



# Preparing for Life Beyond School: A Moderated Mediation Approach from the Perspective of Self-Determination, Self-Concept, Student Transition Planning, and Life Skills Development

Mihaela Cristea 

Alexandru Ioan Cuza University of Iasi, Romania

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## Abstract

The link between self-determination and life skills development, a crucial ability for the vocational future and career advancement of students with mild and moderate intellectual disabilities, has been explored in limited research. The present study aims to examine the patterns of relationships in terms of direct and conditional indirect effects on self-determination, life skills development, self-concept, and student transition planning regarding students with intellectual disabilities. The data were collected using standardized instruments from 304 adolescents with mild and moderate intellectual disabilities. The outcomes showed that self-concept has a moderating role in the relationship between self-determination and student transition planning. The study findings indicated that student transition planning mediates the relationship between self-determination and life skills development. The value of the index of moderated mediation indicated that self-concept moderated the conditional indirect effect of student transition planning on the relationship between self-determination and life skills. Future research and implications for practice are discussed.

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Corresponding Author: Mihaela Cristea, [mihaela.cristea.uaic@gmail.com](mailto:mihaela.cristea.uaic@gmail.com)



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## Introduction

The literature frequently indicated the strong connection between self-determination and academic achievement (Shogren et al., 2015), self-advocacy knowledge and skills (Mazzotti et al., 2016), and quality of life (Wehmeyer, 2020). Although the self-determination concept in the given context of disabilities has been in the attention of researchers as a topic for several studies, the link between self-determination and life skills development is little researched. In this framework, researchers have shown that student transition planning strategies and vocational interventions related to enhancing self-determination skills and actions contribute and have an influence on the development of life skills attributes that have a positive impact on the quality of life of young people with disabilities (Mazzotti et al., 2018). These attributes were described as positive post-school results, higher employment rates, access to post-secondary education, social and vocational inclusion, and a high level of well-being (Shogren & Plotner, 2012). Self-determination and self-concept are predictors of positive school engagement and adult outcomes (Agran et al., 2010; Zheng et al., 2014). However, little is known about the relationship between self-determination and self-concept in predicting life skills development in the context of intellectual disabilities and learning difficulties. Overall, new research is necessary to identify the relationship among self-determination, self-concept, student transition planning, and life skills development to ensure that schools focus efforts on the most important constructs for the vocational and social inclusion of students with disabilities. Student transition planning, educational strategies, and vocational intervention related to enhancing self-determination skills and actions contribute to the development of attributes that have a positive impact on the quality of life of young people with disabilities such as positive post-school results, higher employment rates, access to post-secondary education, social and vocational inclusion, and high level of well-being (Shogren & Plotner, 2012). Burke et al. (2020) in a meta-analysis of interventions that promote self-determination for students with disabilities suggested that self-determination interventions can be useful in the context of transition planning; practitioners can help students to set and achieve education- and transition-related goals, benefiting students in school and the real world.

## Theoretical Framework

### Self-Determination

In the last decades, researchers suggested that student self-determination affects both school and post-school outcomes, including access to the general education curriculum (Lee et al., 2008), postschool employment, and community participation (Shogren et al., 2015), and quality of life (Wehmeyer & Schwartz, 1998). The literature meta-analyses showed that when students with disabilities are provided with instruction, they can learn to engage in self-determined behavior (Algozzine et al., 2001; Cobb et al., 2009).

One of the commonly used theories in research and practice is the Functional Model of Self-Determination. According to this theoretical framework, self-determination was defined 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, 2005, p. 117). This model described four essential characteristics of self-determined behavior: (a) autonomy, (b) self-regulation, (c) psychological empowerment, and (d) self-realization.

Shogren et al. (2015) introduced the Causal Agency Theory, which defined self-determination as a general psychological construct within the organizing structure of theories of human agentic behavior. Causal Agency Theory builds on the functional model of self-determination (Wehmeyer, 1992), but also contains elements, and influences of positive psychology, and has a strengths-based focus in the disability field. Causal Action Theory posits three essential characteristics of self-determined action—volitional action, agentic action, and action-control beliefs—that contribute to causal agency and the development of self-determination. These essential characteristics refer not to specific actions performed or the beliefs that drive action, but to the function, the action serves for the person, the action enabled the person to act as a causal agent and enhances the development of self-determination (Shogren, et al., 2017).

