Internet role-play games and their psychiatric implications.

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"The video games were quickly embraced by the public right after their advent in 1972 by Magnavox Odyssey (1). The advent of the Internet in 1983 significantly further boost the advancement, from the previous version of hardware platform-based (PlayStation, Xbox, Nvida Shield) to current RPGs and MMORPGs. Soon, behavioural problems and dysfunction were noticed, and DSM 5 and ICD-11 classified them into Internet Gaming Disorder (IGD) and Gaming Disorder (GD) respectively.

All genres of internet games are equally addictive but the more advanced genre, such as Battle Royale Games (BRGs) and Role-Playing Games (RPGs), are more addictive (2).

In RPGs a players assume the role of a character in a fictional setting, usually narrated around traditional fantasy or sci-fi elements in contrast to other games. There a variety of RPGs are available such as early videogame consoles, single-player RPGs, Massive Action RPGs, Sandbox RPGs, Tactical RPGs, Roguelike RPGs, and Multiplayer Online RPGs (MMORPGs).

In the massively multiplayer online role-playing game (MMORPGs) player has the liberty to create a player avatar interacting with others in a much more realistic virtual setting. The Avatar can be a realistic or imaginative self-representation that exits both online or offline and acquire new skills and maturation. MMORPGs are the most socially engaged internet game till now associated with addictive potential more than first-person shooter (FPS) and real-time strategic (RTS) games (2) Examples of RPGs are WOW (World of Warcraft), 2007Scape, Final Fantasy XIV: Stormblood, Dungeons & Dragons and Vampire: The Masquerade

The psychological aspect of BRGs & RPGs:

The advanced gaming technologies enabling role-play as 'avatar', interactions and socialization in a virtual world can potentially temper and alter our perception of self and the real world. The psychology of motivation works complexly for an individual; the game provides or compensates for one's inner needs. For instance, a person with hostile tendencies, poor social skills or social anxiety may have a strong urge to escape from real social situations and may find the virtual world more accommodating (3). Gaming motivation is a strong predictor for problematic gaming than the actual duration of gaming (4). The two primary motivations, obsessive and harmonious,

play a crucial role in problematic gaming: both lead to feelings of achievement and socialization (4). Achievement and socialisation are strong motivational forces, along with Immersion, relaxation, and escape (5). Problematic gaming has stronger associations with Obsessive than harmonious motivation (5). Harmonious motivation or passion correlates with positive emotion while gaming, leading to an association with exploration (6). The motivations of simply wanting to be "immersed" in the game or to relax do not appear to be reliable predictors of addiction (5). To avoid routine everyday hassles and distress, the 'negative escapism' corresponds to playing being negative reinforcement and is also shown as a motivational factor for MMORPGs—socialisation and exploration rank high among MMOR players' interests. Achievement is a lesser motivator, followed by identifying with an avatar and escaping from reality (3).

Neurobiology of RPGs:
Psychometric studies suggest that observed self-concept deficits in an addicted massively multiplayer online role-playing game (MMORPG) are compensated through the replacement of their ideal self by their avatar (i.e., graphical agent in the virtual world). Neurobiological studies indicate that increased identification with their avatar in regular MMORPG gamers is possibly reflected by enhanced avatar-referential brain activation in the left angular gyrus (AG). The studies based on functional magnetic resonance images (fMRI) showed significantly higher brain activation of the left angular gyrus (AG) compared to non-addict MMORPGs players (7).

MMORPGs addicts showed a greatly extended negative body image and lower gender identity levels, as well as decreased bilateral brain activations in the AG and the middle occipital gyrus during self-perception. During avatar perception, they exhibited higher activations in the left AG (8).

There are left AG hyperactivations in Internet gamers during avatar reflection and a correlation with symptom severity. Striatal hypoactivation during self-reflection (vs ideal reflection) was observed in social network users and was correlated with symptom severity. Hence, RPGs liked to increase identification with one's Avatar, evidenced by high left AG activation and emotional regulation deficit reflected by reduced activation during self-reflection in pathological gamers (9).

Psychological benefits from BRGs & RPGs:

IGD has many detrimental effects, yet playing moderately while keeping other goals in mind might have positive influences. Moderate gaming in a non-harmful pattern has also been shown to have several cognitive, emotional, and social benefits (10).

Role-playing games potentially foster various cognitive skills; players exhibit quicker and more precise attentional allocation and more visual spatial resolution (11). RPGs improve problem-solving, boost creativity, and improve self-efficacy and perceived competence (11).

Video games provide a perfect learning environment for developing an incremental theory of intelligence because they give players quick, concrete feedback on the efforts they have made. This motivating behaviour may be applied professionally and academically(11). Research has demonstrated a link between playing favourite video games and mood improvement or increased happy sentiment (12). As players learn the advantages of handling frustration and anxiety in adaptive ways, playing games may encourage the capacity to reappraise emotional events

flexibly and effectively. By playing different roles and experiencing different perspectives, players can learn to understand and empathize with others (13). RPGs need quick judgements on who to trust, who to avoid, and how to manage a group best. Given these immersive social circumstances, gamers quickly pick up social skills and prosocial behaviour that may transfer to their interactions with peers and family outside the gaming environment. The capacity to lead organisations and like-minded individuals in social issues is another way that social skills are demonstrated in civic involvement (14).

RPGs were also used as therapeutic tools in psychodrama and drama therapy; psychodrama therapy involves patients under supervision dramatizing several scenes, such as specific happenings from the past, often with help from a group, enabling them to reflect on and explore alternative ways of dealing with them (15).

