



Exploring the impact of disability on self-determination measurement



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ABSTRACT

Background: Self-determination is a psychological construct that applies to both the general population and to individuals with disabilities that can be self-determined with adequate accommodations and opportunities. As the relevance of self-determination-related skills in life has been recently acknowledged, researchers have created a measure to assess self-determination in adolescents and young adults with and without disabilities. The Self-Determination Inventory: Student Report (Spanish interim version) is empirically being validated into Spanish.

Aims: As this scale is the first assessment addressed to all youth, further exploration of its psychometric properties is required to ensure the reliability of the self-determination measurement and gain further insight into the construct when applied to youth with and without disabilities.

Methods: More than 600 participants were asked to complete the scale. The impact of disability on the item response distributions across the dimensions of self-determination was explored.

Outcomes: Differential item functioning (DIF) was found in only 5 of the scale's 45 items. Differences primary favored youth without disabilities.

Conclusions: The weak presence of DIF across the items supports the instrument's psychometrical robustness when measuring self-determination in youth with and without disabilities and provides further understanding of the self-determination construct. Implications and future research directions are also discussed.

What does this paper add?

There is, to date, a wide body of literature supporting that self-determination-related skills are crucial for the development of youth with disabilities and have a direct impact on their quality of life, their transition to adulthood, and their academic engagement. However, the most updated self-determination theoretical framework, Causal Agency Theory (Shogren et al., 2015), endorses that self-determination must be taught to all students, as self-determination-related skills are as relevant to youth with disabilities as to those without disabilities. However, there is scant evidence of the impact of teaching or measuring self-determination in youth with and without disabilities. The present study purports to begin this work by (1) adding evidence on the validation of an instrument addressed to youth with and without disabilities, the Self-Determination Inventory (Spanish interim version), and (2) thoroughly analyzing the impact of the presence of disability when answering the questionnaire. The weak impact of the presence of disability supports the psychometrical robustness of the instrument and provides unique evidence of the underpinnings of measuring self-determination in youth with and without disabilities. The results provide further understanding of the self-determination construct

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through the lens of Causal Agency Theory, strengthening the assumption that self-determination can be measured in all youth using the same instrument.

1. Introduction

Causal Agency Theory (Shogren et al., 2015), a recent reconceptualization of the self-determination theoretical framework, broadens its scope beyond the special education field, where previous self-determination theories are rooted (i.e., the functional theory of self-determination (Wehmeyer, 1999) by enhancing further understanding of how self-determination develops within all individuals (i.e., those with a disability or those without). This theoretical framework aligns with previous research on Self-Determination Theory by Deci and Ryan (2000) in the general population (i.e., those without disabilities) by further building upon Wehmeyer et al.'s (1996) research on people with disabilities. Within Causal Agency Theory, self-determination is conceptualized as a “dispositional characteristic manifested as acting as the causal agent in one’s life” (Shogren et al., 2015, p. 258). Special emphasis is placed on the role of meaningful, self-set goals that guide volitional and agentic actions in turn mediated by action-control beliefs. Thus, self-determination is defined by the three essential characteristics, namely volitional action, agentic action, and action-control beliefs, that an individual utilizes to set and attain goals. *Volitional action* refers to the extent to which a person makes intentional, conscious choices based on preferences and self-initiates goal-setting while using past experiences as a guide. *Agentic action* involves self-directing and managing actions toward a freely chosen goal, which means identifying different pathways to navigate encountered barriers, engaging in goal-directed action, and managing and evaluating actions taken. Finally, *action-control beliefs* relate to recognizing one’s own abilities and believing they will enable goal attainment. Reiterative opportunities (either found or created) to set and attain goals will in turn boost the belief that goal attainment is possible through goal-directed actions and efforts (Shogren, Wehmeyer, & Palmer, 2017a).

