Chapter 4
Advancing Health Literacy in the Technological Era:
The Role of Serious Games in Promoting Body Awareness Among Older Adults

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ABSTRACT

Body awareness is a relevant concept for healthy aging related to movement harmony, and consists of different connections between different body functions. Balance regulation depends on the integrity of proprioception and strength in different parts of the body. New approaches to promote body awareness literacy are vital and game-based active techniques represent one of the important solutions. This chapter results from a narrative literature review, and it intends to a) explore body awareness determinants and their relevance for health literacy in the aging process; and b) discuss new approaches for developing programs in body awareness literacy, exploring game-based active techniques. The user-centered approaches, like serious games, can facilitate health education, and improve health literacy and body awareness, maximizing health outcomes in older people. This chapter seeks to offer innovative health education strategies, equipping older adults with tools to improve body awareness and well-being through interactive game-based methods.

INTRODUCTION

Worldwide demographic changes present a tremendous challenge that often leads to complex health problems. These include an increase in non-communicable diseases and functional disabilities, which necessitates new care systems and healthcare delivery methods (WHO, 2015, 2019, 2020). Projections are not optimistic, indicating a rise in the population aged 60 years or older from 1.4 billion in 2023 to 2.1 billion by 2050. Furthermore, the number of individuals aged 80 years or over is expected to triple, reaching 426 million by 2050 (Rudnicka et al., 2020; WHO, 2020). The aging process involves various physiological and multisystemic changes, including physical and mental declines. These changes impact body awareness, especially in the decline of proprioceptive functions, and increase the risk of falling—a major health issue in aging populations (Ferlinc et al., 2019; WHO, 2018). Given the importance of body awareness in health literacy during aging, training in this area could improve health decision-making capacity (Nash & Arora, 2021; Oh et al., 2021) and empower individuals in self-assessment and bodily connection (Kang & Kim, 2022). Health literacy and physical activity can alleviate the burden of aging and promote healthy aging (WHO, 2015). Therefore, examining innovative literacy programs that address these issues is crucial.

Literature supports a variety of acceptable interventions for body awareness, ranging from physical exercise programs, low-impact/velocity exercise, and creative exercise to massage, combined physiotherapy treatments, specific physiotherapy methods, and game-based interventions. This wide range of program conceptualizations for body awareness interventions presents a challenge for future research, particularly in developing related literacy programs. The main outcomes related to body awareness are also diverse, including static and dynamic balance, psychological health, mood, fear of falling, and body behavior in functional activities (Alamer et al., 2020; Mehling et al., 2009; Nawaz et al., 2015). In recent years, there has been increasing interest in exploring game-based interventions in gerontology. Older adults who begin playing games for rehabilitation purposes often feel motivated for extended periods (up to or more than 10 weeks), promoting long-term engagement in healthcare processes. Generally, elderly individuals involved in these programs report that the gaming experience meets their expectations (Nawaz et al., 2015). Considering the aging challenge in this new era, with evolving features in health systems and healthcare opportunities (Kazi, 2024; Patibandla et al., 2024), it is vital to reflect on the best and most effective strategies to address this burgeoning threat.

MAIN FOCUS OF THE CHAPTER

This chapter explores the commonly overlooked aspect of healthy aging paradigms: body awareness, its determinants, and its significance for health literacy in the aging process. It aims to discuss innovative approaches for developing body awareness literacy programs, with a focus on game-based active techniques specifically designed to promote well-being, healthy aging, active aging awareness, and body awareness. The chapter begins by explaining how maintaining body awareness can contribute to health literacy, particularly emphasizing physical literacy. Intriguingly, this chapter examines the evolution of the concept of body awareness over time, discussing various frameworks and constructs found in the literature. It covers a topic that has seen almost four decades of research and holds special importance in the context of aging. Additionally, the chapter investigates the impact of body awareness on different dimensions for elderly individuals, all of which are crucial for healthy aging. Professionals or specialists

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