

Navigating the nexus between a gamified exercise platforms and exercise rehabilitation

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Exercise rehabilitation training provides a multitude of benefits for both physical and mental well-being, yet it does present certain drawbacks. One drawback is that solitary workouts or the absence of exercise-related social interactions can result in social isolation for certain individuals. Furthermore, feelings of psychological anxiety prior to engaging in an exercise rehabilitation program, as well as the potential for injuries during the rehabilitation journey, can contribute to psychological withdrawal. Specifically, the rehabilitation training process is often perceived as somewhat monotonous and unengaging. Recently, exercise rehabilitation programs using the metaverse are being utilized in various fields related to diseases and disorder. In particular, rehabilitation robots are being employed in the recovery process of patients with disabilities, such as walking, standing, and balancing (Jee, 2022). When combining these metaverse technologies with robot-assisted exercise rehabilitation (Jee, 2023), it is believed that not only can the social isolation of patients be reduced, but also psychological distress and boredom.

Gamified exercise platforms leverage game-like elements to motivate users to engage in physical activity and lead a healthier lifestyle. Gamified exercise platforms can be easily applied and adapted to the field of exercise rehabilitation as well. It is anticipated that this approach will be effective in mitigating the social isolation and psychological tedium mentioned previously. These platforms come in various forms, catering to different preferences and fitness goals. Here are some types of gamified exercise platforms. To begin with, there exist gamified fitness applications that incorporate elements of gamification, such as challenges, rewards,

and leaderboards, to inspire users. Notable instances include Fitbit, MyFitnessPal, and Strava. Secondly, there are virtual reality fitness games that enable users to engage in physical activities within immersive virtual environments. Examples of such games include Beat Saber, BoxVR, and Supernatural. In the third category, exergaming consoles like Nintendo Wii, Xbox Kinect, and PlayStation Move offer an interactive gaming experience that encourages players to stay active by physically engaging with the game. This not only enhances the enjoyment factor but also promotes physical exercise. Moreover, mobile augmented reality games, interactive workout equipment such as Peloton and Echelon, fitness role-playing games (RPGs) apps like Habitica and FitRPG, gamified training platforms like Zwift and Rouvy, as well as brain-body integration games like NeuroTracker, all contribute to enhancing both psychological well-being and physical performance. These gamified exercise platforms cater to a wide range of fitness levels and preferences, making it easier for individuals to stay motivated and engaged in their fitness routines. Users can choose the platform that aligns with their interests and goals to make exercise more enjoyable and sustainable.

Exercise rehabilitation can serve as the foundational starting point for individuals with intellectual or physical disabilities. However, it has recently expanded its scope to encompass a broad array of areas, including enhancing the quality of life, improving compromised physical abilities resulting from aging, illness, or injury, and facilitating the performance of daily tasks by elevating overall fitness levels. Furthermore, when a gamified platform is introduced into the field of exercise rehabilitation, it has the potential to am-

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plify the positive effects. In 2020, Charles et al. (2020) reported that the integration of virtual reality technology and gamified exercise platforms has the potential to render rehabilitation more captivating and motivating. They also highlighted the role of artificial intelligent algorithms in enhancing virtual reality experiences by tailoring them to individual patient performance and progress. Beyond the points mentioned earlier, exercise rehabilitation is anticipated to experience the incorporation of additional elements that will be integrated with upcoming technologies, including gamified exercise platforms. These innovations should be leveraged to further elevate the field of exercise rehabilitation. Navigating the intersection of gamified exercise platforms and exercise rehabilitation involves exploring the connections and potential synergies between these two domains. This involves comprehending how gamification elements can be skillfully incorporated into rehabilitation programs to boost engagement, motivation, and overall results for individuals undergoing rehabilitation.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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