

The Therapeutic Potential of Gaming - Body and Mind Benefits

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Marlies P. Schijven^{1,2,3} and Toshiko Kikkawa⁴

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Dear readers of Simulation and Gaming

Gaming, once perceived merely as a recreational activity, has emerged as a potential therapeutic tool for enhancing both physical and mental well-being. Recent studies are shedding new light on the benefits of gaming for the body and mind. Indeed, we may assume gaming has influence on the development of the brain, both for youngsters –promoting better hand/eye coordination, as for seniors –improving memory and recall capacity. But do we really know what health parameters are positively impacted when gaming, and for whom? What evidence is there, and how to advise healthcare professionals on the lookout to incorporate gaming, including exergaming, into patient care best?

In healthcare, the perception on gaming is shifting from being merely a leisure activity to a multifaceted intervention with potential health benefits. Recent studies have explored the positive impact of gaming on physical fitness, cognitive function, and brain development. And increasingly, healthcare professionals are urged to consider gaming, particularly exergaming, as a complementary approach to promote overall well-being.

¹University of Amsterdam, the Netherlands

²Amsterdam UMC, the Netherlands

³Amsterdam UMC, the Netherlands

⁴Keio University, Japan

Now what are the benefits for the body and mind?

One may categorize benefits into different categories. Perhaps most obvious to relate to is the impact of gaming on one's physical state.

Exergaming, a fusion of exercise and gaming, has gained prominence for its ability to enhance physical fitness. Studies have indeed demonstrated that activities such as dance-based games or virtual sports contribute to cardiovascular health, muscle strength, and coordination (Blanco-Peris, et al., 2022). But this also occurs as a mere 'side effect' of playing for fun, looking at a popular game as Pokémon Go. Indeed, and although not developed for it, playing Pokémon Go may be reviewed as a true exergame, not only impacting sedentary behavior, but also improving and affecting physical mobility. Playing Pokémon Go influences one's physical activity markedly, from a systematic literature study including 59 out of 1534 studies we know, it also contributes significantly to player's psychological health and social outcomes (Lee et al., 2021). For health care professionals, this is important to realize. It does not have to be very difficult to advise someone to adhere to therapy, to lose weight, or to stabilize peripheral arterial disease. Exergaming using something as simple as Pokémon Go can validly be suggested as part of rehabilitation programs, offering a dynamic and engaging way for patients to regain or maintain physical health and function.

What is more: Pokémon Go is a prime example of gaming as it supports the player to engaging into various cognitive functions as well, such as attention, memory, and problem-solving. Maybe the 'Go' addendum to the game-version of Pokémon in app modality, has been chosen deliberately, to 'go out'. But it also has a connotation towards another game, the ancient board game Go- invented around 2000 B.C. and still holding its allure and value to date. Research indicates that strategic and immersive games can positively impact executive functions and may potentially serve as a cognitive training tool for certain populations, including the elderly (Anguera, et al., 2016). Mastering the game of GO, still to date, is viewed as the most challenging of classic games, benefiting the cognitive functions tremendously of the player (Silver, et al., 2016; Ishizuka, et al, 2018).

And as for social interaction and mental health: especially multiplayer games foster social interaction, as this provides the player a virtual platform to connect and collaborate. Playing together is associated with improved mental health outcomes, including reduced feelings of loneliness and enhanced mood (Cheng & Eberahimi, 2023). And thus, playing can be a very powerful tool to combat the current epidemic of loneliness and not being included to date. Maybe that is key in understanding why so many youngsters in the adolescent age enjoy choosing an avatar and spending hours and hours online.

What about the effects on the brain development itself of those playing adolescents? It is known that the neuroplasticity of the brain allows it to adapt and reorganize based on experiences, and that noncognitive-based video gaming has been shown to influence this process. Studies utilizing neuroimaging techniques demonstrate structural and functional changes in the brain regions associated with attention, spatial awareness, and

memory in gamers, already starting from a minimum of 16 hours of training (Brillant, Nouchi, & Kawashima, 2019).

Now are there no down-sides of gaming at all? While the benefits of gaming are evident, it is crucial to acknowledge potential risks. Prolonged sedentary gaming not requiring to go out, may contribute to musculoskeletal issues and obesity, emphasizing the importance of moderation. Additionally, individuals with pre-existing mental health conditions may need careful consideration, as excessive (war-)gaming is suggested by some to trigger or exacerbate certain issues reinforcing character traits.

Dear readers. Your editors feel that gaming, when approached mindfully, has the potential to be a valuable tool in promoting physical, mental and social well-being. And that healthcare professionals should embrace the evolving landscape of therapeutic interventions and consider incorporating gaming, including exergaming, into their practice. Once carefully researched on benefits and doubts, we can all harness the benefits of this versatile medium, promoting health and well-being.

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Author Biographies

Marlies P. Schijven, MD PhD MHSc, is a professor of surgery with vast expertise in the simulation and gaming field for medical education. She is the former president of the Dutch Society for Simulation in Healthcare (DSSH), longtime member of SSH (Society for Simulation in Healthcare) and SESAM (European Society for Simulation) and president of the WATCH society (wearable technology in healthcare). She is the former Chief Medical Information Officer of the Dutch Government, and national lead on eHealth. Contact: m.p.schijven@amsterdamumc.nl

Toshiko Kikkawa, PhD is a professor at Keio University social psychologist and specializes in S&G and risk communication. She has been in the position of a vice-chair of the Japanese Association of Simulation and Gaming (JASAG) from 2015 to 2023 and was the Executive Board member of the International Simulation and Gaming Association (ISAGA) from 2012 to 2016. Contact: toshiko.sg@gmail.com