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Faculty of Psychology and Education Sciences

Doctoral School of Psychology and Education Sciences

Ph.D. Thesis

Summary

**ENHANCING SELF-DETERMINATION IN THE ROMANIAN CONTEXT OF
DISABILITY: EXPLORING SOCIAL-ECOLOGICAL FACTORS THAT PREDICT
STUDENTS' SELF-DETERMINATION**

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I. The rationale for this research

In the last three decades, the literature of self-determination has expanded exponentially and new theoretical models of the construct of self-determination have been elaborated. The studies dedicated to the examination of the social-ecological factors in which children and young people with disabilities live, learn, and evolve have led to the specification of the mechanisms by which self-determination could be improved. From the same knowledge perspective, the research carried out in self-determination measurement and interventions have made great progress, several evaluation tools are built based on theoretical models, and educational programs have become evidence-based practices in the context of educational and therapeutic intervention of self-determination. On this powerful and massive trend in the knowledge of self-determination in international research contexts, the reason for initiating and developing this research project has emerged and crystallized. Although the self-determination literature and the research in special education are strongly grounded, in the Romanian framework of research and educational interventions and practice the focus on the study of self-determination of students with special educational needs is unexpectedly weak. Considering the major relevance of self-determining actions, abilities, and attitudes in enhancing the quality of life of people with special needs, as well as the gaps and needs in the research and practice, this research aims to explore the role of social-ecological factors on the development and improvement of self-determination in the Romanian context of disability.

By knowing the mechanisms and dynamics of the self-determination construct and, in particular, how they are influenced by social-ecological factors, the benchmarks of educational programs and interventions to improve students' self-determination are highlighted. The implementation of strategies to promote self-determining behavior in the educational settings, family environment, and community is essential in increasing the students' academic outcomes, transition and vocational skills, and quality of life.

Research statement and objectives

The purpose of this research is to conduct a series of several studies for exploring the role of the influence of social-ecological factors on self-determination in the Romanian context of disability.

The research objectives were based on the following assumptions:

- (1) The adaptation and validation process of the ARC's Self-determination Scale indicates that the Romanian version of the scale shows robust psychometric properties, factorial structure, and internal consistency that are similar to the original version.
- (2) Self-determination, self-concept, and student transition planning are predictors of the level of students 'life skills development.
- (3) The individual and family factors (family type and socio-economic status), as microsystem factors, play moderator roles in the relationship between self-concept and the components of self-determination, in terms of autonomy, psychological empowerment, and self-realization.
- (4) The opportunities generated by the mesosystem have an influence on the relationship between disability labels and the components of self-determination.
- (5) *Self-Determination Learning Model of Instruction*, as a proven evidence-based practice, has an impact on optimizing the performance obtained in solving academic tasks in the classroom and educational settings.

II. Thesis structure and chapters' overview

The doctoral thesis includes five studies dedicated to exploring the influence of social-ecological factors on Romanian adolescents' self-determination. In the literature, the mediating and moderating roles of these variables on self-determined actions, abilities, and attitudes have been highlighted, thus underlining the importance of the social-ecological framework.

The presentation of the studies is preceded by an introduction section dedicated to the theoretical and conceptual approaches of the main constructs of the research.

In the second chapter, we have aimed to summarize the human agentic theories and the development of self-determination, examine social-ecological factors through ecological theory, and analyze the context of disability from the contemporary perspective of human functioning,

support, and support needs. The conceptual framework of self-determination makes references from determinism, as a philosophical school, to the modern construct of human agency theories and theoretical models from positive psychology. Today, self-determination viewed through the lens of human agency theories finds numerous applications in the educational practice of students with disabilities.

The third chapter illustrated how self-determination measuring in the Romanian context of disability have been designed. **Study 1** of this doctoral research was dedicated to a preliminary cultural adaptation of the ARC's Self-determination Scale. Regarding the need to measure self-determination in the Romanian context of research and educational practice, we considered that it was imperative to adapt a tool for evaluating students' self-determination. We have chosen the ARC's Self-Determination Scale (Wehmeyer and Kelchner, 1995) which is based on the Functional Model of Self-Determination (Wehmeyer, 1993). The preliminary cultural adaptation study of the ARC's Self-Determination Scale indicated that the adapted Romanian version of the scale is a valid instrument for measuring the self-determination of Romanian students, the robust psychometric characteristics indicating an adequate factorial structure which is similar to the original scale, and the internal consistency coefficients having high values for the present study.

The fourth chapter includes a cluster of four studies that explored the influences of microsystem and mesosystem factors on students with disabilities self-determining actions, abilities, and attitudes.

Study 2 explored the relationships and effects among self-determination, life skills, self-concept, and transition planning; the study results indicated that self-determination directly affects life skills, as well as emphasized that self-concept, as a personal factor, was a predictor of self-determination components, particularly, self-concept had a strong predictor role of psychological empowerment abilities, actions, and attitudes.

Study 3 aimed to examine the influence of individual and personal social-ecological factors on self-determination. The study findings highlighted the evidence of the moderating role of microsystem factors on self-determined behaviors, gender differences, and disability labels influencing the mechanisms and dynamics of the self-determination construct. Moreover, the family type and family socioeconomic status were mediating variables, the studies have shown that they are predictors of autonomy and self-realization, two components of self-determination.

Study 4 was developed on the subject of the mediating role of the opportunities created in school for learning and the expression of self-determination, as well as the mediating role of the opportunities generated in the family environment. The study findings clearly indicated that the opportunities at school and at home influence in a differentiated way the relationship between disability labels and the components of self-determination, in terms of autonomy, psychological empowerment, and self-realization. Furthermore, students' opportunities perceptions that generate optimal learning contexts for self-determination and students' perceptions of opportunities that trigger the expression of self-determining actions, abilities, and attitudes are the benchmarks for future educational and therapeutic intervention programs and strategies aimed to improve the self-determination of all students involved in learning.

