



Examining the School Context Predictors of Self-Determination: The Influence of Teachers' Beliefs and the Perceived Opportunities

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Abstract

Background: In the literature, ecological factors of the school context and educational environment are considered opportunities for triggering self-determining behaviors. In the causal relationship between opportunities and the initiating of self-determining actions and attitudes, a key role is played by teachers' beliefs about their role in teaching self-determining behaviors and skills and how they perceive the learning and expression of students with disabilities' self-determination. Methods: The purpose of the present study is to investigate the patterns of the relationships, in terms of direct, indirect effects, and total effects, among teachers' beliefs about their role in teaching self-determination to students with disabilities, teachers' perceived opportunities in the school context and the family environment, and students' capacity for self-determination perceived by teachers. A preliminary adapted AIR Self-Determination Scale, educator form, and teachers' beliefs survey were administered to a number of 157 Romanian teachers qualified to work in the special education system, and who provide specialized educational support and therapeutic services to students with disabilities. Results: The two factors of teachers' beliefs showed direct effects on the opportunities and capacity for self-determination perceived by teachers. The opportunities for self-determination at school and home mediated the relationship between teachers' beliefs and the student's capacity for self-determination perceived by teachers. Conclusion: The study findings contribute to current Romanian research in this field, and practical educational implications were discussed.

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Introduction

A critical indicator of how students with disabilities experience success in different social, school, and community contexts is the degree to which they activate the guiding force of their lives. (Agran et al., 2000; Wehmeyer, 2014). This process of activating resources to guide efforts and human activities toward reaching a specific goal is related to self-determined abilities, actions, attitudes, and behaviors. Students with disabilities can face numerous environmental and contextual challenges during the transition to independent adult life. These challenges and social factors can influence the transition from secondary to post-school life, enrollment in university programs, or inclusion in socio-professional and vocational communities. In this framework, several studies emphasized the importance of activating skills and actions related to self-determination, such as making choices, decision-making, setting goals and plans, problem-solving, self-advocacy, and auto-management knowledge and competencies (Mazzotti et al. 2018; Morningstar et al. 2015; Wehmeyer, 2020).

The researchers agreed that personal factors (disability labels, age, gender), and environmental factors can potentially impact the self-determination of students with disabilities (Shogren et al., 2007; Vicente et al, 2019). The functional theory of self-determination (Wehmeyer and Garner, 2003) suggests that environmental and personal characteristics enhance self-determination. According to the functional theory developed by Wehmeyer (2003), it was stated that (1) individual *capacity* is influenced by learning and development, (2) *opportunities* are influenced by the environment and experiences, and (3) *supports* and *accommodations* all impact the emergence of self-determination. The research carried out under the Causal Agency Theory led to a deeper understanding of the development and applicability of the self-determination construct by reconceptualizing the components from the perspective of positive psychology. Causal Agency Theory defines self-determination “as a dispositional characteristic manifested as acting as the causal agent in one’s life” (Shogren et al., 2015, p.257). According to this theory, self-determination should be understood as a tendency to act in a specific way that reflects a person's ability to evaluate a situation and act accordingly. This personal tendency to act must be shaped by contextual and environmental factors, as well as by variables within individuals (Shogren et al., 2017). Consequently, self-determination should not be understood in an isolated manner, but rather self-determination should be interpreted according to the contexts or environments that could influence the actions, attitudes, and behaviors of the individuals. The opportunities provided by these social, community, and school environments or educational contexts can act as facilitators or barriers to self-determined actions (Mumbardó-Adam et al., 2020; Shogren, 2013). Teaching people self-determination-related skills and providing them with opportunities to act in this way in the contexts where they live (e.g., home, school job places, and community) are helpful strategies but still not enough sustainable ones (Vicente et al., 2020). Considering the major role of self-determination skills and behaviors, as well as their promotion, it is vital to investigate the impact of personal and contextual school factors on self-determination development.

These personal and contextual variables are likely to serve as predicting, moderating, and mediating variables influencing the effect of self-determination and, as such, must be considered in the design and implementation of specific interventions (Vicente et al., 2020)0.

Contextual school factors are defined as those variables that come from the school environment that can act as facilitators or barriers in specific self-determination activities and that can affect, to different degrees, the level of development of self-determination of students with disabilities. According to the ecological theory of Bronfenbrenner (1979), school factors, as well as community environment, are part of the category of mesosystem factors, with major influences on the development and evolution of individuals. Several factors associated with the school context have been identified in the literature as facilitators or barriers to self-determination (Shogren, 2013). These variables from the school context that can be catalysts or barriers in the development of self-determination of students with disabilities are teacher characteristics. The self-determination phenotype of teachers includes teachers' beliefs about their role in teaching skills associated with self-determination, school program characteristics, the way they perceive the opportunities for self-determination, and how they perceive the students' capacity for self-determination.