Field and Hoffman (1994) developed a model comprising five main components for the development of self-determination. The first two components (*knowing oneself* and *valuing oneself*) describe the internal processes that provide a base for acting in a self-determined manner. The next two components (*plan* and *act*) identify the abilities necessary to act in conformity with that base. The last component (*experience outcomes* and *learn*) enables the cycle to be closed, by celebrating the successes achieved or reviewing the efforts to become a self-determined individual. In addition, other research demonstrated that self-determination is influenced by the individual’s values, knowledge, skills, and environmental factors (Field & Hoffman, 2001, 2007). Abery and Stancliffe (1996) proposed an ecological tripartite model of self-determination that defines this construct as “a complex process, the ultimate aim of which is to achieve the degree of personal control over his life that the person desires and in those areas that he perceives as important” (p. 27).

Mithaug et al., (2002), developed a theory of self-determined learning that focuses on the process of teaching students to become more self-determined. This model postulates that self-determination depends on the student’s provided capacities and opportunities. According to these authors, self-determination is a product of both personal and environmental factors to obtain desired outcomes. As described by these definitions, self-determination always involves the self as the causal agent when making choices, and self-determination as a construct is multifaceted and is reflective of both a psychological trait (i.e., locus of control) and a behavioral skill set (i.e., communication abilities). For students with disabilities, it appears from the experimental evidence

that increasing their self-determination status correlates with increased quality of life in their future decision (Cobb et al., 2009).

### **Life Skills**

Life skills conceptualized as “skills or tasks that contribute to the successful, independent functioning of an individual in adulthood” (Cronin, 1996, p. 54, Bouck, 2010), are considered by researchers to be essential to the success of individuals with disabilities out of school, especially students with intellectual disabilities (Bouck, 2010; Alwell & Cobb, 2009). Within the limited research on outcomes related to life skills and individuals with intellectual disabilities, Miller & Chan (2008) found a medium effect size for the relationship between life skills and life satisfaction and concluded this supported the provision of life skills instruction to individuals with intellectual disabilities. Despite limited research on the impact of receiving a life skills curriculum approach in general on postschool outcomes, research exists in which components of a life skills curriculum approach are connected to student outcomes: functional academics, vocational education, community access, daily living, financial, independent living, transportation, social/relationships, and self-determination (Bouck, 2010). Some studies indicated that life skills are a critical aspect of students’ transition from school to successful adult life (Brolin & Loyd, 2004). In their review of evidence-based transition practices, Test et al. (2009) determined teaching life skills as an evidence-based practice in secondary transition with a strong level of evidence. Specific components within a life skills approach (e.g., functional academics, safety skills) were also rated as having a moderate level of evidence. The connection between life skills and the successful transition has prompted calls for increased integration of life skills instruction into secondary programs (Bouck, 2004).

### **Student Transition Planning as a Mediator**

Transitioning to adulthood is a critical period in students’ life. Due to its relevance for adolescents’ future life, the transition activities must be very carefully prepared. In the Romanian educational system, students with intellectual and moderate disabilities go through a functional curriculum based on educational-vocational activities which include strategies for problem-solving and decision-making, acquisition of planning skills required during the transition stage to the next educational levels such as the transition from elementary school to gymnasium level, and after that, preparation of the most important transition stage, the integration into vocational schools: special technological high schools or special professional schools for young people with disabilities. Families and community support are essential parts of transition planning, a complex social dimension of this process. M. Wehmeyer referred to transition planning in the following terms: “Transition planning provides a powerful context in which to both teach and practice skills like goal setting, problem-

solving, effective communication, listening skills, assertiveness and self-advocacy, and decision-making.” (Wehmeyer, 2002, p. 6) The transition process to adult life can be perceived as a challenging period for adolescents as they move from the education system to different educational environments (Shogren & Plotner, 2012). Adolescents with disabilities encounter additional challenges (Chambers et al., 2009; Wehmeyer & Palmer, 2003), including the transition from special education to adult services, post-secondary education disability services, and housing support. Given the emphasis on transition planning in disability policy and research and the empirical link between effective transition planning and postschool outcomes, including post-school education, employment, and independent living (Shogren & Plotner, 2012; Test et al., 2009), it is essential to understand the characteristics of transition planning (e.g., student involvement, active participation in transition planning, characteristics, and suitability of transition goals, postschool service needs and contacts) for students with disabilities, particularly for those with intellectual disability who struggle with achieving employment and community participation in adulthood (Shogren & Plotner, 2012; Wehmeyer & Palmer, 2003). Evans et al. (2018) in a study dedicated to the academic and psychological impact of the transition to secondary education showed that helping parents and schools could aim to provide more social support during and following the transition to increase the perceived support felt by adolescents. Schools could also provide transition strategies that focus on the worries of children such as being lost or being bullied. In addition, schools could teach topics that can be continued from primary to secondary education to help with the interruption of achievement. Furthermore, students with special educational needs should have additional support and provisions in place to ensure they transition with as few difficulties as possible.

