

# Chapter 12

## Virtual Mediums Used as a Conduit for Soft- Skill Development: A Naturalistic and Innovative Approach – Virtual Mediums to Support Soft-Skills

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### ABSTRACT

*The purpose of this chapter is to elucidate the potential of online mediums such as massive multiplayer online role-playing games (MMORPGs) and other virtual immersive mediums that hold the potential to build social connections for individuals with autism and related disabilities. Further, this chapter will relate the skills used in the context of the virtual environments to essential soft-skill development and generalization to participation within inclusive STEM classes and postsecondary education.*

### INTRODUCTION

While the cost of providing social services to adults with an Autism Spectrum Disorder (ASD) approaches \$200 billion annually, opportunities for young adults with ASD to acquire the soft-skills necessary to manage postsecondary education, employment, and independent living remain inadequate. Only 32% of individuals with ASD have a comorbid intellectual disability (CDC, 2016); however, all individuals with ASD experience challenges with social and soft-skills, such as the ability to communicate, work

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on teams, and engage with larger group of peers. These challenges impede postsecondary education, employment, and independent living (APA, 2013; Shattuck et al., 2014). Individuals with ASD hold the lowest wage of all disability categories, have the lowest independent living rate, and 70% drop-out of college before completion (Shattuck, 2013). This is a critical global problem that could be addressed through better interventions and supports for individuals with ASD at the transition age.

## **BACKGROUND**

An increasing number of individuals are being diagnosed with ASD now affecting approximately 1% of the global population (CDC, 2014). Autism has considerable variety and is characterized by the following: (a) persistent deficits in social communication and social interaction across multiple contexts, (b) inability to understand nonverbal communicative behaviors used for social interaction, (c) difficulty developing, maintaining, and understanding relationships, and (d) restricted, repetitive patterns of behavior, interests, or activities (CDC, 2014). Symptoms associated with an ASD are persistent and affect those individuals across their lifespan (APA, 2013).

### **ASD and STEM-Related Careers**

Young adults with ASD choose majors in STEM at a much higher rate than even their typically developing peers without a documented disability (Wei et al., 2013). They often possess unique attributes for success within postsecondary education in STEM fields, such as the ability to: (a) maintain hyper focus on a specific analytic task, (b) think systematically and solve problems objectively without social bias, and (c) conceptualize innovative solutions to complex problems (Baron-Cohen, Wheelwright, Burtenshaw, & Hobson 2007; Fessenden, 2013; Grandin, 2012; Hart & Whalon, 2010; Wei et al., 2013). Additionally, young adults with ASD are often high-ability learners in the areas of STEM (Fessenden, 2013; Grandin, 2012; Hart & Whalon, 2010; Wei et al., 2013). When reflecting on the strengths that young adults with ASD possess, they would be ideal candidates for many positions in a STEM-related career (Baron-Cohen et al., 2007). Unfortunately, according to Grandin (2012), young adults with ASD are missing the opportunity to continue on to postsecondary education experiences and realize their potential to contribute to future science breakthroughs.

Virtual environments hold the potential to close the gap for individuals with ASD as an underrepresented population by providing an environment in which to learn needed social and soft-skills, that is conducive to their learning style. The purpose of social platforms and virtual environments that support interactions with others is to network, establish and maintain friendships (virtually), go on dates, meet new friends, find jobs, and exchange recommendations and news all in the context of a virtual environment (Granic et al., 2014; Rybas & Gijjala, 2007).

### **Impact Related to Intervention Shortage**

There is a dearth of research and innovative interventions focused on the transition needs of young adults with ASD to postsecondary education, specifically related to social skills required to develop friendships that may define support networks and communication skills for employment (Demetrios & Schmitz-Sciborski, 2011). Young adults with ASD face a number of challenges related to their persistent deficit

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