Chapter 5
Virtual Reality in Physical Education:
An Innovative Approach to Optimize Physical and Mental Health

Er D. Petil
https://orcid.org/0009-0003-9536-8907
Manila Central University, Philippines

Marie Elaine Abad Florece
https://orcid.org/0009-0001-4197-1917
Ateneo de Naga University, Philippines

Marie Grace A. Gomez
https://orcid.org/0000-0003-0180-9875
Northern Iloilo State University, Philippines

Kenith B. Villaruel
https://orcid.org/0000-0002-2403-8252
Northern Iloilo State University, Barotac Viejo, Philippines

Helen Grace Concepcion Q. Fernandez
https://orcid.org/0009-0008-5779-2383
University of the Philippines Visayas, Philippines

Carl Michael B. Dela Cruz
https://orcid.org/0009-0003-0938-2834
San Beda College Alabang, Philippines

Roselie B. Ferrer-Rafols
https://orcid.org/0009-0007-2883-1788
Liceo de Cagayan University, Philippines

ABSTRACT

Research has shown that Virtual Reality (VR) can be successful as an aid in ther-

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apy in addressing specific mental health conditions such as anxiety disorders, stress-related disorders, and depression. Through the immersive and interactive VR experience, individuals can confront and overcome challenges in a safe and controlled setting. Beyond its applications in mental health, VR is proving to be a highly effective tool in physical therapy. It has been used to aid in the rehabilitation of patients with stroke and other conditions, demonstrating its potential to improve patient outcomes significantly. VR is also effective in promoting physical exercise and reducing pain. As applied in Physical Education (PE), VR provides an alternative method for teaching movement, activity, or sports through an interactive and three-dimensional experience, potentially enhancing learner's performance in the subject and engagement in class.

INTRODUCTION

The COVID-19 pandemic has demonstrably contributed to the upsurge in physical and mental health concerns. It created a domino effect as people lost their jobs, businesses closed or went bankrupt, and school operations were halted. This unpredictability caused people to become overwhelmed. As the world experienced massive restrictions, people of all ages experienced social isolation and loneliness, resulting in emotional setbacks (Ofosu-Ampong et al., 2024). It also disproportionately amplified those who have pre-existing mental health conditions and instigated new psychosocial concerns for some (Bezerra et al., 2020; Gao et al., 2020; Varma et al., 2021). Although COVID-19 advisories were lifted, its "after effects" on mental health continued (Arena et al., 2023; Jamshaid et al., 2023; Kathirvel, 2020).

Contributing further to these mental health concerns is the rapid technological advances brought by the fourth and fifth industrial revolutions, where many people still confront the challenges of the Volatile, Uncertain, Complex, and Ambiguous (VUCA) world (Luthans & Broad, 2022). Excessive reliance on gadgets post-pandemic worsened among children and adolescents, resulting in increased cases of anxiety. Stress was also evident for these vulnerable groups as family relationships were affected since concerns and needs were infrequently verbalized (Barbieri et al., 2024). Similarly, increasing cases of anxiety and stress were also reported by those in the helping professions (Umbetkulova et al., 2023).

As every individual's lifestyle became sedentary during the pandemic, movement scientists suggest that regular physical activities can help alleviate signs of depression and stress and improve mood in general. Although mainstream mental health interventions such as medications and psychotherapy were in demand (Every-Palmer et al., 2023), others would prefer conservative alternatives in addressing their mental health concerns. Allied health professionals (e.g., physical therapists) utilize Virtual