### **Self-Concept as a Moderator**

Shavelson, Hubner, and Stanton (1976) defined self-concept to be a multifaceted, hierarchical construct. Zheng et al. (2014) empirically explained how self-determination and self-concept affect academic achievement for adolescents with learning disabilities. They support the idea that it is difficult to find a unanimous and accepted definition of self-concept since researchers approached the construct from different theoretical perspectives. Sanchez and Roda (2003) consider self-concept “a set of knowledge and attributes that we have about ourselves, the perceptions that the individual assigns to himself and characteristics or attributes that we use to describe ourselves” (p. 97). Ahmed and Bruinsma (2006) adopted the self-concept model of Shavelson et al. (1976), which defines self-concept as “a person’s perception of himself, formed through environmental experiences and significant others” (p. 554). Researchers agree that self-concept is multidimensional and hierarchical. Self-concept is multidimensional in that it comprises various components: social self-concept, physical self-concept, and academic self-concept. Hierarchical characters refer to a narrowly defined self-concept nested in a broader theory (Zheng et al, 2014). Children with intellectual disabilities follow similar sequences and have a similar structure of development to their regular age mates (Evans et al., 1995).

Adolescents with intellectual disabilities appear to possess a fairly realistic self-appraisal that is tied to actual competency (Widaman et al. 1992). Also, adolescents with intellectual disabilities use social comparison processes in academic and social self-appraisals, and they have an awareness of cultural age-role expectations. Mental age alone then, cannot fully explain the phenomenology of the self-concept in adolescents with intellectual disabilities (Evans et al., 1995). The studies on class placement, stigma, bullying, and normalization efforts sustained the importance of the social and educational context of the self (Burack et al., 1998). Despite the potentially strong influence of organismic factors, such as cognitive development, and life experience, social comparison plays a significant role in self-concept development (Ziegler & Hodapp, 1986). Because self-concept has not been the focus of much research in the developmental approach and intellectual disabilities field, major developmental issues remain open for debate, and the area of self-concept and its role in the lives of students with intellectual disabilities are vital in understanding the adolescent with disabilities as a whole person. In this study, we analyzed the role of self-concept in predicting life skills development, in a given frame of self-determination and student transition planning.

### **A Conceptual Model for the Present Study**

Life skills training is an essential goal of educational programs for students with intellectual disabilities. Studies showed that self-determined behaviors and skills are related to life skills development. Research indicated the need to implement activities that promote student transition planning that has a positive impact on post-school outcomes of young people with intellectual disabilities. In the educational context, it is crucial to highlight the role of self-concept in obtaining functional academic results, particularly in improving life skills, which are critical competencies in the dynamic process of social and vocational integration of young people with intellectual disabilities in various communities.

In the present study, we aim to describe the type of relationships, in terms of direct and conditional indirect effects on self-determination, life skills development, self-concept, and student transition planning. The first goal of this study was to examine how student transition planning, as a mediator, had influenced the relationship between self-determination (defined as self-determined actions, skills, and attitudes), and life skills development. The second goal was to explore the psychological and social mechanisms through which self-concept, as a moderator, is a predictor of life skills development; the moderator role of self-concept was analyzed through the perspective of student transition planning as a mediator (moderated mediation). The investigation model for this research is illustrated in Figure 1.

