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SUMMARY OF PhD THESIS

***EXAMINING ATTITUDES TOWARD THE INCLUSIVE EDUCATION OF
INDIVIDUALS WITH SPECIAL EDUCATIONAL NEEDS AMONG
HUNGARIAN TEACHERS IN TRANSYLVANIA***

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CHAPTER I. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

1.1. Educability of Individuals with SEN and the Conceptual Frameworks of Inclusive Education

The currently prevailing concept of Special Educational Needs (SEN) has been shaped over recent decades by significant shifts in perspectives and paradigms, driven by transformations in cultural, social, and legal frameworks (McDonald & Raymaker, 2013).

The three dominant approaches that have fundamentally influenced beliefs regarding individuals with SEN and determined perspectives concerning their social positioning are the *medical model*, the *social model*, and the *biopsychosocial approach* (Berghs et al., 2016). These perspectives differ considerably in terms of how they interpret the underlying causes of disability, as well as what they emphasize regarding possible solutions or intervention strategies in relation to the contributions of the individual and the environment. These differing attitudes substantially influenced the fundamental understanding of the rights, opportunities, and social roles of affected individuals, directly shaping their everyday experiences and quality of life (Brinkman et al., 2023). The *medical model* emphasizes a deficit-oriented perspective, attributing the source of the problem to the individual and to the quality of their physical and mental functioning, thereby suggesting that the problem resides within the affected person (Zaks, 2024).

The *social model* emerged as a response to this deficit-oriented approach. Its central assumption is that the source of difference does not lie within the individual or in their physical and mental characteristics, but rather in societal deficiencies and the structural and functional barriers present within society. According to this perspective, society and the environment fail to adequately satisfy and provide the conditions and resources necessary for affected individuals to adapt appropriately and participate actively in social life (Zaks, 2024). However, criticism of this model highlights its one-sidedness, arguing that its excessive emphasis on societal factors may overlook other relevant psychological, mental, or physical factors related to the individual that can also substantially influence quality of life (Owens, 2014).

In response to these limitations, a more holistic perspective, the so-called *biopsychosocial model*, began to gain prominence and currently represents one of the dominant frameworks for understanding different types of disabilities and the circumstances of individuals with impairments (Petasis, 2019). This approach emphasizes that biological,

psychological, and sociocultural factors all play an active role in shaping the condition, physical and mental state, social functioning, and overall quality of life of affected individuals (Alyafel & Chauhan, 2025).

The approaches emphasized by these different paradigms also resulted in substantial differences regarding the perceived educability and teachability of individuals with SEN, as well as the legal and institutional regulations governing their access to education and the nature of their educational experiences. During the dominance of the medical model, when conformity to a particular norm was emphasized, individuals who deviated from this norm (for example, individuals with intellectual disabilities) were often completely excluded from educational systems, as they were not considered educable (Vyas & Bano, 2015). In other cases, full adaptation was expected solely from the affected individual, while no adaptation was encouraged from the educational system itself. Since this perspective focused primarily on correcting deficits, mainstream education was considered unsuitable for such purposes, which greatly contributed to the emergence and spread of segregated educational models (Zaks, 2024).

Segregation derives from the concept of separation and isolation and, within pedagogical contexts, refers to situations in which children do not participate in mainstream education but instead study separately in special institutions or classrooms together with students with various types of disabilities (Hegarty & Alur, 2002). In these contexts, individualized curricula adapted to students' abilities, additional support services, and special education professionals facilitate the learning process, thereby supporting individualized educational approaches. However, the major disadvantage of segregation lies in the fact that it significantly hinders social integration and community inclusion, thereby deepening stigmatization and marginalization (Cook et al., 2001).

With the emergence of the social model, the concept of the *Least Restrictive Environment* (LRE) also appeared (Stone, 2019). This principle states that educational settings and opportunities should be created in a way that optimally supports the development of every child's abilities and does not hinder their personal growth. This approach provided the foundation for *integrated educational* principles (Vyas & Bano, 2015). Integration efforts offer numerous benefits, as mainstream educational environments and cooperation with neurotypical peers can support the socio-emotional development of students with SEN (Lopatynska et al., 2023) and the acquisition of adaptive behavioral patterns (Dixon, 2005). However, due to insufficient teacher preparation, overcrowded classrooms, and lack of resources (Allam & Martin, 2021; Gonzaga et al., 2024; Vorlíček, 2024), integration often results only in so-called

“cold integration,” in which students with SEN are expected to fully adapt instead of the educational system adapting to their individual needs (Allam & Martin, 2021).