The Influence of Teachers' Beliefs

The teacher's beliefs about their role in teaching self-determination skills to students with disabilities are closely related to the personal system of beliefs about his or her talent and abilities in teaching students to be more self-determined in their actions and attitudes. The study of teachers' beliefs forms part of the process of understanding how teachers conceptualize their work. Constructivist theories of teacher development see the construction of personal theories of teaching as a central task for teachers (Richards et al., 2001). Researchers agreed that teacher beliefs influence teaching practice and impact students' educational experiences (Beach, 1994; Stanovich & Jordan, 1998; Wiebe, 2006). For most teachers, beliefs are formed early, remain highly durable, and acquire emotional dimensions (Pajares, 1992). Furthermore, in this sense, teachers' beliefs strongly affect how teachers design their lessons, and how they choose adequate materials and activities for the classroom (Hampton, 1994). Beliefs about the role of the teacher's activity are related to other individual characteristics of the teachers, such as the graduated university programs, training programs in the field of teaching self-determination, the length of time they have been active as a teacher, the fact to teach in more or less restrictive educational environments (Grigal et al., 2003; Wehmeyer et al., 2000). In the domain of self-determination teaching and learning, researchers have identified a lack of pre-and in-service teacher training (Mason et al., 2004; Wehmeyer et al., 2000) as well as competing demands for instructional time (Eisenman and Chamberlin, 2001) as major factors that impact the capacity of teachers to teach self-determination skills as well as the opportunities, they create for students to apply these skills. Considering these benchmarks

regarding the relevance of the teacher's beliefs about his or her role activity to succeed in teaching students with disabilities knowledge, skills, and attitudes associated with self-determination, it is essential to analyze the effects, in terms of direct and indirect effect, and patterns of the relationships between the teachers' beliefs and the perceived students' capacity for self-determination.

Is it relevant how teachers perceive the opportunities and students' capacity for self-determination?

The degree to which students with disabilities have opportunities to demonstrate their self-determination skills is as important as the ability to create for them opportunities for learning behaviors and specific self-determination skills. Likewise, the opportunities provided by the family and the community are critical in learning and practicing self-determining behaviors by children and young people with disabilities. Researchers have shown that opportunities are defined in terms of the student's chances to use an accumulation of his or her perceptions, knowledge, and abilities, in other words, *capacity for self-determination*. Regarding students' capacity, studies proved that this is not enough to make students more self-determined, but it is necessary to generate and create opportunities for these capacities to be expressed and manifested (Wolman et al., 1994). Research has shown that particular factors significantly influence students in the school environment, and these factors are related to the colleagues, teachers, and professionals that they interact with every day. Therefore, peers and educators play a critical role that providing opportunities in school to promote and support students with disabilities to become more self-determined in their actions (Mithaug and Mithaug, 2002). Related to teachers' abilities to create opportunities for learning self-determined behaviors at school, research has shown that teachers who are familiar with the construct of self-determination tend to support students in becoming more self-determined, by including in their educational activities, sequences of learning of self-determined actions, attitudes, behaviors, and skills. Likewise, students are more likely to develop these skills if they are given opportunities to learn and apply them. Furthermore, the implementation of instruction to promote leadership, auto-management, and self-advocacy for students in different school activities has been shown to increase student self-determination (Grigal et al., 2003; Wehmeyer et al., 2011). Furthermore, numerous studies' findings supported the implementation of evidence-based practice programs that promote learning of self-determined behaviors in schools is a benefit for young people with disabilities (Mazzotti et al., 2022; Test et al., 2009; Wehmeyer et al., 2012). Regarding the role played by school environment factors in improving the skills associated with self-determination, the results of several studies indicated that provided opportunities both at school and at home supported students with disabilities to engage in self-determined actions (Carter et al., 2009; Cavendish, 2016; Pierson et al., 2008; Shogren et al., 2007).

To provide educational support in learning self-determination behaviors, teachers must consider in their teaching activities the opportunities from the school environment as well as the opportunities from the family

environment. The intensity of the support given by teachers to students may be influenced by how teachers perceive potentially triggering factors or opportunities from the educational and family environment related to students' capacity for self-determination.

The conceptual model and the purpose of the present study

Enhancing the self-determination of students with disabilities should be a critical objective of the educational and therapeutic programs implemented by teachers in school contexts and educational environments. Beyond the application of educational programs aimed to improve the self-determined behaviors of students with disabilities, we consider it necessary to investigate the factors of the educational context and school environments that can influence the development of self-determined behaviors and skills in children and young people with disabilities. The main research goal takes into consideration the assumption supported in the self-determination literature that creating opportunities for learning and expression of self-determined behaviors is essential. The purpose of the present study is to investigate the dynamics and types of relationships, in terms of direct, conditional indirect effects, and total effects, among teachers' beliefs, opportunities perceived by teachers in the school context and the family environment, and students' capacity for self-determination perceived by teachers. The first goal of the study was to examine the relationship between teachers' beliefs about their teaching role and the perceived students' capacity for self-determination. The second goal of this study was to explore how the opportunities generated in the school context and at home influence perceived by teachers mediate the relationship between teachers' beliefs and the perceived students' capacity for self-determination. The investigation model for this research is illustrated in Figure 1.