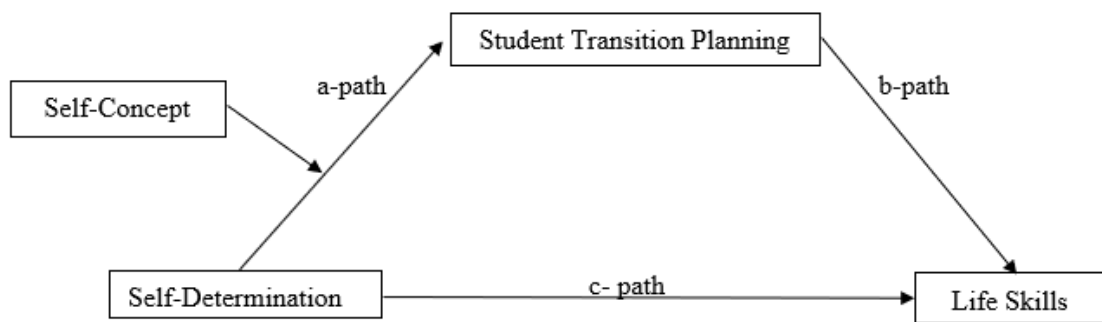


Figure 1. Moderated mediation research model

In a moderated mediation model, four hypotheses were examined. The assumptions are as follows:

H1: Self-determination has a direct effect on life skills development.

H2: Student transition planning has a conditional indirect effect on the relationship between self-determination and life skills.

H3: Self-concept has a moderating role in the relationship between self-determination and student transition planning.

H4: Self-concept has a moderating role in the relationship between self-determination and life skills, a relationship mediated by student transition planning.

This research should not only be useful in clarifying the understanding of the relationship between self-determination and life skills development in adolescents with intellectual disabilities, the role of self-concept, and the part of transition planning in this mechanism, but it should also contribute to the development of more effective educational and intervention program.

## Method

### Participants

The present study was based on a convenience sampling method. The participants were recruited from five middle schools for students with disabilities, and two vocational high schools for disabled students across two counties in Romania. A total number of 304 students with mild and moderate intellectual disabilities were included in a sample for the testing process. The student's disabilities categories were obtained from the schools' administrations, with parents' written permission. Participants were classified according to their primary disability - mild intellectual disability or moderate intellectual disability. Regarding the socio-demographic characteristics of the participants, the number of boys ( $n = 142$ ; 46,7%) was lower than the girls' number, although it indicated a uniform distribution by gender. Ages ranged from 12 and 19 years

( $M=14.93$ ;  $SD=1.42$ ) and more than half the sample ( $n=217$ ; 71,3 %) were aged between 14 and 16 years. Table 1 provides further descriptive information regarding the educational setting and disability label for the subset of students with disabilities, and other important socio-demographic aspects, such as family type and socioeconomic status. To be included in this study, parental consent for participation and assent from the student were obtained.

Table 1. Participants socio-demographic characteristics

Participants Characteristics	<i>N</i>	%
<i>Disability</i>		
Mild intellectual disabilities	140	46 %
Moderate intellectual disabilities	164	54%
<i>Gender</i>		
Female	162	53,3 %
Male	142	46,7%
<i>Age</i>		
12-15	204	67 %
16-19	100	23%
<i>Educational setting</i>		
Special education middle schools	192	63,15%
Vocational high schools for disabled students	112	36,84%

## Measures

### *Self-Determination Measure*

To measure self-determination, we use the ARC's Self-Determination Scale adapted for Romanian adolescents, validation process of the scale was discussed in a previous study (Cristea & Ghergut, 2022). The preliminary study results indicated the factorial structure of the culturally adapted ARC's Self-Determination Scale for Romanian adolescents with mild and moderate intellectual disabilities is similar to the original version, the ARC's Self - Determination Scale (Wehmeyer, 1995). The results of the exploratory and confirmatory factor analysis suggested that the original factorial structure of the ARC's Self-determination Scale with the three domains - Autonomy, Psychological Empowerment, and Self-Realization were replicated in a validated and reliable assessment tool applicable in the Romanian educational setting and research context. The adapted ARC's Self-Determination subscales demonstrated good to high internal consistency, Cronbach's  $\alpha$  coefficients indicated very good reliability for the entire scale (Cronbach's  $\alpha = .927$ ), and acceptable to high scores for three subscales: Autonomy (Cronbach's  $\alpha = .950$ ), Psychological Empowerment (Cronbach's  $\alpha = .790$ ), and Self-Realization (Cronbach's  $\alpha = .764$ ).