Against the backdrop of these shortcomings, the concept of inclusive education gradually emerged, primarily shaped by the principles of the biopsychosocial approach (Minghelli et al., 2023; Norwich, 2016). Inclusion represents an approach that goes beyond mere integration and co-education, aiming instead at full and active acceptance of every child regardless of their physical, mental, or social characteristics. In terms of legal foundations, one of the most influential agreements and core documents is considered to be the Salamanca Statement (Ainscow et al., 2019).

UNESCO’s statement on the fundamental principles concerning the education of individuals with SEN was the first to explicitly declare that inclusion is not merely a pedagogical issue but a fundamental human right (Central Board of Secondary Education, 2020). Its core principles state that every child has an equal right to access education. Consequently, schools must become inclusive environments in which educational processes are adapted to individual needs and students’ specific ability structures (Winter & O’Raw, 2010). Diversity is viewed as a value rather than a problem to be solved. Since emphasis is also placed on the interaction between biological, psychological, and sociocultural characteristics, adaptation is no longer expected solely from the individual; instead, the creation of an equality-based system characterized by active participation is promoted (Minghelli et al., 2023; Norwich, 2016).

1.2. Conceptualization and Characteristics of Attitudes

Ajzen and Fishbein (2011) referred to attitudes as one of the fundamental concepts of social cognition, serving to express the way individuals evaluate or orient themselves toward a particular object, construct, issue, individual, or social group (Hewstone & Stroebe, 2020).

Attitudes are therefore cognitive representations organized through prior experiences and summarizing evaluations related to the object of the attitude. Due to their learned nature and the influence of previous experiences and social interactions, attitudes can be considered relatively stable, although they remain open to change (Ajzen & Fishbein, 2011). Attitudes consist of three closely interconnected components: the *cognitive component*, which encompasses beliefs and convictions (Bakanauskas et al., 2020); the *affective dimension*, which refers to emotional orientations (Haddock & Maio, 2019); and the *behavioral component*, which

includes action tendencies and reactions related to the object of the attitude (Bakanauskas et al., 2020). Highlighting these components is particularly important in pedagogical and psychological work because it demonstrates that, when the goal is to change certain attitudes or behavioral patterns, interventions should address both the cognitive and emotional components of attitudes (Albarracin & Shavitt, 2018).

1.3. Teachers' Attitudes Toward Individuals with SEN and Inclusion

Beyond the general definition, within educational contexts teacher attitudes can be understood as encompassing educators' beliefs, evaluations, emotional orientations, and consequently their behavioral tendencies regarding teaching, students, students' needs, and the educational process as a whole (Supriyanto, 2019). The literature identifies this type of orientation as one of the most influential determinants of successful inclusive pedagogy. Teachers' attitudes fundamentally shape how successfully inclusion is implemented, and these attitudes are strongly influenced both by teachers' orientations toward individuals with SEN and by their perspectives regarding the theory and practice of inclusive pedagogy (Afriani, 2025). Research findings also indicate that positive teacher attitudes are at least as important predictors of successful and sustainable inclusive practices as organizational-level factors such as material conditions or infrastructure (Gal et al., 2025).

1.4. Factors Influencing Teachers' Attitudes Toward Individuals with SEN and Inclusion

The literature also highlights various categories of factors influencing teachers' attitudes. These may include *demographic variables, pedagogical and organizational aspects related to the educational system*, as well as *factors associated with teachers' intrapersonal characteristics* (Ienz, 2024; Yeşilyurt, 2014).

Regarding *demographic factors*, the majority of studies emphasize the *role of teachers' age and years of professional experience* in shaping attitudes. Certain reviews suggest that older teachers with more extensive professional experience report higher levels of self-efficacy and, consequently, more positive attitudes toward the inclusion of students with SEN (Ediyanto & Kawai, 2023). This may be explained by previously acquired experiences, through which teachers develop greater preparedness and become more supportive of inclusive perspectives and practices. Numerous studies also identify *female gender* as a positive predictor of inclusive attitudes. Female teachers have been found to display more positive attitudes toward inclusion

compared to their male counterparts (Navarro-Mateu et al., 2019; Schmidt et al., 2025). The majority of findings further indicate that teachers *working in urban schools* report more favorable and accepting attitudes toward inclusion than teachers working in rural educational settings (Pushpa & Kumar, 2025).

Perhaps the most extensively researched factors are *previous interactions with individuals with SEN, prior teaching experience involving students with SEN, and participation in specialized training and educational programs* related to their education.

Research findings indicate that the positive impact of *direct contact* can be observed both in interactions occurring outside school settings and in previous teaching experiences involving students with SEN (Redemaker et al., 2020). Teachers who had previously engaged in shared activities or spent time together with individuals with SEN tended to think more positively about them and expressed more favorable emotional orientations compared to teachers who lacked such prior shared experiences (Dias & Cadime, 2015; Flavian & Uziely, 2022; Subban & Sharma, 2006).