The causative relationship of RPGs with childhood-onset psychiatric disorders is not fully understood. Extensive research on associated risk factors and protective factors for IGD revealed that male gender, underline depression, stress, anxiety, hostility, aggression, impulsivity, escape motivation, and low self-esteem were strong risk factors for IGD. At the same time, age, intelligence, education, and life satisfaction were protective factors for IGDs (16). The excessive playing of RPGs can lead to internet addiction, the risk of depression, anxiety, insomnia, and social withdrawal. Hence, RPGs do not directly lead to psychiatric conditions per se but underline personality factors; individual susceptibility plays a crucial role in eventually developing an overt psychiatric condition.

Hence we can conclude that RPGs are found to have potential psychological and therapeutic benefits in clinical settings. We need to identify high-risk candidates for having potential mental health hazards and addictive behaviour for the earliest interventions.

Reference:

1.   Latham AJ, Patston LLM, Tippett LJ. The virtual brain: 30 years of video-game play and cognitive abilities. Front Psychol [Internet]. 2013;4. Available from: http://journal.frontiersin.org/article/10.3389/fpsyg.2013.00629/abstract

2.   Chen A, Mari S, Grech S, Levitt J. What We Know About Massively Multiplayer Online Role-Playing Games. Harv Rev Psychiatry [Internet]. 2020 Mar;28(2):107–12. Available from: https://journals.lww.com/10.1097/HRP.0000000000000247

3.   Hagström D, Kaldo V. Escapism Among Players of MMORPGs—Conceptual Clarification, Its Relation to Mental Health Factors, and Development of a New Measure. Cyberpsychology, Behav Soc Netw [Internet]. 2014 Jan;17(1):19–25. Available from: http://www.liebertpub.com/doi/10.1089/cyber.2012.0222

4.   Kuss DJ, Louws J, Wiers RW. Online Gaming Addiction? Motives Predict Addictive Play Behavior in Massively Multiplayer Online Role-Playing Games. Cyberpsychology, Behav Soc Netw [Internet]. 2012 Sep;15(9):480–5. Available from: http://www.liebertpub.com/doi/10.1089/cyber.2012.0034

5.   Zanetta Dauriat F, Zermatten A, Billieux J, Thorens G, Bondolfi G, Zullino D, et al. Motivations to Play Specifically Predict Excessive Involvement in Massively Multiplayer Online Role-Playing Games: Evidence from an Online Survey. Eur Addict Res. 2011;17(4):185–9.

6. Vallerand RJ. On the psychology of passion: In search of what makes people's lives most worth living. Can Psychol / Psychol Can [Internet]. 2008 Feb;49(1):1–13. Available from: http://doi.apa.org/getdoi.cfm?doi=10.1037/0708-5591.49.1.1

7. Dieter J, Hill H, Sell M, Reinhard I, Vollstädt-Klein S, Kiefer F, et al. Avatar's neurobiological traces in the self-concept of massively multiplayer online role-playing game (MMORPG) addicts. Behav Neurosci [Internet]. 2015 Feb;129(1):8–17. Available from: http://doi.apa.org/getdoi.cfm?doi=10.1037/bne0000025

8. Leménager T, Dieter J, Hill H, Koopmann A, Reinhard I, Sell M, et al. Neurobiological correlates of physical self-concept and self-identification with avatars in addicted players of Massively Multiplayer Online Role-Playing Games (MMORPGs). Addict Behav [Internet]. 2014 Dec;39(12):1789–97. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0306460314002287

9. Leménager T, Dieter J, Hill H, Hoffmann S, Reinhard I, Beutel M, et al. Exploring the Neural Basis of Avatar Identification in Pathological Internet Gamers and of Self-Reflection in Pathological Social Network Users. J Behav Addict [Internet]. 2016 Sep;5(3):485–99. Available from: https://akjournals.com/doi/10.1556/2006.5.2016.048

10. Baker IS, Turner IJ, Kotera Y. Role-play Games (RPGs) for Mental Health (Why Not?): Roll for Initiative. Int J Ment Health Addict [Internet]. 2022 May 11;1–9. Available from: http://www.ncbi.nlm.nih.gov/pubmed/35578675

11. Granic I, Lobel A, Engels RCME. The benefits of playing video games. Am Psychol [Internet]. 2014 Jan;69(1):66–78. Available from: http://doi.apa.org/getdoi.cfm?doi=10.1037/a0034857

12. Ryan RM, Rigby CS, Przybylski A. The Motivational Pull of Video Games: A Self-Determination Theory Approach. Motiv Emot [Internet]. 2006 Dec 12;30(4):344–60. Available from: http://link.springer.com/10.1007/s11031-006-9051-8

13. Aldao A, Nolen-Hoeksema S, Schweizer S. Emotion-regulation strategies across psychopathology: A meta-analytic review. Clin Psychol Rev [Internet]. 2010 Mar;30(2):217–37. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0272735809001597

14. Gentile DA, Anderson CA, Yukawa S, Ihori N, Saleem M, Lim Kam Ming, et al. The Effects of Prosocial Video Games on Prosocial Behaviors: International Evidence From Correlational, Longitudinal, and Experimental Studies. Personal Soc Psychol Bull [Internet]. 2009 Jun 25;35(6):752–63. Available from: http://journals.sagepub.com/doi/10.1177/0146167209333045

15. Kedem-Tahar E, Felix-Kellermann P. Psychodrama and drama therapy: A comparison. Arts Psychother [Internet]. 1996 Jan;23(1):27–36. Available from: https://linkinghub.elsevier.com/retrieve/pii/0197455695000593

16. Ropovik I, Martončik M, Babinčák P, Baník G, Vargová L, Adamkovič M. Risk and protective factors for (internet) gaming disorder: A meta-analysis of pre-COVID studies. Addict Behav [Internet]. 2023 Apr;139:107590. Available from: https://linkinghub.elsevier.com/retrieve/pii/S0306460322003562