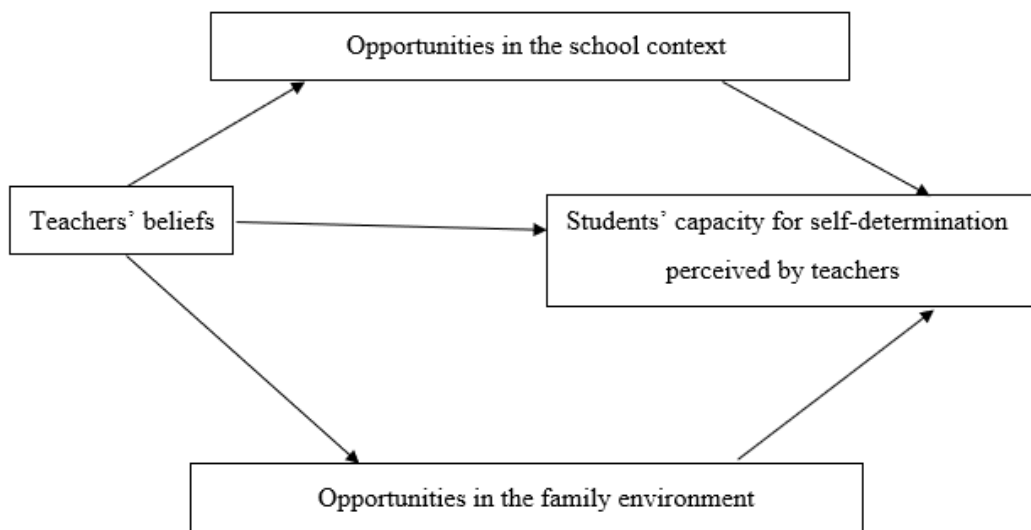


Figure 1. Research model

The research questions of the study are the following:

Research Question 1: Do the teachers' beliefs have any effects on the perceived students' capacity for self-determination?

Research question 2: Do the opportunities for self-determination perceived by teachers in the school context and family environment influence the relationship between teachers' beliefs and the students' capacities for self-determination perceived by teachers?

Method

The present study was based on a convenience sampling method, a total of 157 teachers working in the Romanian special education system, respectively in special schools in the city of Bucharest, Iași, and Vaslui participated in this study. The participating teachers in the study provided educational support and services to students with learning difficulties, mild, moderate, severe, and profound intellectual disabilities, developmental disorders, autism spectrum disorders, and hearing impairments. Regarding academic training programs and specialization, although all study participants work in the Romanian special education system, they have different statuses and professional, and didactic roles. Thus, the group of participants was made up of special education teachers (32,70 %), learning support teachers (30.90 %), teachers for complex and integrated therapeutic activities (18.20 %), itinerant and support teachers (10, 90 %), teachers who teach other subjects, such as physical education, arts, technological and vocational education (7.30 %). Regarding the degree programs completed, most participants are graduates of master's university programs in Special Education (57.50 %), bachelor's programs in the Special Education field (36.50 %), and graduates of doctoral academic programs in Education Sciences (5.50 %). Related to seniority in the educational system, 40.50% of the teachers worked in the educational system, providing educational support and services to students with disabilities and support needs. Regarding gender, most of the participants (141) in the study were female (90%). The distribution according to age showed that most participants were between 45-55 years old (44.50%). **Table 1** shows the socio-demographic and professional characteristics of the teachers participating in the present study.

Table 1. Participants' Sociodemographic and Professional Characteristics

Teachers' Characteristics	Number	Percentage
Special education teachers	51	32.70 %
Learning support teachers	48	30.90 %
Teachers for complex and integrated therapeutic activities	29	18.20 %
Itinerant and support teachers	17	10. 90 %
Teachers who teach other subjects	12	7.30 %
<i>Completed academics programs</i>		

Bachelor's programs in the Special Education	58	36.50 %
Master's University programs in Special Education	90	57.50 %
Doctoral Academic programs	9	5.50 %
<i>Seniority in teaching</i>		
25 to 35 years	42	26.50 %
15 to 25 years	64	40.50%
5 to 15 years	40	25.50 %
5 years or less	11	7.50 %
<i>Distribution according to chronological age</i>		
45-55 years	70	44.50%
35-45 years	46	29 %
25-35 years	33	21.30 %
under 25	8	5%
<i>Gender</i>		
Female	141	90%
Male	16	10%

Measures

The measurement tools for this research were the AIR Self-Determination Scale, the educator form, and a culturally adapted scales to measure the dimensions of teachers' beliefs and convictions related to teaching self-determination to students with disabilities (Grigal et al., 2003).

AIR Self-Determination Scale: The Educator Form

The AIR Self-Determination Scale, based on the self-determination learning theory was developed by the American Institute of Research (Wolman et al., 1994; Mithaug et al., 2003) to assess and develop strategies for enhancing participants' level of self-determination. Technically, the AIR Self-determination Scale, the educator form used in this research is a 30-item, 5- 5-point Likert scale, comprising the *Capacity* and the *Opportunities* domains. *The Capacity* domain is composed of three sub-dimensions (sub-scales): *Knowledge*, *Abilities*, and *Perceptions*. *The Opportunities* domain is composed of two sub-domains (sub-scales): *Opportunities at School* and *Opportunities at Home*. *The Knowledge* sub-scale contained 6 items built on assumption that the knowledge is a cognitive process that, in this framework, reflects the person's level of understanding of actions and attitudes related to self-determination. More specifically, knowledge refers to identifying needs, interests, limits, and how to make choices, set goals, and plan actions. *The Ability sub-scale* (6 items) reflected the connection between knowledge and performance obtained by applying them in situations that involve a self-determined behavior of the person. *The Perception sub-scale* (6 items) is based on enhancing