Study 5 was a multiple baseline design study. In this experimental intervention study we illustrated how an ecological mesosystem factor, in our study, an educational program, such as the *Self-Determination Learning Model of Instruction (SDMLI)* affects the academic performance of the five participating students. The results showed that in the post-intervention phase, the academic performances and acquisitions obtained were maintained at a quasi-constant level, thus, being supported and validated the effectiveness of SDLMI in the educational practice in a Romanian school.

The fifth chapter of the thesis summarizes the interpretations of overall findings, conclusions, and implications for future research and practice.

Regarding the structure of the studies included in this thesis, they comply to some extent with the requirements and standards of the *American Psychological Association* style related to the writing of scientific articles. The studies articles (1), (3), and (4) have already been published in peer review journals and have been inserted in this doctoral thesis in the form given by the publisher. The studies articles (2) and (5) were accepted to be published (in press).

III. The summary of empirical studies

Study 1. *Self-Determination Assessment and Evaluation in Romanian Adolescents: Preliminary Psychometric Properties of the ARC's Self-Determination Scale*

The purpose of this pilot test study is to examine the preliminary psychometric properties and validation process of translated, and culturally adapted ARC's Self-Determination Scale, more specifically, we were interested in exploring the factorial structure and internal consistency of the initial assessment scores in young people with learning disabilities, students with mild intellectual disabilities and moderate intellectual disabilities. The hypothesis of this research was based on assumptions related to the functional model of self-determination that postulated the simple process of setting a goal and pursuing it, has the same meaning in different cultures. By following and extending this rationale, the hypothesis of the present study is the factorial structure and internal consistency of the ARC's Self-determination Scale are similar to the original version.

The current pilot 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 students with disabilities across two counties of Romania (Iasi and Vaslui). A total number of 275 students with intellectual disabilities (mild and moderate) and learning disabilities were selected and included in the pilot study sample for the testing process.

The scale was translated into the Romanian Language, and adapted, 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). This tool is a self-report measure for adolescents with mild and moderate intellectual disabilities and learning disabilities. The ARC's Self-Determination Scale is a 72-item scale divided into 4 sections: Autonomy, Self-Regulation, Psychological Empowerment, and Self-Realization.

Exploratory Factor Analysis (EFA)

The initial factor analysis is referred to as exploratory factor analysis. We selected the Maximum Likelihood method to examine the 3 scales of adapted ARC's Self-Determination Scale for Romanian students with intellectual disabilities. This estimation method maximizes differences

between factors and provides a model fit estimate. (Taboga, 2021). For the confirmatory factor analysis, we used structural equation modeling provided by AMOS, and the recommended method, in this case, is the Maximum likelihood method. Every scale section has a different structure, the Autonomy domain is a self-report measure with answers reported on a 4-point Likert scale, the Psychological Empowerment domain involves forced answers assessed with 0 or 1, and the Self-Realization scale required dichotomic answers (*yes* or *no*, evaluated 0 or 1). Due to these differences among scales, I considered that it is adequate to analyze each domain (scale) independently.

First, we analyzed the *Autonomy* scale. The correlation matrix shows the pairwise correlations, and there are significant correlations ($p < 0.05$) among the 32 *Autonomy* items. The determinant of the *R*-matrix suggested the absence of multicollinearity. The Kaiser-Meyer-Olkin measure of sampling adequacy coefficient was 0.938. Bartlett's test of sphericity showed an approximative chi-square of 4681.180 at degrees of freedom of 180, and a significant $p = 0.000$, and these results indicate a strong relationship between the variables. For the *Autonomy* scale, communalities values were 1 for all 32 items, and after extraction the items have communalities, scores ranging from .356 and .686, these indicated the percent of variability explainable by the factors. Using the criterion of selecting eigenvalues over 1, the total variance explained that 4 components out of 32 have been produced that have eigenvalues greater than 1. These 4 factors can explain 61.232 % of the variance in the data. The goodness of fit test indicated a chi-square value = 521.728, at 249 degrees of freedom and a significant p -value ($p = .000$). We mentioned that 5 items of the Autonomy scale (Autonomy A5, Autonomy B8, Autonomy B9, Autonomy C13, Autonomy C14) were discarded due cross-loading songs and weak variance explained, and poor correlations with other items.

The second subdomain of the scale is *Psychological Empowerment*. The correlation matrix detailed the pairwise correlations, and significant correlations (at $p < 0.05$) were identified. The determinant of the *R*-matrix is .019, the multicollinearity has been avoided. The Kaiser-Meyer-Olkin's measure of sampling adequacy (KMO) coefficient was 0.860, and Bartlett's test of sphericity indicates a chi-square of approximative 1055.356, at 120 degrees of freedom, and a significant p -value less than .001. Using the criterion of selecting eigenvalues over 1, the variance explained that three components have been produced that have eigenvalues greater than 1. These

three factors can explain 51,445 % of the variance of the data. Items 43, 50, and 56 were removed due to crisscross-loading poor variance.

The examination of the third scale, *The Self-Realization*, indicated in descriptive statistics the symmetrical distribution of skewness and kurtosis values. The determinant of the *R*-matrix indicated the absence of multicollinearity. KMO coefficient = .678, Bartlett's test of sphericity indicated a chi-square of approx. 1966.507, at 91 degrees of freedom, and a significant p-value = 0.000. Communalities showed that factor extraction variance for every component had a distribution of values from .185 to .999. Applying the criterion of selecting eigenvalues over 1, total variance explained that five components have been produced that have eigenvalues greater than 1. These five factors can explain 73.249 % of the variance of the data. The goodness of fit test indicated a chi-square value = 50.110, 31 degrees of freedom, and a significant p-value = .01.

