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Review article

The effects of video modeling in teaching functional living skills to persons with ASD: A meta-analysis of single-case studies

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ABSTRACT

Background: Many individuals with autism spectrum disorders (ASD) show deficits in functional living skills, leading to low independence, limited community involvement, and poor quality of life. With development of mobile devices, utilizing video modeling has become more feasible for educators to promote functional living skills of individuals with ASD.
Aims: This article aims to review the single-case experimental literature and aggregate results across studies involving the use of video modeling to improve functional living skills of individuals with ASD.
Methods and procedures: The authors extracted data from single-case experimental studies and evaluated them using the Tau-U effect size measure. Effects were also differentiated by categories of potential moderators and other variables, including age of participants, concomitant diagnoses, types of video modeling, and outcome measures.
Outcomes and results: Results indicate that video modeling interventions are overall moderately effective with this population and dependent measures. While significant differences were not found between categories of moderators and other variables, effects were found to be at least moderate for most of them.
Conclusions and implications: It is apparent that more single-case experiments are needed in this area, particularly with preschool and secondary-school aged participants, participants with ASD-only and those with high-functioning ASD, and for video modeling interventions addressing community access skills.

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What this paper adds?

This paper provides information regarding the conditions under which type of video-based modeling intervention (i.e., Video modeling others, video self-modeling, point-of-view modeling) is most effective. The findings of this current review assist researchers and practitioners in selecting the most appropriate and effective type of video modeling technique to promote functional living skills of individuals with autism spectrum disorders (ASD). Tau effect sizes were calculated for learners' characteristics (i.e., age, diagnosis) and the type of skill targeted for improvement (i.e., skills related to accessing the community, employment skills, self-help skills, house chores).

1. Introduction

The impact of autism spectrum disorder (ASD) is extensive, with public cost estimated to be nearly $3 million per person with ASD (Ganz, 2007), which is exacerbated when considering post-school outcomes. Individuals with ASD are less likely to pursue postsecondary education, vocational training, or be gainfully employed when compared to those with other disabilities (Shattuck et al., 2012; Taylor & Seltzer, 2010). Additionally, they are less likely to live independently, have limited community involvement, and often experience poor quality of life (Billstedt, Gillberg, & Gillberg, 2005; Taylor et al., 2012).

The limited independence common in people with ASD has been highly correlated with deficits in adaptive living skills, also referred to as functional living skills (Farley et al., 2009). Functional living skills encompass a broad range of skills, including self-help skills, community skills, and work skills (Ayres, Lowrey, Douglas, & Sievers, 2011), which are integral for accessing and navigating current and future environments. For instance, one's functional living skills may impact the degree to which the individual is able to participate in inclusive environments such as preschool and general education, employment, and leisure environments. Individuals with ASD are likely to have noticeable deficiencies in functional living skills, typically lower than would be expected given cognitive ability (Flynn & Healy, 2012). Additionally, this gap between functional living skills and cognitive functioning seems to increase as the individual ages (Klin et al., 2007; Lee & Park, 2007).

Improving these outcomes requires school and post-school programming that goes beyond academic outcomes and encompasses independent living, community participation, and vocational training in support of acquisition of functional living skills (Alwell & Cobb, 2009). Unfortunately, educational programming typically does not prioritize functional living skills above, or along with, academically related educational goals (Ninci et al., 2015). With increased federal pressure for students with disabilities to acquire grade level academic skills as demonstrated by annual progress on state-level standardized tests (No Child Left Behind, 2002), instruction in academic skills takes precedence over instruction of skills necessary for independence (Ayres et al., 2011). However, given the link between mastery of functional living skills and level of independence, programming that incorporates systematic implementation of evidence-based practices (EBP) to increase acquisition and fluency of functional living skills is warranted. EBP for ameliorating deficits in functional living skills typically includes procedures such as task-analysis, systematic prompting, modeling, visual support, and feedback (National Autism