the student's sense of self, including self-confidence, self-esteem, and a sense of freedom to meet interests and needs. *The Opportunities at Home* and *Opportunities at School* sub-scales are composed of 6 items each, and they are based on the statement that opportunities are triggering frameworks that offer or in which capacities are expressed and exercised (Wolman et al., 1994; Mithaug et al., 2003). The AIR Self-Determination Scale has shown good results on various reliability tests (the alternative-item test, ranging from 0.91 to 0.98; the split-half test, 0.95; and the test-retest, 0.74; Wolman et al. 1994). The AIR Self-Determination Scale has been used extensively around the world, especially in North America and Europe, and the scale is available in English, Spanish, French, Norwegian, and Chinese language (Wong et al., 2016; Garrels and Granlund, 2018).

For this study, we used the educator version of the AIR Self-Determination Scale. To adapt this instrument to measure the self-determination levels of students with disabilities from the perspective of Romanian educators and teachers who work with students with disabilities, we conducted a pilot study to highlight the preliminary psychometric properties of this adapted scale. In the first stage, 30 items of *Capacity* and *Opportunity* domains 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).

We ran an exploratory factor analysis to examine the sub-scales of the AIR Self-Determination Scale. Descriptive statistics indicated a normal distribution of the items, as the data was nearly symmetrically distributed. Skewness values are situated in - 2.03 to .93 intervals and kurtosis values are slightly negative, most of them were near 0. The correlation matrix shows the pairwise correlations, with significant correlations ($p < .001$) among the 30 items. The determinant of the *R*-matrix suggested the absence of multicollinearity. The Kaiser-Meyer-Olkin measure of sampling adequacy coefficient was .76. Bartlett's test of sphericity showed an approximative chi-square of 4460.74 at degrees of freedom of 435, and a significant $p < .001$, and these results indicate a good relationship between the variables. The communalities values were 1 for all 30 items, and after extraction, the items had communalities, scores ranging from .56 and .86, these indicated the percent of variability explainable by the factors. Using the criterion of selecting eigenvalues over 1, the total variance explained that 5 components out of 30 have been produced with eigenvalues greater than 1. These 5 factors can explain 75,00 % of the variance in the data. The factors resulting from the exploratory factor analysis are equivalent to the subdomains of the scale: Knowledge, Ability, Perception, Opportunities at School, and Opportunities at Home.

The reliability analysis study of the AIR Self-Determination Scale administered to Romanian teachers demonstrated very good internal consistency, with *Cronbach's alpha* coefficient for the whole scale having the value of .93. For the Capacity domain with the sub-scales – Knowledge, Ability, and Perception the *Cronbach's alpha* coefficient was .90; .86; and .87. For the Opportunity domains comprising the Opportunity at School and Opportunity at home sub-scales the *Cronbach's alpha* coefficient was: .90, respectively, .92.

Teachers' Beliefs Measurement

For this study, a survey was built to measure teachers' beliefs and convictions regarding the role of their activity in teaching self-determined behaviors and abilities to students with disabilities. A systematic review of the literature on this topic indicated that two assumptions about teachers' beliefs could be formulated. First, it was mentioned that teachers generate and create at-school opportunities for learning self-determination. The second assumption indicates that teachers need to be trained in using specific intervention strategies and programs to teach self-determination behaviors and skills to the students. Starting from these two statements, we adapted a scale that operationalized the construct of teachers' beliefs. In the construction of this instrument were included 10 self-reporting items with answers reported to a 5-point Likert scale from *strongly agree* to *strongly disagree*. In the scale construction, two dimensions of teachers' beliefs about their role activity in teaching self-determination were taken into consideration: student opportunity to learn and practice self-determination skills and teacher familiarity with self-determination (Grigal et al., 2003). The elaboration of the 10 items was followed by an exploratory factor analysis. The pattern matrix indicated the factor loadings onto two factors, and the variances explained for each component were ranging from .59 to .83. These 2 factors can explain 64.13 % of the variance in the data. Factor 1 named *Teachers' Beliefs 1*, corresponds to individual and personal characteristics of teachers to teach self-determination, and factor 2, *Teachers' Beliefs 2* was equivalent to the skills acquired by teachers during self-determination training programs. The scale proved very good reliability, *Cronbach's alpha* coefficient for this scale was .84.

Procedures

This study adopted a self-reporting measure method and was attended by teachers which provides educational support and services in special schools, regular schools, and vocational high schools. The present study was attended by teachers from the city of Bucharest and the counties of Iasi and Vaslui, Romania.

In the first phase, we contacted the directors of the institutions participating in the research, who expressed their agreement regarding institutional participation in this study, then the teachers who wanted to participate in the study were asked to express their agreement to participate in this research. Informed written consent was sought from each participant before the assessment scales administration process began. Before starting the administration process of the assessment tools, participants were assured that their privacy, confidentiality, and anonymity would be protected. All participants were fully informed of their autonomy and voluntary responses in the interview process and were told they could withdraw at any time.