### *Self-Concept Measure*

For this study, the Five-Factor Self-Concept questionnaire was used to measure the self-concept construct in Romanian adolescents (AF5, Garcia et al., 2014). Theoretically, the AF5 questionnaire is based on assumption that self-concept is a multidimensional construct, the academic, social, family, emotional, and physical areas compose this multifaceted construct. The academic dimension refers to measuring the perception of the self-efficacy of learning; the social dimension is related to the significance that the individual's behavior has for others; family, concerning the family dynamics and relationships; emotional, concerning the most subjective and intimate components; and physical, measuring the fundamental incidence of the individual's aptitudes and general appearance. To adapt this instrument to measure self-concept construct in Romanian students, in the first stage, 20 items were translated and adapted into the Romanian language by following the guidelines for the adaptation of self-report measures concerning linguistic, semantic, cultural, and conceptual equivalence proposed by the International Test Commission (Hernández et al., 2020). Exploratory factor analysis was performed, and the pattern matrix indicated factor loadings onto two factors and the variances explained for each component were ranging from .346 to .902. The confirmatory factor analysis was performed within the structural equation modeling approach, and the model was estimated with several goodness-of-fit indices:  $p$ -value for the model was significant ( $p = .000$ ),  $chi-square = 74.425$ ,  $df = 36$ ,  $AGFI = .824$ ,  $RMSEA = .059$ ,  $CFI = .970$ ,  $TLI = .954$ ,  $SRMR = .042$ . Reported to Hu and Bentler's parameters (1999), these indices supported an acceptable fit for the model. The scale demonstrated very good reliability; *Cronbach's alpha* coefficient was .921.

### *Student Transition Planning Measure*

To evaluate this construct, we utilized the Student Questionnaire Transition Planning (Connecticut Transition Task Force, 2008). The questionnaire was designed to measure the transition skills of students with disabilities. In the construction of this instrument are included 18 self-reporting items with answers reported to a 5-point Likert scale from strongly agree to strongly disagree. In the scale construction, three dimensions of the transition planning construct were taken into consideration: vocational domain, personal and social autonomy, family, and interpersonal relationships. To use this evaluation tool to assess transition planning skills in Romanian students it was necessary to adapt and validate the scale for Romanian adolescents. The items were translated and culturally adapted into the Romanian language. In the next stage of scale adaptation and validation for adolescents with mild and moderate intellectual disabilities, an exploratory factor was performed. The pattern matrix indicated the factor loadings onto two factors, and the variances explained for each component ranged from .313 to .916. The items with factor loading are lower than .500 were discarded. The model resulting from the exploratory analysis was tested using a structural equation modeling approach, and

the model of the two-factor solution has the following goodness-of-fit indices:  $\chi^2 = 35.170$ ,  $df = 13$ ,  $p = .001$ ,  $AGFI = .929$ ,  $RMSEA = .075$ ,  $CFI = .972$ ,  $TLI = .954$ ,  $SRMR = .036$ . Compared to the threshold established by Hu & Bentler (1999) the results of the confirmatory factor analysis demonstrated an acceptable fit for the model. The scale proved very good reliability, *Cronbach's alpha* coefficient for this scale was .931.

#### *Life Skills Measure*

To assess the life skills development level in Romanian students with mild and moderate intellectual disabilities we used the Pediatric Evaluation of Disability Inventory (PEDI-CAT, Haley, et al., 2011). This assessment life skills tool was built on the following dimensions: communication, community volunteering, critical thinking, decision-making, leadership, problem-solving, responsible citizenship, self-esteem, self-responsibility, and teamwork. The evaluation instrument was a self-reported measuring scale of life skills attitudes, actions, and behaviors reported on a 4-point Likert scale. After items translation and linguistic and cultural adaptation, the 19 items were examined in exploratory factor analysis. The confirmatory factor analysis was performed within the structural equation modeling, the tested model comprised 3 latent variables and 15 observed variables. The model was estimated with goodness-of-fit indices:  $p$ -value for the model was significant ( $p = .000$ ),  $\chi^2$  value = 80.256,  $df = 38$ ,  $AGFI = .922$ ,  $RMSEA = .061$ ,  $CFI = .954$ ,  $TLI = .933$ ,  $SRMR = .042$ . The parameters of the model indicated a good fit for the model. The *Cronbach's alpha* coefficient for the scale was .889.