As a dispositional characteristic, self-determination is exerted across contexts and settings. Causal Agency Theory does however acknowledge the influence of contexts and educational agents to either foster or thwart opportunities to develop self-determined actions. The critical role of providing learning opportunities and explicitly teaching self-determination-related skills (e.g., problem-solving, decision-making, and goal-setting) is stressed. In learning skills associated with self-determined action, students are then more prone to engage in volitional and agentic actions, in turn building a sense of self-empowerment (i.e., action-control beliefs). To promote the development of volitional action, agentic action, and action-control beliefs, it is critical to accurately plan, adapt, and tailor interventions designed to promote self-determination. Assessments such as the Self-Determination Inventory fulfill this need as they have the potential to guide and inform the decision-making process used in designing instruction to promote self-determination skills. However, most of the existing measures of self-determination are rooted in the functional model of self-determination (Wehmeyer, 1999) and are validated only for children and adolescents with disabilities (e.g., the Arc’s Self-Determination Scale (Wehmeyer & Kelchner, 1995) as it also occurs within the Spanish context (e.g., the ARC-INICO Self-Determination Scale (Verdugo et al., 2015)).

To fulfill the need to measure self-determination through the lens of Causal Agency Theory, Shogren et al. (2017b) began to create the Self-Determination Inventory: Student Report (SDI:SR). The first pool of 45 items that showed psychometrical robustness in the original version of the scale (Shogren et al., 2017b) has recently been translated and is on a course of validation in the Spanish context (Mumbardó-Adam, Guàrdia-Olmos, Giné, Shogren, & Vicente, in press). The process of adapting and validating the SDI:SR (Spanish interim version) involved (1) translating and back-translating the original scale based on Tassé and Craig’s (1999) guidelines; (2) experts revising the items based on clarity, importance, and relatedness within the Spanish language and culture and applying their comments and suggestions to the preliminary version of the scale; (3) pilot testing this version to explore psychometric properties, followed by necessary modifications of the scale; and (4) administering the modified measure with a broader sample to further analyze psychometric properties through structural equation modeling approaches. Overall, the SDI:SR (Spanish interim version) demonstrated acceptable psychometric attributes, with construct validity analysis confirming the alignment of Spanish data with the theoretical model (Mumbardó-Adam et al., in press). Item response theory was also applied to the SDI:SR (Spanish interim version), conveying excellent results in terms of item discrimination, providing additional evidence of the instrument’s psychometric robustness, and identifying potential areas for further development (Mumbardó-Adam, Guàrdia-Olmos, Giné, Raley, & Shogren, 2017). For instance, the autonomy dimension of the scale displayed a wide variability in item functioning, stressing an area for further exploration. Further, configural measurement invariance across students with and without disabilities was established, ascertaining that the same construct was actually measured across all of the participants (Mumbardó-Adam et al., in press).

Although the SDI:SR (Spanish interim version) is intended to measure self-determination in students with and without disabilities, previous research determined that the construct of self-determination tends to be highly impacted by contextual variables, particularly related to the presence of disability (Mumbardó-Adam, Guàrdia-Olmos, Adam-Alcocer et al., 2017). We can affirm that the SDI:SR (Spanish interim version) indeed measures the same latent construct for all students (Mumbardó-Adam et al., in press), although the validation process of an instrument must also establish that the item scores effectively depict the different levels of the construct being measured across the respondents without the undue influence of extraneous variables (e.g., the participants’ gender or disabilities) (Abad, Olea, Ponsoda, & García, 2011). As such, further research is needed to ensure the psychometric robustness of the 45-item pool identified in the pilot American version by examining, at the item level, the impact of disability in the response distributions when assessing self-determination in all youth. In this sense, differential item functioning (DIF) analysis allows for the examination of the items’ distribution among groups (i.e., among adolescents with and without disabilities) and the items’ scores behavior for the respondents with a comparable level of the latent trait being measured (Raykov, Marcoulides, Lee, & Chang, 2013). This difference among groups is defined by an external variable (i.e., the presence of disability) whose effect is estimated to define the

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