Confirmatory Factor Analysis (CFA)

The 59 items that demonstrated strong psychometric properties were identified as a result of exploratory factor analysis by using the Maximum Likelihood Method. In the following research stage, we conducted a confirmatory factor analysis within the structural equation modeling framework to examine the construct-model and factorial validity of the items identified as robust in the previous exploratory item analyses. The tested model was a hierarchical structure with three underlying domains that represent the essential components that define self-determined behavior: Autonomy, Psychological Empowerment, and Self-Realization, based on the self-determination multifaceted construct proposed by M. Wehmeyer (1999). The self-regulation component was not included in the current analysis. Based on these theoretical facts and taking into consideration the results obtained after performing EFA, in the model construction we created 12 latent variables and 59 observed variables. To improve the model fit, we applied the recommendations specified in modification indices. Consequently, the establishing of covariances between observed variables of the same latent construct.

The configural model fit was evaluated with several goodness-of-fit indices, including parameters such as chi-square value ($CMIN/df = 1.386$), the p-value for the model ($p = .000$), the absolute fit index of root mean square error of approximation ($RMSEA = .038$), comparative fit index ($CFI = .929$), Tucker-Lewis index ($TLI = .922$), and standardized root mean square residual ($SRMR =$

.05), adjusted goodness of fit ($AGFI = .792$). The results of CFA demonstrated an acceptable fit for our model.

Reliability analysis

The adapted ARC's Self-Determination Scale for students with mild and moderate intellectual disabilities, and students with learning disabilities demonstrated good to very good internal consistency. The reliability coefficients were calculated for each domain and the whole scale after the weak items with poor properties were discarded while performing CFA. The Cronbach's α coefficient value for the entire scale was .927. For each subscale corresponding to the self-determination components, Autonomy, Psychological Empowerment, and Self-Realization, the Cronbach's Alpha values were: .950; .790; .764.

Study 2. Building the Future: A Structural Equation Modeling Approach of Relationships among Self-Determination, Self-Concept, Student Transition Planning, and Life Skills

The purpose of the current study is to investigate the direct, indirect, and interaction effects manifested among self-determination components, self-concept, student transition planning, and life skills development in students with learning disabilities and intellectual disabilities. The first goal of this study was to examine how student transition planning, as a mediator, influenced the relationship between self-determination components (autonomy, self-regulation, psychological empowerment, and self-realization), and life skills development. The second goal was to explore the psychological, educational, and social mechanisms through which self-concept, as a moderator, is a predictor of life skills development.

The present study was based on a convenience sampling method. The participants were recruited from 5 middle schools for students with disabilities, and 2 vocational high schools for adolescents with disabilities across 2 counties of Romania (Iasi and Vaslui). A number of 304 students with learning disabilities and intellectual disabilities (mild and moderate) were included in a sample for the testing process.

Structural Models

The first created model was a latent causal model to examine the direct effects of self-determination components on life skills development and the mediation effect of student transition planning on the relationship between self-determination and life skills.

The latent causal model was estimated with several goodness-of-fit indices, including parameters such as the absolute fit index of standardized root mean square residual ($SRMR = .054$), adjusted goodness of fit index ($AGFI = .851$), incremental and relative fit indices such as comparative fit index ($CFI = .948$), Tucker–Lewis index ($TLI = .932$), and parsimony adjusted fit index - root mean square error of approximation ($RMSEA = .056$). The estimation of the parameters demonstrated an acceptable fit for our model.

The second model was a causal path model which was designed to estimate the interactions, particularly, in the framework of the moderator role of self-concept in the relationships between self-determination components and life skills development. The estimation of the path causal model indicated adequate model fit indices: p -value for the model, $p = .000$, $CFI = .987$, $TLI = .932$, $RMSEA = .034$, $SRMR = .033$, $AGFI = .893$.

Summary of study results

Direct effects

Research has highlighted that self-determination positively affects factors associated with academic achievement and quality of life for students with learning disabilities and mild and moderate intellectual disabilities. In this study, we developed a latent causal model to estimate the patterns of direct relationships between self-determination components - autonomy, self-regulation, psychological empowerment, self-realization, and life skills development in students with learning disabilities and students with mild and moderate intellectual disabilities. Our findings suggested that self-determination components affect directly, in a positive way life skills development.

Indirect effects

We attempted to examine the assumption of that student transition planning has a mediating role in the relationship between self-determination and life skills development in students with learning disabilities and students with mild and moderate intellectual disabilities within a

structural causal latent model. The results of estimating students' transition planning mediating effect on the relationship between self-determination components and life skills showed that student transition planning does not play a mediating role in the relationship between the four self-determination components and students' life skills development. Searching the literature to find out explanations to support the study results, we found that several researchers have suggested that transition planning can have a positive impact on postschool academic outcomes (Test et al., 2009) and that families who are actively involved in transition planning report greater satisfaction with transition outcomes for their children (Cooney, 2002; Neece et al., 2009). Best practices in transition planning emphasize student and family involvement, and the development of an individualized transition plan focused on developing student skills linked with desired academic and life outcomes (Alwell & Cobb, 2006; Test et al., 2006). Another perspective is given by researchers who argued that many schools fail to meet minimum levels of compliance with the transition planning requirements, particularly in the areas of service coordination and interagency collaboration, student and family involvement, basing goals on student's preferences and interests, and linking transition goals to academic experiences (Johnson et al., 2002), and, unfortunately, less to life skills development. We sustained our study results, the absence of mediating effects of student transition planning in the relationship between self-determination components and life skills development through the minimalized relevance of the dynamic liaison among life skills (or functional curriculum), self-determination, and student transition planning which is not particularly mentioned in the literature, research, and practice, the importance of academic outcomes instead of life skills developments being frequently highlighted and promoted.