In the second phase, the AIR Self-Determination Scale and Teachers' Beliefs survey were sent to participating teachers via e-mail or posted by school administrators on the schools' communication platform. The obtained data entered the analysis process following the purpose of the study. The Research Ethics Committee approved this research.

Data Analysis

Statistical analyses were performed with IBM SPSS Statistics, version 29 for descriptive statistics and exploratory factorial analyses. The structural equation modeling (SEM) approach provided by IBM SPSS AMOS 29 Graphics was used to conduct a path analysis for the estimation of direct and total effects. The indirect effects were analyzed within the multiple analyses of the parallel mediation model (Model 4) through PROCESS Macro for SPSS version 4.0 (Hayes, 2021).

Results

Normality Assessment: Descriptive Statistics and Correlations

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 most of them were statistically significant.

Table 2. Descriptive Statistics and Correlations

Variables	Mean	s.d.	Skewness	Kurtosis	1	2	3	4	5	6	7
1. Knowledge	13.01	4.53	.79	.35	1						
2. Abilities	14.49	4.78	.56	.05	.74**	1					
3. Perceptions	15.82	5.17	.67	-.26	.60**	.80**	1				
4. Opportunities at School	23.03	4.56	-.55	-.16	.07	.16*	.25**	1			
5. Opportunities at Home	17.76	5.41	.00	-.79	.24**	.47**	.42**	.34**	1		
6. Teachers' Beliefs 1	11.87	2.63	-.65	-.57	.13	.23**	.25**	.25**	.29**	1	
7. Teachers' Beliefs 2	28.65	4.46	-.63	.21	.17*	.19*	.27**	.40**	.16*	.42**	1

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

* . Correlation is significant at the 0.05 level (2-tailed).

Estimation of Direct Effects and Total Effects

A causal path model was generated to estimate the direct and total effects of the conceptual constructs of the study. The model was composed of five observable endogenous variables – Opportunities at School, Opportunities at Home, Abilities, Perceptions, and Knowledge, and two observed, exogenous variables: Teachers' Beliefs 1 and Teachers' Beliefs 2. In the model are included five unobserved, exogenous variables. Figure 2 illustrates the path causal model with unstandardized estimates. The causal path model has been estimated with several goodness-of-fit indices: p -value for the model was significant ($p = .00$), $chi-square = 13.77$, $df = 3$, $GFI = .97$, $CFI = .97$, $SRMR = .05$. Reported to Hu and Bentler's parameters (1999), the estimation model indicated an acceptable fit for the model.

