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The Role of Autonomy, Self-Realization, and Psychological Empowerment in Predicting Outcomes for Youth with Disabilities

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Abstract

This study examined the degree to which the three of the four essential characteristics of self-determination (autonomy, self-realization, psychological empowerment) predicted quality of life-related adult outcome constructs using secondary analysis of data from the National Longitudinal Transition Study-2 (NLTS2). The pattern of predictive relationship was complex. Most findings were concentrated in a high incidence disability group, with autonomy predicting higher financial independence, employment, social relationships, independent living, and postsecondary education. For those with intellectual disability there was also a positive relationship between autonomy and inclusive residential opportunities. Implications of the complex pattern of findings for research and practice are discussed.

The Role of Autonomy, Self-Realization, and Psychological Empowerment in Predicting Outcomes for Youth with Disabilities

Self-determination has received significant attention in the disability field and been identified as an important outcome of special education supports and services and as a predictor of success in adulthood. Wehmeyer (2006) defined self-determined behavior as "volitional actions that enable one to act as the primary causal agent in one's life and to maintain or improve one's quality of life" (Wehmeyer, 2006, p. 17). Self-determined behavior refers to actions that are identified by four *essential characteristics*: (a) the person acts autonomously; (b) the behavior(s) are self-regulated; (c) the person initiates and responds to the event(s) in a psychologically empowered manner; and (d) the person acts in a self-realizing manner (Wehmeyer, Abery, Mithaug, & Stancliffe, 2003). Researchers have established a link between self-determination and postschool outcomes (Shogren, Wehmeyer, Palmer, Rifenbark, & Little, 2015; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997), including quality of life outcomes (Lachapelle et al., 2005).

Schalock and colleagues (Schalock, Bonham, & Verdugo, 2008; Schalock et al., 2005) empirically validated eight domains of quality of life (emotional well-being, interpersonal relations, material well-being, personal development, physical well-being, self-determination, social inclusion, and rights). The quality of life construct and its eight domains and associated indicators have exerted significant influence over how outcomes are defined and measured, particularly within the intellectual and developmental disability service system (Schalock, Gardner, & Bradley, 2007). Limited research, however, has explored the relationship between self-determination and quality of life outcomes in adolescents and young adults with disabilities as they transition from school to adult life.

The National Longitudinal Transition Study-2 (NLTS2) was funded by the U.S. Department of Education to collect longitudinal information on the secondary and postschool experiences of a nationally representative sample of students with disabilities in the United States across each of the 12 federally recognized disability classifications under the Individuals with Disabilities Education Act (IDEA) at the secondary level (autism, deaf-blindness, emotional disturbances, hearing impairments, intellectual disability, learning disabilities, multiple disabilities, orthopedic impairments, other health impairments, speech or language impairments, traumatic brain injury, visual impairment). NLTS2 collected data over a ten year period from multiple sources, including a direct assessment of academic, social, and psychological functioning while adolescents were still in school.

The NLTS2 direct assessment included 26 of 72 items from *The Arc's Self-Determination Scale* (SDS, Wehmeyer & Kelchner, 1995). The SDS measures global self-determination through assessment of the four essential characteristics of self-determined behavior (autonomy, self-regulation, psychological empowerment, and self-realization). The 26 items included in NLTS2 represented a subset of items from three of the four subscales (autonomy, self-realization, psychological empowerment) of the SDS. In previous work, we demonstrated that a three construct representation of self-determination using NLTS2 data was conceptually and psychometrically sound, but that an overall self-determination construct could not be represented with the existing data (Shogren, Kennedy, Dowsett, & Little, 2013). Thus, the present analyses include three of the four essential characteristics of self-determination as predictors that align with the constructs assessed on the SDS and Wehmeyer's (2003) functional theory of self-determination. This theory defines autonomy as the degree to which a person (a) acts according to their own preferences, interests, and abilities, and (b) free from undue external influence or

interference. Self-realization is described as having a good understanding of your strengths and support needs, and psychological empowerment is defined as a belief in the relationship between your actions and the outcomes you experience (Wehmeyer, 2003)

Shogren et al. (2013) found that disability label impacted relative scores on the autonomy, self-realization, and psychological empowerment constructs in certain IDEA disability classifications represented in NLTS2. After testing multiple conceptual and empirical grouping, several educational classifications could be collapsed into three distinct groups, defined by common disability characteristics and relative scores on the constructs: high incidence disabilities (learning disabilities, emotional disturbances, speech or language impairments, and other health impairments), sensory disabilities (visual and hearing impairments), and cognitive disabilities (autism, multiple disabilities and deaf-blindness). However, students with educational classifications of intellectual disability, traumatic brain injury, and orthopedic impairments could not be collapsed with any other group and remained separate in the Shogren et al. (2013) analyses.

