

Chapter 60

Video Games as a Form of Therapeutic Intervention for Children with Autism Spectrum Disorders

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ABSTRACT

The use of video games as a therapeutic intervention for children with Autism Spectrum Disorders (ASD) has steadily increased over the past years. Children with ASD tend to show a great interest in and affinity for playing video games for leisure. This chapter explores how researchers have sought to determine if this inherent motivation could be utilized to assist children with autism spectrum disorders in increasing beneficial skills needed for daily life. Video games have, therefore, been used to assist these children in improving social competence for communicative purposes, improve executive functioning skills, and increase a variety of personal performance skills. Although the variety of research studies in this subject area is expanding, there continues to be a lack of empirical research in this area, and small sample numbers of participants in the majority of the existing research. A lack of longitudinal studies, moreover, is problematic as the studies cannot demonstrate if a learned and mastered skill on a video game can carryover and transfer from the video gaming setting to everyday activities.

INTRODUCTION

Video game playing has been noted as both a beneficial and problematic form of leisure for children (Gentile, Choo, Liau, Sim, Li, Fung & Khoo, 2011; Gentile, 2009; Smyth, J.M., 2007;

Nally, Houlton & Ralph, 2000). Playing video games has also been associated with increased sensitivity to visual stimuli (Appelbaum, Cain, Darling & Mitroff, 2013). It has been determined that the playing of video games actually assisted individuals with various medical diagnoses, in-

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creasing the mood and psychological fitness of these individuals as well as decreasing the level of their physical stress. Video gaming technology has, furthermore, been utilized to address improving physical fitness (Lotan, Yalon-Chamovitz & Weiss, 2009; Quinn, 2013). In their study on casual video games and its effect on heart rate variability (HRV) and Electroencephalography (EEG), Russoniello, O'Brien & Parks (2009) determined that video games had positive and beneficial effects on individuals with medical disorders ranging from cardiovascular disease to diabetes and depression. Furthermore, the authors recommended examining the potential benefits of video games for individuals with autism spectrum disorders (Russoniello, O'Brien & Parks, 2009).

Video games are used by a variety of disciplines in therapeutic situations. Speaking about the utilization of video games in therapy, Dr. Ceranoglu (Ceranoglu, 2010, p. 233), a psychiatrist at the Massachusetts General Hospital, stated that, "In psychiatric practice, video games aid in social skills training of children with developmental delays and in cognitive behavioral therapy (CBT)". Since video games are a motivating tool for many children, the idea of using video games to enable children to learn new skills or to increase positive behaviors is of interest to many parents, teachers and therapists alike. Utilizing video game technology for therapeutic purposes is, therefore, a beneficial tool for professionals assisting children with a variety of different deficits and challenges.

AUTISM SPECTRUM DISORDER (ASD)

The use of video game technology to assist children with ASD is considered to be a beneficial tool for a therapist to use in the therapeutic intervention setting. Autism Spectrum Disorder (ASD) is a disorder classified in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V). The diagnostic criteria for this disorder

include these five characteristics (Note: See the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, 2013 for the complete diagnostic criteria):

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following: Deficits in social-emotional reciprocity; Deficits in nonverbal communicative behaviors used for social interaction; Deficits in developing, maintaining, and understanding relationships.

Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text): Stereotyped or repetitive motor movements, use of objects, or speech; Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior; Highly restricted, fixated interests that are abnormal in intensity or focus; Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment.

Symptoms must be present in the early developmental period (but may not become fully manifest until social demands exceed limited capacities, or may be masked by learned strategies in later life).

Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning.

These disturbances are not better explained by intellectual disability (intellectual developmental disorder) or global developmental delay. (DSM-V, 2013, 50-51)

The DSM-V diagnosis of 'autism spectrum disorder' updated and modified the previous diagnoses for individuals with these characteristics, designating that all "individuals with a well-

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