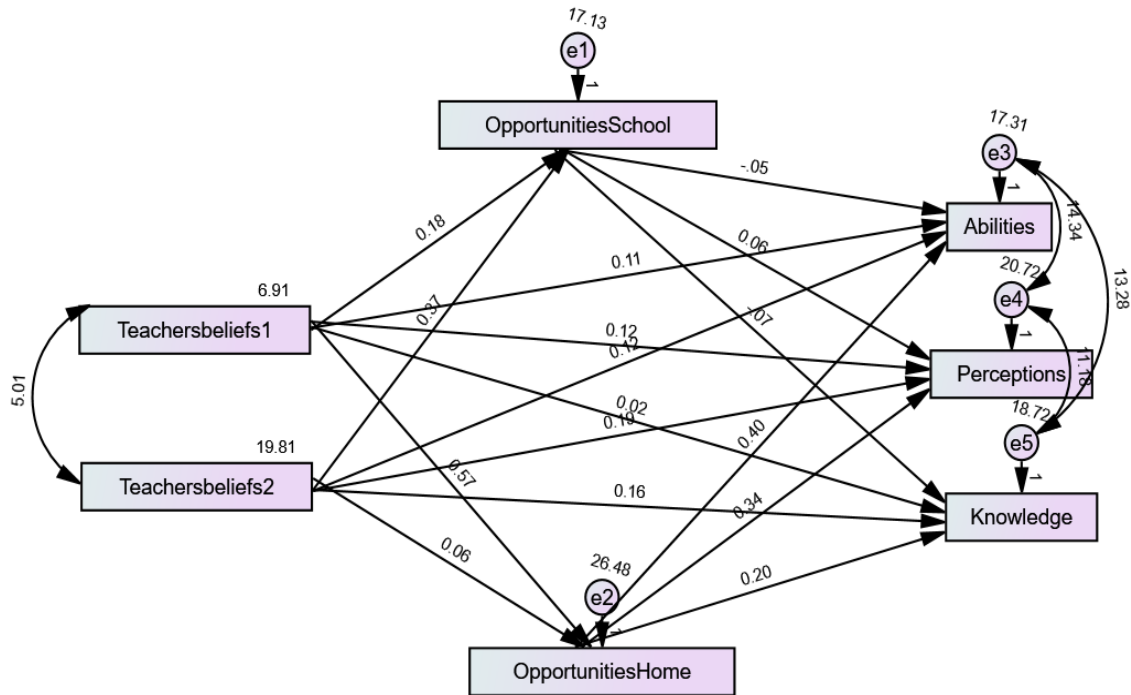


Figure 2. Path Causal Model

The results showed that several direct effects are identified in the patterns of the relationships between the variables of the path causal model. Thus, the factor Teacher’s Beliefs 1 had a direct effect on opportunities at school perceived by teachers, ($\beta = .25, p = .00$), and a direct effect on opportunities at home perceived by teachers ($\beta = .30, p = .00$). The findings indicated that the factor Teachers’ Beliefs 2 had a direct effect on opportunities at school perceived by teachers ($\beta = .35, p = .00$), had a direct effect on abilities ($\beta = .19, p = .05$), perceptions ($\beta = .17, p = .04$), knowledge ($\beta = .20, p = .05$). Furthermore, opportunities at home perceived by teachers had a direct effect on abilities ($\beta = .45, p = .00$), perceptions ($\beta = .36, p = .00$), and knowledge ($\beta = .24, p = .00$). Table 3 indicates the unstandardized and standardized regression weights coefficients; the statistically significant parameters could explain the magnitude of the direct effects manifested between the variables of the model.

Table 3. Estimates Coefficients for Unstandardized and Standardized Regression Weights

Variables		Unstandardized Regression Weights Estimate	p-value	Standardized Regression Weights Estimate (Beta coefficients)
Opportunities at School	← Teachers’ Beliefs 1	.17	.00	.25
Opportunities at School	← Teachers’ Beliefs 2	.36	.00	.35
Opportunities at Home	← Teachers’ Beliefs 1	.56	.00	.30
Opportunities at Home	← Teachers’ Beliefs 2	.05	.57	.05
Abilities	← Teachers’ Beliefs1	.11	.44	.06
Perceptions	← Teachers’ Beliefs 1	.12	.46	.06

Knowledge	←	Teachers' Beliefs 1	.02	.91	.01
Abilities	←	Opportunities at School	-.04	.54	-.04
Perceptions	←	Opportunities at School	.06	.52	.05
Knowledge	←	Opportunities at School	-.07	.40	-.07
Abilities	←	Teachers' Beliefs 2	.12	.05	.19
Perceptions	←	Teacher's Beliefs 2	.20	.04	.17
Knowledge	←	Teacher's Beliefs 2	.16	.05	.20
Abilities	←	Opportunities at Home	.40	.00	.45
Perceptions	←	Opportunities at Home	.34	.00	.36
Knowledge	←	Opportunities at Home	.20	.00	.24

The total effects estimated within the causal path model are considered a sum of the direct and indirect effects manifested between the variables of the model. The results showed that the total effect of Teachers' Beliefs 1 on opportunities at home perceived by teachers was .27, on opportunities at school perceived by teachers the total effect had a value of .36, the total effect on knowledge was .27, on perceptions .16, and on abilities was .38. The factor Teachers' Beliefs 2 manifested total effects on the other variables of the path model with different magnitudes. The effect on teachers' perceived opportunities at home was identified at .05, on teachers' perceived opportunities at school the value of the total effect was .36, on knowledge at .25, perception at .24, and the total effect on abilities was .31. Table 4 depicted the standardized values of the total effects as they were distributed among the variables of the causal path model.

Table 4. Standardized Total Effects

	Teachers' Beliefs 2	Teachers' Beliefs 1	Opportunities at Home	Opportunities at School
Opportunities at Home	.05	.27	.00	.00
Opportunities at School	.36	.36	.00	.00
Knowledge	.25	.27	.24	-.07
Perceptions	.24	.16	.36	.05
Abilities	.31	.38	.45	-.05

Mediating Effects (Indirect Effects)

For isolating the mediation effect of a variable on the relationship between the other two variables we used in the data analyses model 4 from the Process Macro (Hayes, 2021), and the results were obtained through multiple successive analyses of mediation models. In the mediation analyses with teachers' perceived opportunities at school as a mediator, the outcomes showed in the first model with the model summary indicated $R = .53$, $R^2 = .28$, $F = 30.96$, and $p = .00$, the opportunities at school perceived by teachers mediated the relationship between the factor Teachers' Beliefs 1, related to teachers individual and personal

characteristics, and students' capacity for self-determination perceived by teachers ($\beta = .77$, $BootSE = .25$, $BootLLCI = .32$, $BootULCI = 1.30$, with 0 not included, and 95% level of confidence interval). In the second analysis model, the findings indicated a model summary with $R = .32$, $R^2 = .16$, $F = 18.54$, and $p = .00$, the relationship between factor Teachers' Beliefs 2, related to teaching skills acquisition, and students' capacity for self-determination were mediated by opportunities at school perceived by teachers, the indirect effect was explained in the model, $\beta = .70$, $BootSE = .16$, $BootLLCI = .41$, $BootULCI = 1.07$, with no 0 included, at 95% level of confidence.

In the mediation analyses with opportunities at home perceived by teachers as a mediator, in the first model analyzed, the model summary showed $R = .70$, $R^2 = .50$, $F = 77.76$, and $p = .00$, we found that in the relationship between Teachers' Beliefs 1 and students' capacity for self-determination, opportunities at home perceived by teachers had a mediating effect, $\beta = 1.33$, $BootSE = .38$, $BootLLCI = .63$, $BootULCI = 2.15$, no 0 included, and 95% level of confidence. In the second model analyzed, the model summary indicated $R = .73$, $R^2 = .53$, $F = 88.23$, $p = .00$, the relationship between Teachers' Beliefs 2 and students' capacity for self-determination was mediated by opportunities at home perceived by teachers, the indirect effect was $.43$, $BootSE = .20$, and $BootLLCI = .04$, $BootULCI = .86$, with no 0 included, and 95% level of confidence.

