3): 137–144.
19. Vindegaard N, Benros ME. COVID-19 pandemic and mental health consequences: systematic review of the current evidence. *Brain Behav Immun.* 2020;89:531–542.
20. Zajac K, Ginley MK, Chang R, Petry NM. Treatments for Internet gaming disorder and Internet addiction: a systematic review. *Psychol Addict Behav.* 2017 Dec;31(8):979–994.
21. Chen KH, Oliffe JL, Kelly MT. Internet gaming disorder: an emergent health issue for men. *Am J Men's Health.* 2018 Jul; 12(4):1151–1159.
22. Derevensky JL, Hayman V, Gilbeau Lynette. Behavioral addictions: excessive gambling, gaming, internet, and smart-phone use among children and adolescents. *Pediatr Clin North Am.* 2019 Dec;66(6):1163–1182.
23. Gentile DA, Bailey K, Bavelier D, et al. Internet gaming disorder in children and adolescents. *Pediatrics.* 2017 Nov; 140(Suppl 2):S81–S85.
24. Greenfield DN. Treatment considerations in internet and video game addiction: a qualitative discussion. *Child Adolesc Psychiatr Clin N Am.* 2018 Apr;27(2):327–344.
25. Jorgenson AG, Hsiao RC, Yen CF. Internet addiction and other behavioral addictions. *Child Adolesc Psychiatr Clin N Am.* 2016 Jul;25(3):509–520.
26. Kuss DJ, Griffiths MD. Social networking sites and addiction: ten lessons learned. *Int J Environ Res Publ Health.* 2017 Mar 17; 14(3):311.
27. Chia DXY, Zhang MWB. A scoping review of cognitive bias in internet addiction and internet gaming disorders. *Int J Environ Res Publ Health.* 2020 Jan 6;17(1):373.