The moderator role of self-concept

We estimated in a structural equation model, particularly, within a causal path model, the moderator role of self-concept among the four self-determination components and life skills development in students with learning disabilities and students with mild and moderate intellectual disabilities. Our findings showed directionally an interaction between self-concept and autonomy, in other words, self-concept strengthens the relationship between autonomy and life skills. This outcome can be related to similar studies' findings which reported the moderation role of self-concept in affecting academic achievement in a significantly positive way. (Zheng et al, 2014; Shogren et al., 2007; Wehmeyer et al., 2011). Another finding confirmed the assumption that self-

concept has a moderator role in the positive relationship between student transition planning and autonomy. In the same framework, the study findings suggested that self-concept strengthens the positive relationship between self-regulation and transition planning. The results supported that self-concept is a predictor of autonomy and self-regulation, two self-determination components. We consider that these findings can explain how self-concept, as a multifaceted construct, can predict the level of autonomy and self-regulation mechanisms engaged in student transition planning. These are critical to understanding the importance of post-school achievement and vocational outcomes for students with disabilities, particularly for those with intellectual disabilities.

An unexpected outcome of this study indicated that self-concept dampens the relationship between psychological empowerment and life skills. Acting in a psychologically empowered manner referred to the multiple dimensions of perceived control, including cognitive (personal efficacy), personality (locus of control), and motivational domains (Zimmerman, 1990). Essentially, self-determined people act based on a belief that they have control over circumstances that are important to them (internal locus of control), possess the requisite skills to achieve desired outcomes (self-efficacy), and if they choose to apply those skills, the identified outcomes will result in (outcome expectations) (Wehmeyer & Kelchner, 1995). Taking into consideration these relevant facts, we sustained that self-concept is a predictor of psychological empowerment and personality dimensions, and less, and in a directionally negative way for life skills development.

Study 3. The Moderating Role of Microsystem Factors in the Relationship Between Self-concept and Self-determination in the Romanian Context of Disabilities

Adequate knowledge of the individual, personal ecological factors, and family contextual factors plays an essential role in triggering and influencing the learning mechanisms of actions, skills, and self-determined attitudes of students with disabilities ((Shogren et al. 2013, Wehmeyer, 2022). The development and expression of self-determination are influenced by one's personal culture, which is shaped by multiple intersecting factors, including age, gender, disability, and family background (Shogren et al., 2018). In the framework of Romanian research, there is a lack

of studies that highlight the specificity of personal and contextual ecological factors in the dynamic relationship between self-concept and the components of self-determination.

The purpose of the present study is to investigate the impact of microsystem factors on the relationship between self-concept and the components of self-determination, in terms of autonomy, psychological empowerment, and self-realization in students with learning disabilities, and mild and moderate intellectual disabilities. The objectives of this study refer to a) examining the mechanisms through which the individual factors of gender, age, and disability label have on the relationship between self-concept and self-determination, b) investigating the influence that family factors have on the relationship between the same two constructs, self-concept, and self-determination.

The participants were selected from five middle schools for students with special educational needs, and two vocational high schools for adolescents with disabilities across two counties in Romania. A total number of 304 students aged between 12 and 19 years ($M = 14.93$; $SD = 1.42$), having disability labels of mild and moderate intellectual disabilities and learning disabilities were included in a convenient sample.

Summary of study results

Beyond the influence of contextual and microsystem factors that can affect the relationship between self-concept and self-determination, it is essential to mention that the findings of the present study sustained that self-concept predicted self-determination behaviors through the prism of its components - autonomy, psychological empowerment, and self-realization. Our findings are supported by similar outcomes in the literature, some studies indicated that self-concept is a predictor of self-determination. Zheng et al. (2014) offered an empirical explanation of how self-determination and self-concept affect academic achievement for adolescents with learning disabilities. Additional research has suggested that self-determination and self-concept positively affect factors associated with academic achievement for students with disabilities (Goldberg et al., 2003; Lackaye & Margalit, 2006).

The moderator role of disability label

The results of the study suggested that the three types of disabilities investigated - learning disabilities, mild and moderate intellectual disabilities manifested a moderating role only in the

relationship between self-concept and self-realization. For the other two components of self-determination - autonomy and psychological empowerment, the findings do not support the moderating role of disability in relation to self-concept. The results indicated that the learning disability label is a strong predictor of attitudes and actions related to self-realization, followed by moderate and mild intellectual disabilities. In other words, the development of the components of self-determination is linked to the disability label. In the group of students with learning disabilities, the behaviors and abilities related to self-determination are at a higher level of development and functioning, a level that decreases in the groups of students with mild and moderate intellectual disabilities. This outcome is also supported in the literature, researchers have shown that there is a direct relationship between the level of self-determination and cognitive development, respectively intelligence and adaptive behavior, and previous studies found that disability label influences relative levels of self-determination, students with lower levels of cognitive capacity tend to report lower levels of self-determination (Nota et al., 2007; Shogren et al., 2007; Wehmeyer and Garner, 2003).

The moderator role of age and gender

Regarding the individual factors of gender and age, the results of our study must be analyzed and nuanced, from the perspective of the cultural context in Romania in which children with disabilities evolve and are educated. Thus, the results of our study show that the gender variable plays a differentiated moderating role in the relationship between self-concept and the components of self-determination, more precisely, we identified statistically significant differences between boys and girls participating in the research in predicting attitudes, actions, and the self-determining abilities specific to the components of psychological empowerment and self-realization. In this context, our findings indicated that self-concept predicted psychological empowerment, in different ways related to gender. More precisely, gender plays a moderating role in the relationship between self-concept and psychological empowerment, and in the boys' group self-concept was a stronger predictor of psychological empowerment than in the girls' group. Similarly, self-concept predicted attitudes and behaviors specific to self-realization, another self-determination component. Related to the mechanism by which gender moderated the relationship between self-concept and self-realization, the findings showed that this relationship is stronger in the boys' group than in the girls' group. Regarding autonomy, the findings showed that there are no statistically

significant differences between males and females regarding the mechanism by which self-concept predicted autonomy. Moreover, gender does not play a moderating role in the relationship between self-concept and autonomy. These results should be viewed and understood from the perspective of the cultural context in Romania, related to how children are educated to form and develop behaviors and skills associated with self-determination, and in which there are some tendencies to develop specific competencies in boys' psychological capacity and for girls to encourage the behaviors and attitudes specific to self-realization.