#### **Procedures**

This study involved 304 students with mild and moderate intellectual disabilities. The testing process was organized in small groups of a maximum of 7-10 students at a time, or as needed, in a 1:1 interview. Before starting the assessment tools administration process, participants were assured that their privacy, confidentiality, and anonymity would be protected. Informed written consent was sought from each participant before the interview began. All participants were fully informed of their autonomy and the voluntary nature of their responses in the interview process and were told they could withdraw at any time. For those below the age of 18 years, informed parental/guardian consent was obtained beforehand. The Research Ethics Committee approved this research.

#### **Data Analysis**

Statistical analyses were performed with IBM SPSS Statistics, version 28 for descriptive statistics and exploratory factorial analyses. The structural equation modeling (SEM) approach provided by IBM SPSS AMOS 28 Graphics was used to conduct the confirmatory factor analyses for adapted instruments to measure

self-concept (Five-Factor Self-Concept questionnaire), student transition planning (Questionnaire Transition Planning, Connecticut Transition Task Force, 2008), and life skills development (Pediatric Evaluation of Disability Inventory, Haley, 2011). The analysis of the moderated mediation model (Model 7) was carried out within PROCESS Macro for SPSS version 4.0 (Hayes, A.F., 2021).

## Results

### Descriptive statistics, multivariate correlations, and influential outliers

The means, standard deviations, skewness, kurtosis values, and correlations among variables are displayed in Table 2. The Pearson correlations among study variables were positive and statistically significant. We found that self-determination was positively correlated with students' transition planning ( $r = .52, p < .001$ ), self-concept ( $r = .47, p < .001$ ), and life skills ( $r = .42, p < .001$ ). The correlation analysis indicated a high positive correlation between student transition planning and self-concept ( $r = .78, p < .001$ ), and life skills ( $r = .69, p < .001$ ). We performed a Cook's distance analysis to determine if any multivariate influential outliers existed. We did not observe a Cook's distance value greater than 1, most cases have values less than .05.

Table 2. Descriptive statistics and correlations

Variables	Mean	Standard deviation	Skewness	Kurtosis	1	2	3	4
1. Self-determination	120.177	24.939	.050	-.539	1			
2. Student transition planning	56.082	16.852	-.228	-.861	.528**	1		
3. Self-concept	63.085	17.395	-.454	-.613	.472**	.787**	1	
4. Life skills	35.457	10.101	-.352	-1.089	.428**	.694**	.691**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Direct Effects Analysis

Preliminary data in the model summary for the direct effects of self-determination on life skills development, as an outcome variable, indicated  $R = .698, R^2 = .487, F (143.200)$ , and  $p$ -value = .000. Analyzing the direct effect of self-determination on life skills development (c' path), we observed that self-determination had a direct effect on life skills development,  $\beta = .134, t = 1.761, p = .050, CI = [.041; .073]$ , with the zero not included. The results supported the idea that global self-determination influenced life skills development. Taking into consideration these observed parameters, the first hypothesis of this study is supported.

### Conditional Indirect Effects Analysis

The b -path illustrated the relationship between student transition planning and life skills, the outcome indicated that student transition planning has an impact on life skills development,  $\beta = .389$ ,  $t = 13.369$ ,  $p = .000$ , and the values of the confidence interval were ranging [.331; .446]. In terms of the conditional indirect effects of students' transition planning on life skills development, the results indicated the conditional mediating (indirect) effect is high at low self-concept, reduced at the self-concept average, and further reduced at higher self-concept. The conditional indirect effects of student transition planning in the presence of the self-concept as a moderator, at the mean level are .060, and bootstrapping confidence interval = [.037;.085], the zero not included. The supporting data about the student's transition planning conditional indirect effects are shown in Table 3. The second hypothesis of the study was supported by these data.

Table 3. Conditional indirect effects

Self-concept	Effect	Boot SE	BootLLCI	BootULCI
-17.395	.091	.019	.054	.129
.000	.060	.012	.037	.085
17.395	.029	.010	.010	.050

### Moderation Analysis

Analyzing the summary outcome for a-path, we observed that self-determination affects student transition planning,  $\beta = .155$ ,  $t = 5.881$ ,  $p$ -value = .000, confidence interval (CI) = [.103; .207], and the zero not included. Self-concept has a significant impact on student transition planning,  $\beta = .628$ ,  $t = 16.046$ ,  $p$ -value = .000,  $CI = [.551; .705]$ . The interaction between self-determination and self-concept has a significant effect on student transition planning,  $\beta = -.004$ ,  $t = -3.200$ ,  $p$ -value = .001, confidence interval with the zero not included = [-.007; -.001]. The test of the highest order unconditional interaction indicated  $R^2$ -*chg* = .011,  $F(10.241)$ ,  $p = .001$ .