NLTS2 also followed youth after they exited school, collecting data using a structured parent and youth telephone interview or survey across multiple domains related to early adulthood outcomes. Like many national surveys, NLTS2 data collection procedures used individual survey items rather than scales with established reliability and validity and no established scales were used to measure quality of life. However, a number of individual survey items were included that could, conceptually, be linked with quality of life domains. Shogren, Shaw, and Little (in press) used data from the final wave of NLTS2 data collection (up to eight years after youth had exited school) to develop and empirically test the degree to which the individual NLTS2 survey items could be used to define early adulthood outcome constructs

representative of the quality of life domains. Shogren et al. (in press) followed systematic process to identify NLTS2 items conceptually associated with quality of life domains (Schalock, 2000; Schalock et al., 2002; Schalock et al., 2007; Schalock et al., 2005). Initially, across the 8 quality of life domains, 26 subdomains with 151 relevant NLTS2 variables were identified. Each subdomain had between 1 and 15 NLTS2 indicators. Extensive empirical screening of the 26 potential quality of life subdomains led to 10 subdomains (social relationships, financial independence, financial supports, employment, emotional well-being, postsecondary education, independent living, health status, access to services, and advocating for needs) that were identified as viable for further analyses, and showed good fit to the data and measurement invariance across the disability groups. Thus, the final 10 adult outcome construct constructs were much narrower than the broad quality of life domains defined by Schalock and colleagues, and because of this, we defined them descriptively in terms of the outcomes that were measured rather than quality of life domains. Despite these limitations, Shogren et al. (in press) found that the 10 adult outcome constructs can be defined and measured across disability groups, and provide meaningful information that can be used to examine predictive relationships. Table 1 provides an overview of the 10 outcome constructs.

The purpose of the present paper is to link the work of Shogren et al. (2013, in press) and examine the degree to which the three of the four essential characteristics of self-determination predict the 10 quality of life-related adult outcome constructs generated by Shogren et al. (in press). Our primary research question was to what degree do three of the four essential characteristics of self-determination (autonomy, self-realization, and psychological empowerment) measured in NLTS2 predict early adulthood outcomes (Table 1) across students with high incidence disabilities, cognitive disabilities, sensory disabilities, traumatic brain injury,

intellectual disability and orthopedic impairments?

Method

In this section, we describe the NLTS2 study and sample, as well as the development of the self-determination and early adulthood outcome constructs. We then describe the analytic plan used to address the research questions.

NLTS2

As mentioned previously, the National Longitudinal Transition Study-2 (NLTS2) was funded by the U.S. Department of Education to provide data on the school and postschool outcomes of a nationally representative sample of youth and young adults with disabilities. NLTS2 data was collected in five waves over a 10 year period (2000-2010) by SRI International. The NLTS2 sampling plan was designed to generalize to the population of students receiving special education services in each of the 12 federally recognized disability classifications at the secondary level. A two-stage sampling process was used. First, a stratified (geographic region, size, community wealth) random sample of districts serving students aged 13-16 were selected. Approximately 500 local education agencies (LEAs) contributed students. In the second stage, the appropriate number of students to be sampled from each LEA within each disability category was calculated based on the size of the district and the number of students with disabilities. Students were randomly selected within each LEA until a sufficient sample was reached. Approximately 1,250 students per disability category were sampled in Wave 1, which was projected to lead to a sufficient sample in Wave 5 of data collection (SRI International, 2000).