Regarding age, although most authors accept that there is a developmental trend, with levels of self-determination increasing throughout adolescence (Wehmeyer et al., 2011), this trend also seems to be a function of context, at least for adolescents with intellectual disabilities (Gómez-Vela et al., 2012; Nota et al., 2007). Nevertheless, although age may not be a significant factor influencing self-determination levels in this study, it must be considered when an intervention is designed (Vicente et al., 2019, Wehmeyer et al., 2011).

The influence of the family

About the specific characteristics of the family contextual factors, we investigated the role of multicategory variables such as the type of family in self-determination components development. In this framework, we considered three subtypes of family configurations, respectively, the nuclear family, the single-parent, and children and young people with intellectual disabilities without family, under the assistance and care of social services. Also, another family factor influence that we explored was the socioeconomic influence on the enhancement of self-determined behaviors. We found that both factors, the family type, and family socioeconomic status did not predict autonomy, one of the components of self-determination. Moreover, the study findings supported different outcomes regarding the influence of family factors in the relationship between self-concept and the other two components of self-determination: psychological empowerment and self-realization. The findings of our study claimed that in the cultural context of representations related to the typology of the family and its role in Romanian society, the configuration of the family environment has a role as a predictor of psychological empowerment and self-realization behaviors and attitudes. Also, the family socio-economic factor predicted the actions, attitudes, and self-determined abilities related to self-realization. And this result must be explained through the lens of the cultural context in Romania, in which there may be a tendency for the family's

socio-economic status to be in a strong positive relationship with the self-realization attitudes of children and young people with and without disabilities. The results of the study are confirmed by other similar studies, in this sense, the research argued that family income played a role in the financial independence and autonomy of young people with intellectual disabilities (Wehman et al., 2015). Researchers indicated also that family type and socioeconomic status predict positively or negatively psychological empowerment and self-realization skills and behaviors, in terms of students' post-school outcomes and the inclusion rate of young people with disabilities in university study programs (Shogren et al., 2014).

Study 4. Exploring Influences of Mesosystem Factors on Self-Determination of Romanian Students. The Mediating Role of Students' Perceptions of Opportunities

The current trends in self-determination literature research illustrate the essential role of self-determination and its promotion in optimizing the quality of life of students with disabilities. (Wehmeyer, 2022). Self-determination is interpreted as a dynamic construct in a continuous relationship with micro-, meso-, and macrosystem factors. Under the spectrum of ecological theories of human development, microsystem factors referred to individual and personal traits, and mesosystem factors are in the person's proxy environment, in the particular case of students with disabilities, these are the factors that are generated by the school context and the family environment, the opportunities for learning and the manifestation of self-determined behaviors are included in this category. Micro- and mesosystems factors are in continuous interactions with the macrosystem components which are linked to cultural norms and beliefs and societies' public policy. (Bronfenbrenner, 1979; Shogren, 2013).

Taking into consideration the assumption supported in the self-determination literature that creating opportunities for learning self-determined behavior is crucial, the purpose of the present study is to explore the type of relationships, in terms of direct, and conditional indirect effects among developmental psychological levels related to disability labels, opportunities in the Romanian school context, opportunities in the family environment, and self-determination. The first goal of the study was to investigate the patterns of direct effects among the psychological development specific to a certain type of disability and autonomy, empowerment, and self-realization, as components of self-determination, as well as opportunities at school and at home,

as mediators. The study's second objective was to examine the mediating roles of opportunities at home and opportunities at school on the relationship between the level of psychological development specific to a disability label and self-determination and its components, in terms of autonomy, psychological empowerment, and self-realization.

The sample was selected using simple random sampling. A total of 212 students with and without support needs participated in the study. The research sample included students without a disability label, students with learning difficulties, and intellectual disability. The students who did not have a disability label and the students with learning disabilities were enrolled in the 7th and 8th grades in two public middle schools that they followed the Romanian general educational curriculum specific to regular middle schools. The students with intellectual disability were selected from three special middle schools and two special vocational high schools for students with special educational needs across two counties in Romania.

Self-determination actions, abilities, and attitudes measurement

To measure self-determination and behaviors and associated skills with autonomy, psychological empowerment, and self-realization, we used ARC's Self-Determination Scale, the version adapted for Romanian students (Cristea & Ghergut, 2022).

Measuring students' perceptions of opportunities for self-determination

For this study, to assess and measure how students perceive in the school context and the home environment the opportunities for learning and expressing self-determination behaviors and competencies, we used The AIR Self-Determination Scale, the student form (Wolman et al., 1994). Based on the self-determination learning theory, the AIR Self-Determination Scale was developed by the American Institute of Research (Mithaug et al., 2003; Wolman et al., 1994) to assess and develop strategies for enhancing participants' level of self-determination. In the preliminary process of cultural adaptation and validation of the AIR Self-Determination Scale, the 30 items of the scale 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). After the culturally adapted translation in the Romanian language of the scale items of *Opportunities at school* domain (6 items) and *Opportunities at home* domain (6 items), we realized a preliminary exploratory factor analysis through the Maximum likelihood method which highlighted the fact

that for the scale of *Opportunities at school*, the communalities had values between .60 and .78, the total variation (63.19%) after extraction is explained by one factor corresponding to the field of opportunities created in the school context. Similarly, for the scale of *Opportunities at home*, the initial exploratory factorial analysis indicated that communalities had values ranging from .62 and .82, and the total variation (71.24%) was explained by one factor equivalent to the domain of opportunities generated in the family environment.

