OPTOMETRY AND eSPORTS: EYE TRACKING AND PERFORMANCE IN GAMERS

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Abstract

The combination of optometric science with the field of eSports is creating new opportunities for improving gamer performance using eye tracking and visual training. This review considers recent literature detailing the role of vision in eSports, with emphasis on optimizing performance in rapidly developing virtual environments using optometric instruments and tests. Through examination of data from recent research, we examine how visual abilities like fixation stability, saccadic effectiveness, peripheral perception, and the quiet eye effect contribute to success in gaming and how optometry can benefit both professional and amateur gamers. The growing application of eye tracking technology offers researchers and clinicians real-time information on visual behaviour, allowing for accurate measurement of eye movement strategies that distinguish novices from experts. Moreover, the use of performance vision training and vision therapy in eSports offers a potential solution to alleviate visual fatigue, improve visual processing, and avoid injury from extensive screen exposure. This review calls attention to the increasing importance of optometric science in the field of digital sports and emphasizes the necessity of interdisciplinary collaborations between eye care professionals, researchers, and game developers to promote sustainable and high performance gaming habits.