Self-Determination Constructs

As mentioned previously, self-determination data was collected while students were in school during the Direct Student Assessment. Students participated during Waves 1 or 2 of

NLTS2 based on their age. Given our previous work analyzing data collected on the Direct Student Assessment using a subset of items from the *The Arc's Self-Determination Scale* (SDS, Wehmeyer & Kelchner, 1995), in the present analyses we replicated the three latent constructs – autonomy, psychological empowerment, and self-realization – developed by Shogren and colleagues (2013). Additionally, we used the six disability groups that demonstrated distinct patterns of similarities and differences in latent scores on the three of four essential characteristics of self-determination from Shogren et al. (2013).

It is important to note that while the majority of the NLTS2 sample participated in the Direct Student Assessment, for a small subset of students (approximately 17% of the sample), teachers indicated that the students were unable to participate in a direct testing situation or meaningfully respond to the questions. The number of students who participated in the direct assessment varied by disability label, with a high of 98% of students with learning disabilities and speech language impairments participating to a low of 58% of students with autism participating (Shogren et al., 2013). Because self-determination is a primary focus in the present analyses, our sample only included those who participated in the direct assessment.

Adult Outcome Constructs

As described in the *Introduction*, Shogren, Shaw, and Little (in press) defined 10 quality of life-related early adult outcome constructs using NLTS2 data. To generate these constructs, data collected from the parent and youth interview during Wave 5 of NLTS2 (years 8-10 of the overall project) when students were ages 23-26 was used. Table 1 provides a description of the 10 outcome constructs, and further information is available in Shogren et al. (in press).

Analytic Plan

To examine the degree to which the three of the four essential characteristics of self-

determination measured in NLTS2 and validated by Shogren et al. (2013) predicted the 10 early adult outcome constructs validated by Shogren et al. (in press), we used multiple-group structural equation modeling (Brown, 2015; Kline, 2010; Little, 2013). As described previously, we used six disability groups established in previous work (Shogren et al., 2013): high incidence disabilities (learning disabilities, emotional disturbances, speech or language impairments, and other health impairments), sensory disabilities (visual and hearing impairments), cognitive disabilities (autism, multiple disabilities and deaf-blindness), intellectual disability, traumatic brain injury, and orthopedic impairments.

Using the final confirmatory factor analysis (CFA) model from the analyses of the10 early adult outcome constructs (Shogren et al., in press), Mplus, version 7 (Muthén & Muthén, 1998-2012) with the "type=complex" option and the "wt_na" sampling weight, stratum, and cluster variables for the complex sampling design was used to build and test the models described subsequently. The design-based weight "wt_na" was selected, rather than one of the non-response survey weights, because full information maximum likelihood (FIML) was chosen to handle missing data. Robust maximum likelihood (MLR) was used for estimation.

To address our research question, the covariance paths between the autonomy, self-realization, and psychological empowerment constructs and the 10 early adult outcome constructs were converted to regression paths. χ^2 difference testing was used to prune non-significant regression paths. If fixing a single path to 0 resulted in a significantly different model, then the path was retained. The probability threshold used for significance was $p < .01$.

Results

The initial model demonstrated reasonable fit: RMSEA = 0.034 $_{(0.033 - 0.035)}$; CFI = 0.785; NNFI = 0.761. Significant paths from the autonomy, self-realization, and psychological empowerment constructs to the adult outcome constructs are provided in Table 2. A blank cell in

a table indicates a non-significant path, and all reported regression coefficients are standardized. Because the high incidence disability group served as the reference group, significant results in any other disability group are interpreted as a difference from the reference group (high incidence disability).

There were no regression paths that were significant across all six disability groups, and as shown in Table 2, the number of significant paths was limited, particularly in certain disability groups. However, autonomy was a significant positive predictor of multiple early adult outcomes constructs in the high incidence disability group, including financial independence, employment, social relationships, housing, and postsecondary education. Autonomy also predicted higher levels of postsecondary education for people with orthopedic disabilities and traumatic brain injuries and lower levels for people with cognitive disabilities when compared to the high incidence disability group. Higher levels of autonomy for people with traumatic brain injuries predicted lower levels of financial support. Autonomy also predicted higher levels of independent living for people with intellectual and sensory disabilities.