The internal consistency and reliability analysis proved that the two scales for measuring students' perceptions of opportunities from the educational environment and from the family context for the sample used in this research demonstrated adequate reliability coefficients, the Cronbach's *Alpha* for the scale of *Opportunities at School* having the value of .93, and for the *Opportunities at Home* scale Cronbach's *Alpha* was .90.

Summary of study results

Direct effects

The results of this study indicated the existence of direct effects between the disability label and the opportunities created in the Romanian educational environment and the family contexts. More precisely, the disability label predicted the ability to identify learning self-determination opportunities and also the opportunities for the expression of students' self-determining behaviors and abilities. Studies from the literature supported our findings, emphasizing the relevance of creating opportunities at school for the acquisition and manifestation of self-determination action, abilities, and attitudes, in this framework the implementation of evidence-based practices 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).

The study findings claimed that the opportunities created in Romanian educational settings and family environments predicted behaviors specific to autonomy, a component of self-determination, as well as global self-determination. It is interesting, however, that the opportunities for self-determination, whether they come from the school context or are specific to the family environment, did not predict psychological empowerment or self-realization, the other two components of self-determination. An explanation would be that psychological empowerment and self-realization can be predicted by rather individual or personal factors, such as personality traits or self-concept, and less by external factors, related to the ecological environment of the

mesosystem (Cristea & Ghergut, 2023). Similar results were also obtained by researchers who indicated that providing opportunities both at school and at home supported students with and without disabilities to engage in self-determined actions (Carter et al., 2009; Cavendish, 2016; Pierson et al., 2008; Shogren et al., 2007).

The study findings indicated the direct effects of disability labels on global self-determination, more precisely, learning disability, mild and moderate disability labels predicted self-determination behaviors and skills and autonomy. Other studies found similar direct effects, which allowed the formulation of the assumption that the level of cognitive development is a predictor of self-determined behaviors (Shogren et al., 2007; Wehmeyer et al., 2011).

Indirect effects

The results of the present study indicated that the opportunities created in the educational environment, in the school context, and in the family environment mediate the relationship between disability labels and self-determination, as well as the relationship between disability labels and autonomy, one of the components of self-determination. The mediating role of school and home opportunities is exercised differently across disability labels. Thus, the study findings indicated that the opportunity for self-determination positively strengthens the relationship between psychological development specific to children without disabilities and self-determination. Similarly, opportunities to learn and express self-determination positively strengthen the relationship between learning disability labels and self-determination behavior and skills. Self-determination opportunities do not act constantly in the same mediating scenario, which negatively can influence the relationship between the mild and moderate intellectual disability labels and self-determined behavior, skills, and attitudes. These outcomes could be interpreted, in a more nuanced way, in the general sense that students with mild and moderate intellectual disability, on the one hand, encounter difficulties in finding opportunities for learning self-determination, or, on the other hand, it may be that the school contexts do not provide a diverse range of learning opportunities and expression of capacities for self-determination for students with disabilities. Based on the present study outcomes would at least theoretically support the idea that in educational environments in Romania and the family environment, students with and without disabilities should find appropriate opportunities and resources to learn self-determining behaviors and skills, to manifest autonomous behaviors and attitudes, to the same extent as

identifying opportunities through which to give expression to the capacities for self-determination. These study findings are supported by the results of other studies that prove that opportunities, as seen as a dynamic interaction of mesosystem factors, play an essential mediator role in the relationships between disability labels and self-determining actions, abilities, and attitudes. In the context of the opportunities for self-determination, the research indicated the school setting factors and the educational environment triggers that can influence self-determination. These vectors referred to educational programs that promote the learning of self-determining behaviors and attitudes, the level of the support needs provided, inclusive experiences, access to the general education curriculum, planning and specific interventions during the period of the transition to the next stages, including the transition to independent adult life (Lee et al., 2012; Raley et al., 2020; Shogren et al., 2012).

Study 5. The Impact of the Self-Determination Learning Model of Instruction in Improving School Task Performance Behaviors in Students with Mild to Moderate Intellectual Disabilities. A Multiple Baseline Design Study

In the Romanian educational system, specific programs focusing on learning behaviors and skills related to self-determination are lacking. From the multitude of evidence-based practices in self-determination skills, we chose *Self-Determination Learning Model of Instruction* (SDLMI) (Shogren et al., 2017), because it is tailored to the needs of students with mild and moderate intellectual disabilities and is very well structured in a hierarchical manner from simple to complex, and it is easy for students to follow it. The researchers showed that SDLMI can be successfully applied in the educational practice not only for learning self-determining behaviors but also for the purpose of improving school performance when students have to solve specific academic tasks (Shogren et al., 2017; Wehmeyer et al., 2012).

The present study aims to explore the impact of SDLMI in optimizing the performance obtained in solving academic tasks in the classroom and educational settings. In this research context, academic performance is operationalized as improving performance in school tasks, such as: (1) enhancing reading comprehension, (2) increasing vocabulary communication skills, (3)

improving math problem-solving, (4) making choices in pre-vocational activities; (5) goal setting and attainment.

5 students with mild and moderate intellectual disabilities enrolled in 8th grade, Special Middle School, Constantin Paunescu” of Iasi participated in this study. The research took place on the school campus of Constantin Paunescu Special Middle School of Iasi, especially in the Speech-Language Therapy office, as well as in the classroom of the participating students. SDLMI was implemented in equal measure by the speech-language therapist, a special education teacher, and a teacher-educator for complex and integrated therapies, the team formed by these specialists working with the five students participating in the study.

Independent variable

For a period of 7 months, the Self-Determination Model of Learning and Instruction was implemented during the learning and therapeutic educational activities to the selected 5 students, following the 3 phases of the program: Phase 1 - *Set a Goal*, Phase 2 - *Take Action*, and Phase 3 - *Adjust Goal or Plan*.