Similar findings emerge regarding *previous teaching experience*. Teachers who had previously taught students with SEN demonstrated more open and accepting attitudes toward inclusive pedagogical practices (Tsegaye et al., 2025). The positive attitude-forming effects of experienced contact can be explained by several theoretical approaches, including Gordon Allport's Contact Theory (Pettigrew & Tropp, 2006), Albert Bandura's Self-Efficacy Theory (Bhati & Sethy, 2022), and Social Learning Theory (McBlain, 2021). According to these perspectives, direct interactions and shared experiences enable teachers' pre-existing beliefs to be reshaped through authentic experiences, while successful experiences may strengthen feelings of competence, thereby reducing prejudice and rejecting attitudes toward inclusion.

Teachers' attitudes may also show considerable variability depending on the *type of disability*. Research findings generally indicate more positive attitudes toward the inclusion of students whose cognitive, social, and emotional functioning deviates only slightly from classroom norms, as these students require less extensive differentiation and their inclusion tends to have a smaller impact on classroom dynamics (Alsolami & Vaughan, 2023; Gal et al., 2025; Krämer & Zimmermann, 2025; Polyzopoulou & Tsakiridou, 2019).

The literature also emphasizes the importance of *pedagogical factors* associated with positive attitudes toward inclusion, such as *participation in various specialized training programs related to the education of students with SEN* (Linder et al., 2023; Schmidt et al.,

2025; Supriyanto, 2019). The positive effects of such programs can primarily be observed through the development of special education preparedness. Research findings consistently identify participation in prior training and preparatory programs, as well as higher levels of special educational competence, as among the most significant facilitators of positive inclusive attitudes (Afriani, 2025; Alsolami & Vaughan, 2023; Gal et al., 2025). Correlational studies have shown that greater participation in professional training programs and more advanced special educational competencies and methodological repertoires are associated with more positive attitudes both toward individuals with SEN and toward inclusion itself (Cate et al., 2018; Sharma et al., 2008; Vieira et al., 2024). Furthermore, comparative studies have demonstrated more favorable attitudes among teachers who had participated either in university-based preparation programs or in specialized methodological, didactic, or awareness-raising programs outside institutional contexts, compared to teachers who reported no prior preparation or training experiences (Pavitola et al., 2019; Vizer et al., 2025).

With regard to *psychological factors*, research indicates that teachers' attitudes toward inclusion are significantly influenced by their *level of intolerance toward difference* (Brandes & Crowson, 2009; Lyra et al., 2023; Meyers & Lester, 2016), which is associated with mental flexibility, prejudice, and openness toward different social groups (de Boer et al., 2010). It appears that the stronger a teacher's negative beliefs toward students with SEN and rejection of difference are, the less likely they are to support inclusive perspectives and practices (Avramidis & Norwich, 2010).

1.5. The Importance of Awareness-Raising in Attitude Formation

Awareness-raising programs can be defined as consciously designed learning opportunities whose primary aim is to shape beliefs, emotional patterns, and behavioral intentions toward various individuals, social groups, or life situations (Highhouse, 2002; Karaatmaca et al., 2020). Such programs may initiate processes of self-awareness that relate both to participants' own emotional, cognitive, and behavioral patterns and to a deeper understanding of the circumstances, challenges, and characteristics of the individuals or groups constituting the object of the attitude (Álvarez-Delgado et al., 2022; Armstrong et al., 2017; Chae et al., 2019). An additional positive outcome may be the development of participants' social competencies, as program activities allow them to engage in new situations and acquire new communication strategies, thereby strengthening opportunities for cooperation with others (Forlin, 2010). Through competence development and the expansion of knowledge, the

literature highlights the broader positive effects of awareness-raising interventions, including their contribution to more global forms of attitude change (Lindsay & Edwards, 2012).

International and national effectiveness studies (Álvarez-Delgado et al., 2022; Kármán et al., 2022; Symeonidou, 2025) consistently indicate that the most substantial attitude changes are achieved by programs that focus not only on cognitive components but also on affective and behavioral dimensions. Consequently, when designing effective interventions, it is recommended that informational modules be complemented with experiential learning activities. In the context of modifying attitudes toward individuals with SEN and inclusion, this may involve creating opportunities for shared experiences and cooperation with individuals with disabilities (Armstrong et al., 2017), as well as participation in situations where inclusive methods, strategies, and techniques can be actively practiced (Chae et al., 2019).

Several theoretical frameworks may also explain the mechanisms underlying the effectiveness of awareness-raising programs. One of these is Contact Theory (Pettigrew & Tropp, 2006), according to which personal contact contributes to the restructuring of beliefs and emotional patterns (Redemaker et al., 2020).