Unlike autonomy, which predicted about half of the outcomes in the model for those with high incidence disabilities, self-realization only predicted emotional well-being for those with high incidence disabilities. However, self-realization was a significant, positive predictor for people with cognitive disabilities in the areas of emotional well-being, financial support, and postsecondary education when compared to those with high incidence disabilities. However, self-realization predicted lower levels of advocacy in the same group. Similarly for people with intellectual disability, self-realization negatively predicted advocacy when compared to people with high incidence disabilities. Self-realization also positively predicted health outcomes for people with sensory disabilities when compared to the high incidence group.

Psychological empowerment predicted several differences for people with sensory disabilities when compared to people with high incidence disabilities; higher levels of empowerment predicted lower levels of financial support and higher levels of employment, emotional well-being, and postsecondary education. Higher levels of psychological empowerment also predicted lower levels of financial support for people with intellectual and cognitive disabilities. Lastly, empowerment predicted a positive difference in emotional well-being for people with orthopedic disabilities.

Discussion

The purpose of this paper was to extend the work of Shogren et al. (2013, in press) and examine the degree to which autonomy, self-realization and psychological empowerment predicted the 10 adult outcome constructs specified by Shogren et al. (2014). The findings regarding the nature of these relationships are complex, and in many ways, prompt more questions than answers about the relationships between these constructs, as well as the most appropriate way to define and examine these constructs using secondary data sources such as NLTS2. In the following sections we will explore these issues, first with regard to secondary data analysis, and then with regard to the specific research questions of this study.

Analytic Considerations and Implications for Future Secondary Analysis

There are limitations to secondary data analysis that must be considered in interpreting the findings. First, as described previously, the NLTS2 data collection and sample selection process was not structured to address the specific research questions that we targeted. In a series of analyses reported across multiple papers (Shogren et al., 2013, in press), we conceptually and empirically tested the degree to which the three of the four essential characteristics of self-determination measured by NLTS2 and outcome constructs linked to quality of life domains

could be developed. In each of these analyses we encountered issues, and had to significantly revise our constructs and our assumptions about what could and could not be tested using the data. For example, we had hoped to be able to examine the impact of overall self-determination; however, data was not collected in such a way to allow for this. We had also hoped to explore quality of life constructs that fully represented the accepted domains and indicators of quality of life in the literature, however, we also encountered issues when developing the quality of life outcome constructs, and had to significantly limit the breadth and depth of these constructs to accommodate the data. It is important to note that the purpose of NLTS2 was not to answer our research questions, and we expected that we would encounter issues in overlaying conceptual frameworks on data not collected with those conceptual frameworks in mind. In many ways, therefore, the present findings must be considered preliminary and exploratory.

The issues, however, with overlaying conceptual and theoretical frameworks (e.g., self-determination, quality of life) on large, nationally representative studies such as NLTS2 should be considered in the design of national studies. Ensuring that validated measures are included in ways that allow for meaningful analysis of constructs of importance in the field (e.g., overall self-determination), should be considered. Making inferences from single item indicators, incomplete or unvalidated portions of scales, or scales validated only with certain populations can introduce significant challenges in data analysis and interpretation, and providing direction for future research and practice.

Additionally, although NLTS2 was structured to be nationally representative and to have sufficient coverage to enable generalizations, even during the last wave of data collection, issues with representation emerged in our analyses (e.g., insufficient sample sizes in some low incidence disability cells or unbalanced sample sizes across groups). In some situations, the high

incidence group was twice the size of the sensory and cognitive groups and almost ten times the size of the TBI group. It is important to note that when imbalance occurs, standard errors and standardized residuals can be significantly impacted by differences in group size as can the power to detect differences from zero in parameter estimates, which we are exploring in our analyses (Brown, 2006). This may explain the restricted number of significant regression paths in certain groups.

An additional complication was differences across disability groups in levels of participation in specific early adulthood outcome areas (e.g., fewer young adults with intellectual disability reported postsecondary education outcomes). Because of the resulting lower sample sizes in these groups, the patterns of predictive relationship may not be representative and may, in fact, be highly influenced by the level of participation and access levels in each group. Thus, these findings are not generalizable to all young adults, but only to those who had data available because they were participating in these activities. This may explain the pattern of results, many of which were not expected based on previous research. Although this is a limitation, the sample was not designed to be representative of outcomes; however, future research is needed to examine further the impact of self-determination on a representative group of students who were participating in these activities. Therefore, our findings must be interpreted cautiously. In the following sections, we further explore the implications and directions for future research and practice specific to our research questions.