Discussion and Conclusion

The purpose of this study was to investigate the patterns of the relationships between factors originating from the educational environment and the family context and the students' capacity for self-determination perceived by teachers. Our study was started on the assumption that mesosystem ecological factors, in particular, contextual school factors influence the configuration and structure, as well as the power and magnitude of the self-determining behaviors and skills of students with disabilities. In this conceptual framework, this study aimed to investigate the relationships, in terms of direct, indirect, and total effects on teachers' beliefs about their role in the activity of teaching self-determination, opportunities created at school and home perceived by the teachers, as mediators, and the students' capacity for self-determination perceived by teachers. Most of the study findings were similar and confirmed the results of the other studies found in the self-determination literature, with the main difference regarding the cultural specificity of the Romanian educational system. For a nuanced understanding and interpretation of the study findings, these will be discussed following the rationale of the research questions.

1. Do the teachers' beliefs have any effects on the perceived students' capacity for self-determination?

The study findings indicated that the teachers' beliefs, which were delimited into two factors, Teachers' Beliefs 1, related to individual and personal teachers' characteristics in teaching self-determination, and Teachers' Beliefs 2, related to skills acquired by teachers following training courses and programs in the field of teaching self-determination, manifested direct effects on students' capacity for self-determination perceived by teachers, in terms of knowledge, abilities, and perceptions. Thus, the factor Teachers' Beliefs 1, the individual and personal teachers' characteristics, had a direct effect on the opportunities that teachers created and generated

in the school environment and educational context for students in their learning process of self-determined behaviors and skills. Moreover, the factor Teachers' Beliefs 2 related to teachers' skills acquired in designed self-determination training programs, predicted the specific opportunities for learning self-determination in educational settings, classrooms, and school environments. Also, the factor Teachers' Beliefs 2 of trained teachers in self-determination programs was associated with the student's capacity for self-determination perceived by teachers, the study findings suggested a direct link between the factor Teachers' Beliefs 2 and students' knowledge, abilities, and perceptions for self-determination learning and expression. Another statistically significant result showed that the opportunities generated in the family environment predicted students' knowledge, abilities, and perception skills perceived by teachers as *Capacity*, a component of self-determination.

The Romanian teachers' beliefs regarding the process of acquiring self-determination behaviors and skills played an essential role in creating learning opportunities in the classroom, in the school settings, and the students' educational environment. The study outcomes are also supported by other findings from the literature, the other research highlighted the role of school opportunities in the success of the implementation of evidence-based practices aimed to improve self-determination in students with disabilities (Burke et al., 2020; Grigal et al., 2003; Shogren et al., 2016; Vicente et al., 2020). Other studies indicated the relevance of teachers' roles in generating learning opportunities for self-determination. Researchers found a positive relationship between opportunities at school and increasing positive school outcomes (Field and Hoffman, 2002), the improvement of prosocial behaviors (Carter et al., 2009), and the development of vocational and transition skills (Carter et al., 2006; Mazzotti and Rowe, 2015).

2. Do the opportunities for self-determination perceived by teachers in the school context and family environment influence the relationship between teachers' beliefs and the students' capacities for self-determination perceived by teachers?

Regarding the mediation analyses, the results of the first mediation model have shown that the relationship established between the teachers' beliefs based on individual and personal characteristics and students' capacity for self-determination perceived by teachers is influenced by the opportunities of the educational environment. The second analyzed mediation model indicated that the relationship between the beliefs of trained teachers to acquire skills in teaching self-determination and the improvement of self-determination of students with disabilities was influenced by the opportunities generated or created within educational environments. According to the study findings, we can suggest that Romanian teachers' beliefs about teaching self-determination, viewed through the prism of individual and personal factors, and from the perspective of being trained in the self-determination teaching field are strongly related to students' capacity for self-determination. The relationships between teachers' beliefs and perceived students' capacity for self-determination are influenced in positive ways by the opportunities given and created in the organizational school culture where the teachers work. In this particular point of view, the opportunities offered by the school context are perceived by the teachers as facilitators and catalysts in the didactic approach of students with disabilities' self-determination educational training. Similar research that analyzed the mediating role of

opportunities at school in enhancing students with disabilities' self-determination indicated results that supported and confirmed the outcomes of the present study (Shogren, 2013; Vicente et al., 2019, Wehmeyer, 2020). Researchers found that teachers' perceptions about students' opportunities to learn and practice self-determination skills at their school were also mediated by teacher position, teacher role, and teaching experience (Carter et al., 2006; Grigal et al., 2003; Vicente et al., 2019).