Social Learning Theory (McBlain, 2021) and *Self-Efficacy Theory* (Bhati & Sethy, 2022) also provide important explanatory frameworks, emphasizing the role of positive examples and observational learning in shaping behaviors and beliefs. Since awareness-raising programs may enable participants to observe and experience successful inclusive practices through personal encounters, guest lecturers, or cooperation with practicing professionals, such experiences can strengthen inclusive orientations (Forlin, 2010).

Among theories of attitude change, one of the most influential models is Ajzen and Fishbein's (2011) *Theory of Reasoned Action*, later extended into the *Theory of Planned Behavior*. According to the Theory of Reasoned Action, the strongest predictor of behavior is the individual's behavioral intention, which is primarily shaped by attitudes, subjective norms, and motivational factors (Montano & Kasprzyk, 2015; Sanderson, 2012). *The Theory of Planned Behavior* expands this framework by incorporating the role of perceived control, that is, the extent to which individuals perceive themselves as competent to perform or modify a given behavior (Ajzen & Fishbein, 2011; Bosnjak et al., 2020). This may explain why awareness-raising program components focusing on competence development and knowledge acquisition can increase openness toward positive inclusive behaviors and practices (Kármán et al., 2022).

Multidimensionality also receives particular emphasis, implying that methodological preparation, knowledge acquisition concerning disabilities (Campbell et al., 2003; Rae et al., 2011), and the development of empathy toward difference are equally relevant components of effective interventions (Symeonidou, 2025). From the perspective of practical implementation, the literature advocates the incorporation of modules that provide teachers with opportunities to place themselves in the position of affected individuals and experience their everyday challenges, while also emphasizing the importance of shared and equal-status interactions (Beunza-García et al., 2025). As such, the theoretical foundations summarized in this review constituted the principal guidelines and methodological basis of the intervention program developed and implemented within the present research.

CHAPTER II. ADAPTATION AND PSYCHOMETRIC ANALYSIS OF THE SENTIMENTS, ATTITUDES, AND CONCERNS ABOUT INCLUSIVE EDUCATION SCALE AMONG HUNGARIAN TEACHERS IN TRANSYLVANIA

2.1. Introduction

Several questionnaires have previously been developed to measure attitudes toward inclusion, such as the Attitudes Towards Inclusive Education Scale (Wilczenski, 1995) and the Teacher's Attitudes Towards Inclusion Scale Adjusted (Boyle, 2014). However, one of the limitations of traditional attitude measurement instruments is that they primarily assess cognitive and belief-related aspects concerning the general support of inclusion, while largely neglecting the emotional and behavioral orientations of respondents toward the issue (Loreman et al., 2007).

To address this limitation, the *Sentiments, Attitudes, and Concerns about Inclusive Education Revised (SACIE-R)* scale was developed (Forlin et al., 2011). Beyond assessing cognitive attitudes toward inclusion, this instrument also examines emotions and concerns related to inclusive education, thereby enabling a more comprehensive assessment of attitudes.

2.2. Objectives of the Study

The primary aim of our research was to present the Hungarian version of the Sentiments, Attitudes, and Concerns about Inclusive Education scale and to examine its psychometric properties, including reliability and validity, among Hungarian teachers in Transylvania. Our goal was to obtain reliable and valid results concerning the attitudes, emotions, and concerns of the target population regarding inclusive education through the use of this questionnaire.

2.3. Method and Procedure

The present study aimed to involve Hungarian-speaking teachers over the age of 18 living in Transylvania. According to the recommendations of Kline (2015), a valid and reliable factor analysis requires a sample size of at least 200 participants. Based on this criterion, the sample size included in our study can be considered adequate. Data from $N = 233$ teachers were analyzed. The youngest participant was 24 years old, while the oldest was 65 years old. The mean age of the teachers was 39.5 years ($SD = 9.48$).

Participants completed a demographic questionnaire and the Sentiments, Attitudes, and Concerns about Inclusive Education scale. In order to verify the psychometric properties of the instrument, the original questionnaire was first translated independently from English into Hungarian by three individuals, after which a final version was created through the synthesis of the three translations. The translation procedure was conducted in accordance with the guidelines of the International Test Commission (2017).

For data collection, an online questionnaire package was developed and distributed among teachers working in various Hungarian-language schools in Transylvania. Data processing was conducted in two stages. First, an exploratory factor analysis (EFA) was performed using the IBM SPSS 24 statistical software package in order to identify the factor structure and group the items accordingly. This served as the basis for the confirmatory factor analysis (CFA), which was subsequently carried out using the AMOS Graphics software.