Conditional effects of self-determination as a focal predictor of values of the self-concept as a moderator are presented in Table 4. Taking into consideration the mean values of self-concept as a moderator (average, one standard deviation above the mean level, and one standard deviation below the mean level), the conditional effect of self-determination on student transition planning with the moderator role of self-concept ranged from a significant small effect ( $\beta = .076$ ,  $p = .016$ ) to significant higher effect ( $\beta = .234$ ,  $p = .000$ ). These results support the third hypothesis of this research that self-concept has a moderating role in the relationship between self-determination and student transition planning.

Table 4. Conditional effects of focal predictor at values of the moderator

Self-concept (moderator)	Effect	p	LLCI	ALSO
-17.395	.234	.000	.155	.313
.000	.155	.000	.103	.207
17.395	.076	.016	.014	.138

#### *Moderated Mediation Analysis*

To evaluate the fourth hypothesis a moderated mediation analysis was conducted, we assessed if the conditional indirect effect of student transition planning on the relationship between self-determination and life skills was moderated by self-concept. The results indicated the value of the index of moderated mediation was  $-.018$ , bootstrapping confidence interval =  $[-.029; -.017]$ , with 0 not included. The outcome indicated a moderated mediation effect, the conditional indirect effect of student transition planning on the relationship between self-determination and life skills development is moderated by self-concept. We concluded that the fourth hypothesis was supported.

## **Discussion**

The purpose of the present study was to describe the type of relationships, in terms of direct and conditional indirect effects, among self-determination, life skills development, self-concept, and student transition planning. The first goal of this study was to examine how student transition planning, as a mediator, had influenced the relationship between self-determination (defined as self-determined actions, skills, and attitudes), and life skills development. The second goal was to explore the psychological and social mechanisms through which self-concept, as a moderator, is a predictor of life skills development; the moderator role of self-concept was analyzed through the perspective of student transition planning as a mediator (moderated mediation).

### **The Mediating Role of Student Transition Planning**

We attempted to examine the assumption that student transition planning has a conditional indirect effect on the relationship between self-determination and life skills development in intellectually disabled students. The results of assessing students' transition planning's mediating effect on a given relationship between self-determination components and life skills showed that student transition planning plays a mediating role in the relationship between the self-determination components and students' life skills. The evidence indicated the mediating role of student transition planning in this relationship is supported statistically by the data. Also, we

found that student transition planning has a significant impact on life skills development. Transition planning skills taught to students with disabilities in the specific period of pre-vocational education led to the improvement of self-determined actions, abilities, and attitudes as well as the optimization of life skills. The self-determined competencies formed under the influence of specific interventions during the transition stage positively affect the optimal development of students' life skills. To support our results, a study conducted by Lee et al. (2012) sustained the same statement, given the evidence that instruction to promote student involvement in educational planning can lead to enhanced transition knowledge and skills, these findings suggested that the benefit is reciprocal. By promoting student involvement in transition planning, educators can enhance self-determination, and by promoting self-determination educators can promote student involvement in their planning. Researchers have suggested that transition planning can have a positive impact on postschool outcomes (Shogren & Plotner, 2012; Test et al., 2009) and that families who are actively involved in transition planning report greater satisfaction with transition outcomes for their children (Shogren & Plotner, 2012; Neece et al., 2009). Best practices in transition planning emphasize student and family involvement, the development of an individualized transition plan focused on developing student skills linked with desired life outcomes, and coordination with adult service agencies (Shogren & Plotner, 2012; Alwell & Cobb, 2006; Test et al., 2006).