Autonomy, Psychological Empowerment, and Self-Realization and Prediction of Outcomes

As described in the Results section, the pattern of predictive relationships between the autonomy, psychological empowerment, and self-realization and the early adulthood outcome domains were limited, with most findings concentrated in the high incidence disability group and

the autonomy construct. For example, for students with high incidence disabilities, higher levels of autonomy predicted higher financial independence, employment, social relationships, independent living, and postsecondary education. Level of autonomy also predicted higher levels of independent living for people with intellectual disability and sensory disabilities and postsecondary education for youth with orthopedic impairments. These findings clearly suggest that the autonomy construct has a strong role in predicting a range of outcomes in early adulthood for those with high incidence disabilities, and a more specific set of outcomes for those with other disability labels Most research that has explored the relationship between self-determination and outcomes has explored the relationship between overall self-determination (not the essential characteristics, individually) and outcomes (Shogren et al., 2015), suggesting perhaps that level of autonomy plays a strong role in predicting outcomes when compared to other essential characteristics of self-determination, particularly at this stage of life. The role of autonomy, or of understanding preferences, interests and abilities to act in a self-directed way, may be critical during early adulthood when decisions are being made about career and living options.

Further, most research on the relationship between self-determination and outcomes has only included students with learning disabilities and intellectual disability (Shogren et al., 2015; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997). The findings confirm the strengths of the relationship between autonomy and outcomes for those with learning disabilities, and suggest similar patterns of relationships for those with other high incidence disabilities. Although there were fewer significant paths for those with intellectual disability (which may have resulted from the sampling issues described previously), the findings do suggest a relationship between autonomy and inclusive, community-based residential opportunities.

Researchers have typically analyzed the degree to which different residential arrangements (i.e., segregated vs. inclusive) allow for choice and control by people with developmental disabilities, finding more inclusive, community-based arrangements allow for more choice and autonomy (Stancliffe, 1997, 2001; Stancliffe & Wehmeyer, 1995). These findings suggest that the opposite relationship is also true, that young adults with intellectual disability who have higher levels of autonomy tend to access more inclusive, community based settings.

The lack of findings in other disability groups suggests two directions for future research. First, in several disability groups there was limited data in specific adult outcomes domains (e.g., employment, postsecondary education), likely because individuals were not participating in these activities. This reflects the status of adult outcomes in these disability groups, but may have skewed the findings because of the restricted sample size. For example, if a sample of those that were employed were targeted, we would be able to meaningfully explore the relationship between autonomy, psychological empowerment, self-realization and employment. This, however, was the purpose of NLTS2, but should be analyzed with other datasets in the future that have a representative sample of young adults with disabilities who achieve positive employment outcomes. Second, the degree to which other factors, such as school-based experiences, parent outcome expectations, access to supports and resources, etc., was not explored in these analyses. Further research is needed that tests the degree to which autonomy, psychological empowerment, and self-realization has a mediating or an indirect impact on outcomes, rather than a direct effect, particularly for those with higher levels of support needs where the role of the environment and supports is so critical (Schalock et al., 2010; Walker et al., 2011).

In terms of the self-realization and psychological empowerment constructs, self-realization positively predicted financial support for people with intellectual disability while psychological empowerment negatively predicted the same outcome. This pattern deserves further attention. It may be that the findings are spurious, or it may be that past research that has collapsed the essential characteristics of self-determination into an overall self-determination construct failed to detect differences in the patterns of predictive relationships. For example, higher levels of self-realization, which is related to having a good understanding of your strengths and support needs, may lead to individuals being better able to access supports related to those needs. On the other hand, psychological empowerment may lead to attempting to engage in activities that minimize needs for financial supports, particularly when a person has learned the connections between those actions and financial outcomes.