2.4. Presentation and Interpretation of Results

To examine the suitability of the data for factor analysis, Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure were initially assessed. In our dataset, Bartlett's test proved to be statistically significant ($p < .000$), indicating the existence of correlations among the variables and therefore satisfying this prerequisite for factor analysis. Furthermore, the KMO value was .731, indicating a moderate level of adequacy; thus, our data were considered suitable for factor analysis.

Principal component analysis and Varimax rotation were used for the exploratory factor analysis. During the analysis, four factors were identified, as only four exceeded the eigenvalue > 1 criterion (Field, 2009). The resulting four-factor structure explained 58.841% of the total variance. Following the recommendations of Stevens (2002), only items with factor loadings above .50 were retained for factor construction.

The first factor measured teachers' *attitudes toward inclusion*. Based on its content, the second factor was labeled *concerns regarding inclusion*. The third factor consisted of items assessing *emotions toward individuals with SEN*. Finally, the fourth factor examined *personal fear of disability*.

Item 10 was excluded because its factor loading did not exceed the predefined threshold, and following its removal the internal consistency of the total scale increased to .703, thereby improving the psychometric indicators of the instrument (Boateng et al., 2018).

The adequacy of the resulting model was evaluated through various fit indices (Byrne, 2010), a procedure referred to as confirmatory factor analysis. Regarding the results, $\chi^2/df = 2.110$ indicated acceptable model fit, suggesting that the model could be considered adequate according to this criterion (Kline, 2005). Subsequently, the Comparative Fit Index (CFI) was examined. According to the standards proposed by Byrne (2010), values above .90 indicate acceptable model fit. In our case, CFI = .911, demonstrating that the model adequately represents the data. The Goodness of Fit Index (GFI) was also used to assess model fit. Values above .90 are considered indicative of acceptable fit (Byrne, 2010). In our study, GFI = .914 suggested satisfactory model fit. Finally, the Root Mean Square Error of Approximation (RMSEA) was examined. Unlike the previous indicators, RMSEA assesses the discrepancy between the model and the data rather than their agreement. According to the literature, values below .08 are considered acceptable (Byrne, 2010). In our case, RMSEA = .069, which falls within the ideal range, indicating no substantial discrepancy between the proposed model and the observed data.

2.5. Conclusions

During the validation process, the multidimensional structure of teachers' attitudes toward inclusive education became apparent. The four-factor model identified through the analyses distinguished the following subscales: emotions toward individuals with SEN, fear of disability, attitudes toward inclusion, and concerns regarding inclusion. In contrast, the factor structure of the original instrument contains only the dimensions of emotions, attitudes, and concerns (Forlin et al., 2011). It can be observed that the original broad emotional component was segmented into two separate dimensions in our study. Specifically, emotions toward individuals with SEN and personal fear related to the possibility of becoming disabled oneself were assessed separately. This finding suggests that teachers' emotional experiences toward individuals with disabilities are not homogeneous. Distinct emotional responses may emerge both toward individuals with SEN in general and toward the subjective imagination of personally experiencing such conditions. Imagining one's own experience of different types of disabilities may evoke emotional reactions that differ from evaluations made solely from an observer's perspective.

The obtained results are consistent with previous research emphasizing the multidimensional nature of attitudes and emotions toward individuals with SEN (Pongrácz, 2019). Consequently, the original instrument may provide a more general picture of emotional experiences in a less differentiated manner, whereas the newly identified factor structure offers a more precise distinction between different types of emotional reactions related to SEN.

The confirmatory factor analysis demonstrated that the model was acceptable according to all evaluated indicators, allowing us to conclude that a well-fitting factor structure was identified ($\chi^2/df = 2.110$, CFI = .911, GFI = .914, RMSEA = .069), which also proved to be reliable (Cronbach's alpha = .703).

Overall, it can therefore be concluded that our questionnaire represents a valid and reliable instrument for the self-report assessment of attitudes toward inclusive education among adult Hungarian teachers in Transylvania.

CHAPTER III. ADAPTATION AND PSYCHOMETRIC ANALYSIS OF THE ATTITUDES AND PERSPECTIVES TOWARD INDIVIDUALS WITH SPECIAL EDUCATIONAL NEEDS SCALE AMONG HUNGARIAN TEACHERS IN TRANSYLVANIA

3.1. Introduction

When examining and interpreting teachers' attitudes toward students with SEN, it is particularly important to consider their multidimensional nature, as different patterns may emerge regarding cognitive, emotional, and behavioral orientations. On a cognitive level, teachers may support and advocate for the legitimacy of inclusive pedagogy, while simultaneously experiencing negative emotional reactions during collaboration with students with SEN, such as anxiety, pity, or feelings of burden, which may hinder the genuine realization of inclusion (Loreman et al., 2014).