### **The Moderating Role of Self-Concept**

In our study, we investigated the role of self-concept as a moderator on relationships among self-determination, student transition planning, and life skills development in students with mild and moderate intellectual disabilities. The emphasis on self-concept as a moderator was examined through direct and conditional indirect effects. Firstly, the results indicated the interaction between self-determination and self-concept had a significant effect on student transition planning. This data supported the assumption that self-concept had a moderating role in the relationship between self-determination and student transition planning. There were described three levels of the effects of self-determination at the values of self-concept as a moderator, the conditional effects ranging from higher to lower values. Secondly, the analyses of self-concept conditional indirect effects showed that the indirect effect of transition planning of life skills development is high at a low self-concept, reduced at the self-concept average, and further reduced at a higher self-concept level. The conditional indirect effect on the life skills development in the presence of self-concept (moderator) at the mean level is significant. Thirdly, the results indicated that conditional indirect effects of student transition planning within our model are moderated by self-concept, the value of the index of moderated mediation sustained this statement. Overall, based on the data, we sustained the assumption that self-concept has a moderating role in the relationship between self-determination and life skills, a relationship mediated in conditional terms by student transition planning. We did not find in the literature studies developed on the association of self-

determination, self-concept, and life skills. However, little research in this field has suggested that self-determination and self-concept positively affect factors associated rather with academic achievement for students with learning disabilities, and students with mild disabilities (Goldberg et al., 2003; Lackaye & Margalit, 2006). Zheng et al (2014) highlighted that the direct relationship among self-determination, self-concept, and academic achievement is not fully understood; there were significant correlations among self-determination, self-concept, and academic achievement, with self-determination being a potential predictor of academic achievement for students with learning disabilities.

### **Limitations and Future Research**

This study has several limitations. The first limitation referred to the missing analysis of socio-demographic participants' characteristics, such as family prototype and socioeconomic status, household, and location settings. These groups of variables were not included in the current study and could be considered for multi-group effects analyses in future research. The second limitation is represented by sample characteristics. Our sample size was small and contained students with mild and moderate intellectual disabilities only. This study did not include and analyze students with developmental disorders, emotional and behavioral disorders, and autistic spectrum disorders. Additional research is needed with a larger sample to further examine the dynamism and patterns of the conditional direct, and indirect effects directly explored within moderated mediation models and a large spectrum of disabilities groups. Taking into consideration the findings of our study, we recommend designing future research centered on the role of self-concept components – social, physical, academic self-concept, and student transition planning in relationships between self-determination and quality of life in the Romanian contextual framework of intellectual disabilities.

### **Implications for Practice**

For the educational field and practice, it is essential to include in the functional curriculum dedicated to students with intellectual disabilities, objectives and learning activities related to autonomy skills and behaviors, self-regulation actions, acting in a psychologically empowered manner, and self-realization attitudes. Applying educational strategies to improve self-determination skills and behaviors plays a vital role in carrying out the effect of school-based interventions. The emphasis placed on self-determination in research and practice highlights the ongoing need to support the implementation of evidence-based strategies to promote self-determination in schools and classrooms as a component of transition support (Shogren et al., 2018). With the shift in emphasis to college and career readiness for all students, the focus within schools should expand beyond academic preparation to include self-determination instruction and opportunities to practice self-determined behavior (Zheng et al, 2014).

As an implication for educational practice, we emphasized the necessity of evidence-based strategies implemented in educational settings that have an essential role in enhancing self-determination and student transition planning skills. Also, therapeutic activities and educational strategies to increase the self-confidence and improve the self-esteem of students with intellectual disabilities have an essential role in educational practice, and these interventions have a strong impact on the life skills development of students with mild and moderate intellectual disabilities. Research suggested the implementation of educational programs such as *Whose Future Is It Anyway?* (Lee et al., 2011), *Beyond High School* (Palmer et al., 2012), *ME! Curriculum* (Mazzotti et al., 2018) and *Self-Determined Learning Model of Instruction* (Shogren et al., 2018) to teach self-advocacy, self-awareness, self-regulation, and problem-solving skills in service of educational goals to youth with intellectual disabilities resulting in positive outcomes related to enhanced transitions skills. Overall, vocational, and educational research and practitioners can support students by implementing evidence-based self-determination instruction for students with intellectual disabilities to enhance their academic achievement and self-concept, life skills development, and transition planning for a high quality of life.

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**Author Information**

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**Mihaela Cristea**

<https://orcid.org/0000-0003-2889-9276>

Alexandru Ioan Cuza University of Iasi,  
Faculty of Psychology and Education Sciences,  
Education Sciences Department  
Sos. Museum, no.53, apt.23, Iasi, 700281, Romania

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