Overall, these findings suggest complex relationship among three of the four essential characteristics of self-determination and early adult outcomes, with the strongest relationships between autonomy and outcomes for those with high-incidence disabilities. It suggests that in future research should explore the relationship between both overall self-determination and each essential characteristic and outcomes, which may provide meaningful information about interventions targeting specific characteristics to impact specific outcomes. Because NLTS2 did not include one essential characteristic, self-regulation, it is difficult to fully explore the pattern of relationship between essential characteristics and global self-determination. Further research is also needed to explore contextual factors (Shogren, 2013), including personal (e.g., gender, race/ethnicity, socioeconomic status) and environmental (i.e., school supports, family supports) factors that shape the relationship between three of the four essential characteristics and outcomes.

Conclusions

As stated previously, the results of these analyses exploring the relationship between three of the four essential characteristics of self-determination and early adulthood outcomes developed in other studies (Shogren et al., 2013, in press) raise more questions than answers but highlight the need for further research on the best ways to (a) define outcomes and (b) explore the factors that impact outcomes. In terms of defining outcomes, we know that some youth are disproportionality more or less likely to achieve certain outcomes (e.g., employment, postsecondary education) and that multiple factors, including disability, shape these outcomes. Further research is needed exploring differences in diverse youth who are and are not achieving these outcomes to further analyze the role of self-determination in facilitating outcomes. The present analysis suggests an impact, but the available data limits our ability to examine this fully.

In practice, the findings suggest the need to develop meaningful ways to assess and plan for the complexity of factors that impact the relationship between self-determination and outcomes. Having high expectations, creating meaningful opportunities, and providing appropriate supports in the school context are necessary for the development of self-determination and the achievement of outcomes. Recognizing the essential characteristics of self-determination that most strongly impact outcomes can inform instructional decision making, for example a focus on instruction to promote skills associated with autonomy (e.g., choice-making, self-advocacy) may have the strongest relationship with employment and postsecondary outcomes particularly for those with learning disabilities. We must also develop strategies to meaningfully assess these factors in practice so that practitioners can understand the vision for adult outcomes held by an individual and target supports and interventions to those outcomes.

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Table 1.

Early Adult Outcome Constructs Model

Construct	Abbreviation	Description
Social Relationships	SOCRL	Participation in community, volunteer, and group activities; invited to social activities, talks on phone, engages in social activities with friends and family, feels supported and cared about by friends and family
Independent Living	HOU	Type and inclusiveness of current residential arrangement (e.g., independent or supported living arrangements vs. congregate or segregated settings)
Emotional Well-Being	EMOT	Students ratings of the degree to which they enjoy life, are happy, feel good about themselves, and feel useful and able to get things done
Access to Services	SERVAC	Reports needing services beyond what is currently available
Health Status	HLT	Rating of general health status
Postsecondary Education	PSED	Enrollment in any form of postsecondary education; duration and continuity of attendance; graduation status
Financial Supports	FINSP	Receives financial support from SSI, food stamps or any government program
Financial Independence	FININ	Young adult has checking, savings, and charge account
Employment	EMPLY	Employment status, duration and consistency of employment, number of hours worked, access to benefits, if promoted at current job, perceptions of treatment, compensation, and opportunities for advancement at current job
Advocating for Needs	ADVOC	Communicating needed accommodations to employer

Table 2.

Standardized Self-Determination Predictors for Outcomes by Disability Group

Outcome	HIN	INT	SEN	ORT	COG	TBI
Autonomy						
FININ	0.316*					
FINSP						-0.540*
EMPLY	0.213*	0.192*				
SOCRL	0.209*				0.183	
EMOT						
HLT						
HOU	0.141	0.183	0.272*			
ADV						
PSED	0.204*			0.240*	-0.329*	0.450*
SERVAC						
Self Realization						
FININ						
FINSP					0.232	
EMPLY						
SOCRL						
EMOT	0.391*				0.318*	
HLT			0.179*			
HOU						
ADV		-0.403*			-0.381*	
PSED					0.487*	
SERVAC						
Psychological Empowerment						
FININ						
FINSP		-0.356*	-0.380*		-0.361*	0.419
EMPLY			0.298*			
SOCRL						
EMOT			0.488*	0.317*		
HLT						
HOU						
ADV						
PSED			0.304*			
SERVAC						

* $p < .01$; HIN – high incidence; INT – intellectual disability; SEN – sensory disability; ORT – orthopedic disability; COG – cognitive disability; and TBI – traumatic brain injury Table 1 provides a legend for all outcome constructs