Numerous empirical studies have highlighted the ambivalent attitudes of teachers regarding the inclusion of students with SEN. Although theoretical support for inclusion appears to be increasing among educators, teachers frequently report feelings of uncertainty, resistance, or anxiety in pedagogical practice, particularly in situations where they perceive a lack of professional preparedness, support, or available resources (Dignath et al., 2022; Roslyakova et al., 2024).

From a research perspective, the measurement of attitudes requires reliable and valid instruments. Although several attitude measurement scales concerning individuals with SEN and inclusive pedagogical practices have been developed in recent years, most of these instruments primarily focus on the cognitive component of attitudes, namely the assessment of general beliefs and theoretical support for inclusion (Forlin, 2014). However, there is also a clear need for more precise examination of emotional and behavioral patterns in order to better understand inclusive educational practices and to develop effective intervention and development strategies (Forlin, 2010; Loreman et al., 2014).

3.2. Objectives of the Study

The general objective of the present study was to introduce the Hungarian version of the *Attitudes and Perspectives toward Individuals with Special Educational Needs Scale*, to adapt it for the population of Hungarian teachers in Transylvania, and to examine and present its

psychometric properties. Within this framework, our aim was to explore and confirm the factor structure of the instrument through factor analytic procedures. In addition, we sought to examine the validity and reliability of the scale within the target sample. The practical significance of the study lies in presenting a reliable and valid questionnaire for assessing teachers' attitudes toward individuals with SEN.

3.3. Method and Procedure

Following data cleaning and the handling of missing values, $N = 233$ participants were included in the present study, satisfying the standards proposed by Kline (2015) for conducting factor analysis. The majority of participants (89.3%) were female, while the remainder were male. The youngest respondent was 24 years old and the oldest was 65 years old, with a mean age of 39.5 years ($SD = 9.48$). More than half of the participants (54.9%) worked in urban areas, predominantly in mainstream schools (85.4%). Regarding educational level, a heterogeneous distribution was observed. The largest proportions consisted of secondary school teachers (39.5%) and primary school teachers (39.1%), while smaller proportions included preschool teachers (20.5%) and higher education instructors (0.9%). Although the majority of respondents (87.1%) reported prior experience in educating individuals with SEN, very few (7.3%) considered themselves fully prepared for such educational and pedagogical tasks. More than half of the participants (50.6%) felt that during their university studies they had received either no preparation or only minimal preparation related to the education of children with SEN. Most respondents (81.1%) also reported having direct contact and interactions with individuals with SEN outside school settings.

For the data collection process, an online questionnaire package was developed, including the demographic questionnaire and the Attitudes and Perspectives toward Individuals with Special Educational Needs Scale. Following the collection of an adequate amount of data, analyses were conducted in two separate stages. First, exploratory factor analysis was used to identify the factor structure that appeared applicable to the investigated population. Subsequently, the resulting model was subjected to confirmatory factor analysis.

3.4. Presentation and Interpretation of Results

The preliminary analyses revealed statistically significant results for Bartlett's test ($p < .000$), indicating correlations among the factors. The KMO index value of .689 demonstrated a moderate but acceptable level of sampling adequacy. Interpreted together, these results suggest that the subsequent steps of exploratory factor analysis could be appropriately conducted and that the data were suitable for analysis. As the next step, principal component analysis (PCA) was performed. The analysis identified four factors, based on the eigenvalue > 1 criterion (Field, 2009). In terms of content, the four dimensions focused on the following areas: *a) attitudes toward the community integration of individuals with SEN, b) feelings of benevolence toward individuals with SEN, c) feelings of burden toward individuals with SEN, d) feelings of discomfort toward individuals with SEN.*

However, regarding the resulting factors, it became evident that certain psychometric indicators, particularly the reliability values of the dimensions, did not support the usability of the new model. The first dimension, attitudes toward community integration, which primarily assessed cognitive beliefs concerning the social integration of individuals with SEN, demonstrated adequate reliability (Cronbach's $\alpha = .700$). In contrast, all other components intended to assess affective dimensions (feelings of benevolence, burden, and discomfort toward individuals with SEN) produced reliability values well below the acceptable threshold (Cronbach's $\alpha < .600$), indicating that these factors did not measure their designated constructs with sufficient reliability (Pallant, 2011).

The psychometric findings, together with theoretical considerations concerning cultural differences in the interpretation of emotional concepts and expressions (Lindquist et al., 2022), provided sufficient theoretical justification for replacing the original four-factor model with a new two-dimensional structure. Within this revised conceptualization, the *cognitive* orientation measuring beliefs related to community integration was retained as an independent factor, while a broader dimension assessing general *emotional attitudes toward individuals with SEN* was developed. This latter dimension unified the previously separated constructs of benevolence, burden, and discomfort toward individuals with SEN. The results indicated that the two-dimensional structure explained 38.66% of the total variance.