The mediation analyses that have as a mediator the opportunities at home perceived by teachers indicated that this predicted the students' capacities for self-determination perceived by the teachers. Thus, the study outcomes suggested that opportunities at home influence the relationship between teachers' beliefs based on their individual and personal characteristics and students' capacity for self-determination perceived by teachers. Similarly, the results indicated that the relationship between teachers' beliefs based on the teaching knowledge and skills acquired by teachers during particular self-determination training and programs, and students' capacity for self-determination perceived by teachers is mediated by the opportunities created and identified in the family environment. In other words, Romanian teachers' beliefs about students' capacity for self-determination can be explained through the lens of family factors that create opportunities at home for learning and manifesting self-determined behaviors and skills. On the other hand, researchers found discrepancies between educators and parents regarding opportunities for self-determination at school and home are particularly striking, with educators asserting that few self-determination opportunities exist for students at home and parents countering that diminished opportunities exist at school (Carter et al., 2006; Grigal et al., 2003). Researchers also suggested that the opportunities at home should complement those designed at school, by re-dimensioning and activating in a family environment a self-determination learning model that conducting to the improvement of school outcomes, as well as vocational skills related to the transition planning to independent life (Mazzotti et al., 2013)

The results of the study showed that the teachers' beliefs factors have a total effect on students' self-determination capacity perceived by teachers, the total effects being a summation of the direct and mediating effects. The analysis of the causal path model showed that the magnitude of the direct effects between teachers' beliefs and students' capacity for self-determination perceived by teachers were amplified by the indirect effects of opportunities at home and opportunities generated in school that positively strengthened the direct relationships. This highlighted the crucial role of the school environment and the educational context, proven that educational factors have a full action on the development of self-determination which will be reflected in high indicators of the quality of life of students with disabilities (Mumbardó-Adam et al. 2017; Shogren et al., 2013; Wehmeyer, 2020).

Limitations

Several limitations should be considered when interpreting the results of the present study. The first limitation refers to the small number of participants in the examined group, although all categories of teachers who work and teach students with disabilities are represented in the group structure, the number was small, so the results

must be interpreted and generalized with caution. Another limitation, related to the participants, refers to the non-inclusion of the investigated group of teachers from mainstream public education, the data obtained from this category of teachers would have brought more value to the study by allowing comparative analyses between the groups of teachers who work in the field of special education and teachers who teach students in the regular schools' classes. The second limitation of the study refers to the instrument for measuring the teachers' beliefs, which in this study measured only two factors, namely the individual and personal characteristics of the teachers, and the capacities and skills to teach self-determination acquired in specific self-determination training programs. It would have added more value if other factors related to teachers' beliefs and convictions to teach students self-determination behaviors and skills were included in this assessment tool. The third limitation is related to the non-inclusion of parents in the study for considering the parents' perspective regarding the opportunities at home and school to promote self-determination. This would have added a new variable to examine, as the studies have shown that there is a lack of knowledge between parents and teachers regarding the methods of generating opportunities for self-determination learning and manifestation, this discrepancy is attributed to the lack of communication between teachers and parents in the approach of a common and coherent plan for the creation of opportunities and choices for the students (Carter et al., 2009; Shogren et al., 2013; Wehmeyer and Shogren, 2016).

Implications For Future Research and Practice

In this study, we examined the patterns of relationships between teachers' beliefs and students' capacity for self-determination perceived by teachers through the prism of the influence of the opportunities created at school and the opportunities generated in the family environment. Related to future research, although we have obtained relevant findings for the Romanian self-determination context of the research regarding the mediating role of ecological factors in the school environment, and educational context, it is recommended that in future studies the opportunities to be analyzed punctually in a direct and dynamic relationship with capacities and, to the same extent, strategies for stimulating and learning of self-determination. Another direction of research consists in the investigation of students' abilities to make choices in an individual manner of the most suitable opportunities for the development of self-determined behaviors, the ability to identify, prioritize, and choose the most appropriate opportunities being a vital objective in learning self-determination. Another direction for future studies has a pragmatic characteristic and aims to examine the relationships between opportunities created in school, in the family environment, or the community, and the development of educational strategies and therapeutic and educational programs aimed at capitalizing on those opportunities for the students' benefits. Related to the educational and therapeutic practice, it is obvious that the opportunities at school and family environments, through their role as predictors of optimizing the self-determination of students with disabilities, must be key points of educational programs aimed at teaching self-determining behaviors and skills. Many of these educational programs that are based on opportunities from the educational environment and the school context, above all, can be adapted according to the students' developmental stages. The aim of these educational programs based on self-determination opportunities must be, beyond increasing the students' abilities to express

self-determined behaviors and skills, the promoting of school outcomes, vocational skills, and capacities that will find the maximum expression in the transition period toward an independent life.

In conclusion, the results of this study are a novelty for the context of self-determination research in Romania, the investigation of the effects between the teachers' beliefs related to the role of the activity of teaching self-determination and the students' capacity to express self-determination behaviors indicated that they are influenced by the opportunities created both in the socio-school context and as well as by the opportunities generated within the family environment. This study highlighted the causal chain, the relationship of reciprocity that appears in this context, positive teachers' beliefs will direct them to create opportunities for the learning and teaching process of self-determination. Therefore, this new perspective will lead to the creation of a favorable environment for the expression and enrichment of students' self-determination behaviors, with strengthening and empowering effects on teachers' beliefs and convictions.

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