Dependent variables

In this research, five dependent variables were considered for measuring and estimating the performance of students on school tasks, and in a synthetic way, the behaviors related to dependent variables are operationalized and defined as follows: (1) *Enhancing reading comprehension skills*; (2) *Increasing vocabulary communication abilities*; (3) *Improving math problem-solving competencies*; (4) *Making choices in pre-vocational activities*; (5) *Goal setting and attainment skills*.

Experimental design and conditions

The experimental design was a multiple baseline across participants design to evaluate the effects of the SDMLI program on the school task performance behaviors of the 5 students participating in the study. Experimental conditions included *baseline*, *SDLMI instruction*, and *maintenance*.

Summary of study results

The results of the study were quantified from the data obtained in the three experimental stages. The number of interventions specific to the three stages differs from one participant to

another. The results of the study indicated that SDLMI has a beneficial impact on students' school task performance, the effects of the application of the SDLMI program were manifested by obvious improvements and increases in the scores of the investigated academic behaviors and competencies.

Reading comprehension

Regarding this competence of decoding and understanding the reading of texts, the results of the study clearly indicated that the implementation of SDMLI has the effect of positive changes in the ability to understand the reading of texts of medium difficulty. In the literature dedicated to self-determination, several studies have supported the major role that SDLMI plays in improving academic achievement, including reading comprehension and processing, and reasoning skills (Fowler et al., 2007; Lee et al., 2015; Shogren et al., 2013).

Vocabulary communication skills

The study findings indicated that the procedural and cyclical application of SDMLI in controlled experimental contexts of learning and therapy determined for the five participants significant and stable increases in the volume of active and passive vocabulary and in the improvement of expressive and impressive language skills. The results obtained in the present study are supported by similar studies that also highlighted the positive impact of SDLMI on vocabulary activation and oral communication skills in various communication situations (Burke et al. 2018; Fowler et al., 2007; Wehmeyer, 2007).

Math problem-solving

Previous studies demonstrate the effectiveness of SDLMI application in training and strengthening general problem-solving behaviors in general, and, in particular, in improving math problem-solving skills (Raley et al., 2018; Wehmeyer et al., 2012). In the present study, through the implementation of SDLMI in school tasks aimed at improving mathematical skills, improvements were highlighted in terms of the linguistic processing of problem requirements, the structuring of problem-solving in procedural steps and solving algorithms, and reasoning and calculation skills arithmetic.

Choice-making

The ability and behavior to make choices are circumscribed to the category of skills associated with the self-determination construct. Through its structure, SDLMI promotes the development of decision-making behavior, and knowing how to make choices is a vital element of this type of behavior, especially in the context of intellectual disability (Chou et al., 2017; Hagiwara et al., 2017; Raley et al., 2021). The results of the study supported this paradigm through relevant findings for the participants. In the Romanian educational system, the pre-vocational activities take place within the Counseling and school and professional guidance classes. In these particular pre-vocational activities, the students participating in the study stood out for their higher decision-making and choice-making skills related to a possible future profession, these results being another proof of the effectiveness of the SDLMI program.

Goal setting and attainment

Study findings showed that the capacity for setting goals and objectives and planning activities to achieve them improved. The results of the study are reflected in the self-determination literature, several studies have indicated the beneficial impact of SDLMI on goal setting and attainment skills development, as essential behaviors of the self-determination construct (Hagiwara et al., 2017; Lee et al., 2015; Shogren et al., 2019; Shogren et al., 2021).

The measurements made with the preliminary adapted AIR Self-determination scale for Romanian students at the beginning of the baseline phase and at the end of the maintenance phase indicated, for each participant, obvious increases in the scores for Capacities, more precisely those of Knowledge, Abilities, and Perception. These outcomes supported the application of SDLMI also leads to the improvement of students' capacities for self-determination.

IV. Conclusions. Implications for Practice

In this doctoral research, we explored the role of social and ecological factors in improving the self-determination of students with intellectual disability. Searching the self-determination literature, we've concluded the studies included in this doctoral thesis are the first conducted in the Romanian research context of disability.

We believe that *conceptual contributions* have been revealed in this research approach, by bringing into discussion theoretical models of the self-determination construct, focusing on the field of special education and disability framework. Thus, the evolution of the construct of self-determination throughout the history of the humanities was analyzed precisely from determinism in philosophy to the nowadays, the current meaning of the self-determination concept in the sciences of human behavior. Theoretical contributions circumscribe the models of knowledge that explain the construct of self-determination. Given the vital role of this construct in the success of educational, professional, and social inclusion of people with disabilities, reflected in their quality of life, it was essential to know and analyze the self-determination construct in terms of conceptual approaches, definitions, knowledge of components and characteristics of self-determined actions, abilities, and attitudes. Theoretical models of self-determination have been described, the Functional model of self-determination (Wehmeyer et al., 1993), and Causal agency theory (Shogren et al., 2015), being often used as theoretical foundations in empirical research.

The construct of self-determination has not been examined in isolation but from a dynamic perspective, in close conditioning relationship and interdependence with ecological and social factors. Through the theory of social-ecological factors (Brofenbrenner, 1979; Shogren, 2013), we synthesized knowledge about microsystem, mesosystem, macrosystem, and chronosystem factors that have influences on learning and expression of the self-determination of people with disabilities. Another theoretical contribution referred to bringing into a discussion the contemporary perspectives on the context of disability (Thomson et al., 2009). In this framework, the support needs paradigm for people with disabilities has been imposed in the literature in recent years, replacing the approach of special needs of people with disabilities exclusively through the prism of deficit, deficiency, and disorder conditions.

In terms of *methodological contributions*, in this doctoral research approach, we managed to adapt the ARC's Self-Determination scale (Wehmeyer and Kelchner, 1995) for measuring the self-determination of students with disabilities. The Romanian-adapted version of the ARC's Self-

Determination scale proved robust psychometric properties, and the factorial structure and the internal consistency and reliability coefficients claimed that this instrument is valid and reliable for measuring self-determination and self-determination components in Romanian students.