In accordance with the recommendations of Stevens (2002), the new dimensions were constructed exclusively from items with factor loadings above .50. This justified the elimination of items 1, 9, 10, 13, and 14. Beyond theoretical interpretability, the analyses also demonstrated greater psychometric stability. Both the cognitive attitude dimension (Cronbach's $\alpha = .734$)

and the emotional attitude dimension (Cronbach's $\alpha = .704$) measured their intended constructs with adequate reliability.

The extent to which the model corresponded to the available data was evaluated through the examination of several fit indices. In our case, $\chi^2/df = 1.687$ indicated acceptable model fit. The result of CFI = .960 suggested that the constructed model adequately reflected the existing data structure, thereby indicating good model fit. Similarly, GFI = .956 was consistent with the interpretation of the previous fit indices, demonstrating that the newly developed model represented the data satisfactorily. Finally, the Root Mean Square Error of Approximation (RMSEA), which evaluates approximation error rather than direct agreement between the model and the data (Goretzko et al., 2024), was also examined. Lower values indicate better model fit. Since RMSEA = .054 fell below the established .080 thresholds, no significant model fit error between the model and the data was identified. All presented indices support the adequacy of the two-factor structure, indicating that it satisfactorily represents the intended underlying constructs.

3.5. Conclusions

The aim of the present study was to adapt the Attitudes and Perspectives toward Individuals with Special Educational Needs Scale into Hungarian and to examine its psychometric properties. The original version of the instrument was developed to assess attitudes toward individuals with SEN and measured the construct across four dimensions: a) attitudes toward the community integration of individuals with SEN, b) feelings of discomfort toward individuals with SEN, c) feelings of burden toward individuals with SEN, d) feelings of benevolence toward individuals with SEN (Myong et al., 2021).

In contrast, the final results of the factor analysis conducted on the Hungarian sample supported the development of a two-factor structure, in which the items clustered around dimensions representing a general *emotional orientation toward individuals with SEN* and a *cognitive attitude* dimension. The structure differing from the original four-factor model may reflect the presence of cultural differences in the interpretation and expression of emotions. The dimensions of discomfort, benevolence, and burden present in the original version did not emerge as separate independent factors within the sample of Hungarian teachers in Transylvania; instead, they appeared to focus on a broader emotional orientation toward individuals with SEN. This may suggest that within the examined cultural context there are

overlaps in the emotions and emotional burden experienced and expressed toward individuals with SEN, which may influence the interpretation of statements within the instrument and the judgments associated with them. Although the structure of the model differs from the original, the psychometric properties of the revised structure proved to be adequate. Both factors demonstrated high internal consistency, indicating that they reliably measure the intended psychological constructs. Furthermore, the model fit indices met the standards established in the literature, indicating appropriate representation of the data. From a methodological perspective, the results of the analytical procedures suggest that reevaluating the factor structure of psychological and pedagogical instruments is highly relevant during cross-cultural adaptation processes. Rather than directly adopting the original structure of an instrument, exploratory and confirmatory analyses are necessary to ensure that the scales and instruments used demonstrate adequate reliability and validity within new contextual frameworks.

Overall, it can be concluded that the Attitudes and Perspectives toward Individuals with Special Educational Needs Scale constitutes a reliable and valid instrument for assessing the emotional orientations and cognitive attitudes of Hungarian teachers in Transylvania toward individuals with SEN. The structurally modified version of the instrument may provide greater conceptual transparency and consequently enhanced applicability, making it useful in research as well as in pedagogical and clinical practice.

CHAPTER IV. INVESTIGATING PREDICTORS OF ATTITUDES TOWARD INCLUSION AMONG HUNGARIAN TEACHERS IN TRANSYLVANIA

4.1. Introduction

According to the attitude-based approach to inclusive pedagogy, teachers' knowledge, beliefs, and emotional orientations fundamentally shape their attitudes toward the inclusion of students with SEN (Special Educational Needs) and influence the development of pedagogical practices (Boyle et al., 2020). Research has identified numerous factors that may contribute to the development of a positive inclusive perspective.

One of the most important factors is the presence of adequate special education preparation and methodological knowledge. Teachers who have received sufficient training and preparation regarding the education of students with SEN tend to demonstrate more positive attitudes and higher levels of self-efficacy regarding inclusion (Jurca et al., 2023). Other studies similarly emphasize that training programs and professional development opportunities increase teachers' confidence and support the development of inclusive perspectives (Sharma et al., 2008; Vieira et al., 2024). This phenomenon is also explained by the Knowledge-Attitude-Behavior (KAB) model, according to which the acquisition of specialized knowledge may lead to the formation of positive attitudes and, subsequently, behavioral change (Alassaf, 2025).

