Application of Virtual Reality Methods to Obesity Prevention and Management Research

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Abstract

There is a great need for empirical evidence to inform clinical prevention and management of overweight and obesity. Application of virtual reality (VR) methods to this research agenda could present considerable advantages. Use of VR methods in basic and applied obesity prevention and treatment research is currently extremely limited. However, VR has been employed for social and behavioral research in many other domains where it has demonstrated validity and utility. Advantages of VR technologies as research tools include the ability to situate hypothetical research scenarios in realistic settings, tight experimental control inherent in virtual environments, the ability to manipulate and control any and all scenario elements, and enhanced behavioral measurement opportunities. The means by which each of these features could enhance obesity prevention and management research is discussed and illustrated in the context of an example research study. Challenges associated with the application of VR methods, such as technological limitations and cost, are also considered. By employing experimental VR methods to interrogate clinical encounters and other health-related situations, researchers may be able to elucidate causal relationships, strengthen theoretical models, and identify potential targets for intervention. In so doing, researchers stand to make important contributions to evidence-based practice innovation in weight management and obesity prevention.

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Abbreviations: (VR) virtual reality

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