Another self-determination assessment tool used in this doctoral research was the AIR Self-Determination scale, the student form (Wolman et al., 1994). Based on the Self-determination learning theory, the AIR Self-Determination Scale was developed by the American Institute of Research (Mithaug et al., 2003; Wolman et al., 1994) to assess and develop strategies for enhancing participants' level of self-determination. We developed a pilot study for AIR Self-Determination scale validation; the preliminary Romanian adapted version of AIR SD scale proved adequate psychometric characteristics for measuring *Opportunities at school* and *Opportunities at home*, as well as for measuring *Abilities*, *Capacity*, and *Knowledge* for self-determination of students with disabilities.

The tools for assessing self-concept (Five-Factor Self-Concept questionnaire, Garcia et al., 2014), as well as student transition planning (Student Questionnaire Transition Planning, Connecticut Transition Task Force, 2008) and for assessing the level of development of life skills (Pediatric Evaluation of Disability Inventory, Haley et al., 2011) have been translated and adapted for Romanian students. In the process of validating these evaluation tools, exploratory and confirmatory factorial analyses indicated that they were valid instruments, with adequate psychometric characteristics and good to very good internal consistency and reliability coefficients.

Another important methodological contribution of this doctoral research was the elaboration of functional behaviors checklists for students' school performance related to academic skills such as reading comprehension, vocabulary communication skills, math-problem solving, choice making, goal setting and attainment skills. These checklists for monitoring and evaluating students' school performance were conducted for experimental study (Study 5) which aimed to examine the effect of the *Self-Determination Learning Model and Instruction* on the academic performance of students with intellectual disabilities.

Regarding the *contributions of empirical studies*, we believe they are a novelty in the Romanian research on self-determination, the studies' findings highlight the major role of social-ecological factors, in terms of microsystem and mesosystem, on the self-determination of students with disabilities. An important outcome of this research indicated that the components of self-

determination, in terms of autonomy, psychological empowerment, and self-realization have direct effects on the level of life skills development. It seemed that the more self-determined a person is in his or her actions, the higher the abilities for life will be, which would have relevant effects on the person quality of life. Our research has evidently highlighted the role of individual factors of gender, age, disability label, family type, and socio-economic status of the family in predicting self-determined behaviors and skills in the Romanian cultural context of disability. The study results revealed differences between the characteristics of self-determination depending on disability label and gender. Similarly, family socioeconomic status is a predictor of self-realization and autonomy. Other study findings emphasize the crucial role of the opportunities created in the school context and in the family environment in learning and expressing self-determined behaviors and skills, actions and attitudes. It is essential to identify opportunities that trigger students' self-determined behaviors, thus educational programs and intervention strategies aimed to increase and improve students' self-determination could be elaborated. Within this framework, of implementing educational programs that lead to stimulating students' self-determination, Study 5 of this research was carried out. This experimental multiple baseline design study proved the effectiveness of the *Self-Determination Model of Learning and Instruction* educational program in both students' academic performance and specific self-determined behavior.

Related to educational practice and therapeutic interventions, we strongly believe that once the mechanisms and aspects through which the individual, personal, family, and socio-school and community contexts in which students with disabilities evolve are highlighted, the foundations for educational intervention programs that promote self-determination in students with disabilities were laid. We consider it is essential that educational interventions and strategies are individualized according to each child or adolescent with a disability, and in the planning and application of these strategies and methods to consider ways to improve the gaps imposed by certain personal characteristics of the students. Also, further studies should highlight those individual or contextual factors that predict actions, and self-determined abilities. Therefore, considering these factors that positively predict desirable results associated with self-determination, this aspect will lead to the choice of the most appropriate educational and therapeutic intervention methods. Instructional and environmental supports can be created to promote the growth of four essential components of self-determination (autonomy, self-regulation, psychological empowerment, and self-realization) and related elements - express preferences,

solve problems, engagement in making choices and decisions, or setting goal and attainment. Knowing the influence of personal, individual, and contextual microsystem and mesosystem factors is intended to implement specific evidence-based practice strategies in educational settings and therapeutic practice. To support this statement, a meta-analysis carried out by Burke et al., in 2020 highlighted the adaptation of evidence-based practice programs to the individual personal and individual characteristics and needs of students. Moreover, a systematic review carried out by Rowe et al., in 2021 indicated that evidence-based practices must be adapted to the personality traits and individual characteristics of students with disabilities enrolled in secondary education programs and implemented during the transition period. These interventions had positive effects in optimizing behaviors and skills associated with self-determination, such as self-advocacy (*Self-advocacy strategy*, Rowe et al., 2019), choice and decision-making skills, solve-problems, planning, setting goals and attainment (*Self-Determined Learning Model of Instruction*, Shogren et al., 2018), engagement, self-efficacy, and career planning (Sowers et al., 2017). In this frame, the experimental studies showed that the educational and therapeutic intervention programs that have been developed as evidence-based practices tailored according to individual and personal factors in interaction with family and school contextual variables have significantly improved the development of self-determined abilities, actions, and attitudes with a positive impact on students' well-being and quality of life.

As a final conclusion, we conclude that self-determination as a person's volitional disposition to act to become a causal agent of one's own life is a field of knowledge that requires even more exploration. By researching the dynamics and mechanisms of how self-determination interrelates and interacts with social-ecological factors, the foundations are laid for the elaboration of educational programs that promote self-determined behaviors and skills of children and young people with disabilities. Creating educational programs for learning and manifesting self-determined behaviors should be a priority for researchers and education practitioners in Romania. This massive trend of knowledge and research of self-determination is still current in the international scientific context and educational practice of self-determination, several educational programs and evidence-based practices proving their effectiveness and efficiency in enhancing self-determination actions, abilities, and attitudes in students with disabilities.

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