Practical experience also plays a decisive role. Teachers with little or no experience in educating students with SEN generally display more negative attitudes toward inclusion than their more experienced colleagues (Dias & Cadime, 2015). This highlights the importance of direct practical experience in teacher training in addition to theoretical knowledge. Similarly, personal relationships with individuals with SEN - such as family or friendship connections - are also associated with more positive attitudes, as they may reduce prejudice and stereotypes (Subban & Sharma, 2006).

Research further indicates that certain demographic and professional factors are associated with perceptions of inclusion. Beginning teachers with limited professional experience often display more negative attitudes toward inclusive education than their more experienced counterparts. In addition, teachers working in rural settings tend to demonstrate less favorable attitudes compared to teachers working in urban environments. Teachers' attitudes are also influenced by the type of SEN involved in inclusive education: more negative

attitudes tend to emerge in relation to students with neurodevelopmental disorders, such as autism spectrum disorder or intellectual disabilities (Linder et al., 2023).

In addition to demographic and pedagogical factors, psychological variables also play an important role. Intolerance toward difference, more conservative social views, and negative emotions toward individuals with SEN may reduce support for inclusion (Brandes & Crowson, 2009). Other studies suggest that negative affective responses may hinder the development of effective teacher–student relationships and cooperation, thereby obstructing the implementation of positive inclusive practices (Lyra et al., 2023; Meyers & Lester, 2016).

4.2. Objectives of the Study

The objectives of the study can be formulated on multiple levels. The research focuses on identifying and exploring factors that may significantly predict the attitudes of Hungarian teachers in Transylvania toward inclusion. Since the success of inclusive education is largely determined by teachers' attitudes, it is important to clarify which demographic, intrapersonal, and professional characteristics may contribute to the development of such attitudes.

For greater clarity and transparency, our aim was to examine these factors in a differentiated manner across three main groups of variables. Accordingly, demographic and disability-specific factors, psychological variables, and pedagogical variables were all included in the investigation.

4.3. Method and Procedure

To determine the optimal sample size, the recommendations of the G*Power software were taken into consideration. The hierarchical linear regression analysis required for data processing, involving 9 predictor variables, a medium effect size, and a statistical power of .95 (Faul et al., 2009), recommended a minimum sample size of 166 participants.

According to the inclusion criteria, all participants were Hungarian-speaking teachers over the age of 18 teaching in Transylvania. Women constituted 89.3% of the total sample, with participants ranging in age from 24 to 65 years ($M = 39.5$, $SD = 9.48$). More than half of the participants (54.9%) worked in urban environments, primarily in mainstream schools (85.4%). The sample mainly consisted of secondary school teachers (39.5%) and primary school teachers (39.1%), although preschool teachers (20.5%) and higher education instructors (0.9%) were

also included. The majority of respondents (87.1%) reported previous experience in educating children with SEN; however, only a small proportion of teachers (7.3%) stated that they felt fully prepared for such tasks. In this regard, it is noteworthy that more than half of the participants (50.6%) reported having received either no preparation or only minimal preparation during their university studies regarding the education of students with SEN. Most teachers (81.1%) had also had direct contact with individuals with SEN outside school settings.

The study employed a cross-sectional, correlational design. Data collection was conducted through an online questionnaire package integrating the following instruments: Demographic Questionnaire, Sentiments, Attitudes, and Concerns about Inclusive Education Scale - Adapted Version, Attitudes and Perspectives toward Individuals with Special Educational Needs Scale - Adapted Version, Special Education Preparedness Scale, and Tolerance and Acceptance of Difference Scale.

The collected data were statistically analyzed using IBM SPSS 20 software. Prior to the analyses, several statistical assumptions were examined, including descriptive statistics, reliability analysis, and the assessment of linearity, multicollinearity, and homoscedasticity (Pallant, 2011).

Subsequently, multiple linear regression analyses were conducted using the stepwise method, allowing predictor variables to be entered into the model incrementally and individually (Roustaei, 2024). In the first stage of the regression analysis, only demographic and disability-specific variables were entered into the model. These variables included place of teaching, years of professional experience, previous experience in educating students with SEN, type of SEN encountered in school settings, presence of direct contact with individuals with SEN outside school contexts, and the extent of university-level preparation regarding the education of students with SEN. The second model incorporated pedagogical variables, specifically the level of special education preparedness. Finally, psychological variables were added in the third model through the inclusion of negative emotions toward individuals with disabilities and intolerance toward difference.

4.4. Presentation and Interpretation of Results

All instruments included in the study demonstrated adequate reliability, indicating their suitability for assessing the intended psychological and pedagogical constructs. This is supported by Cronbach's alpha values above .700 for all four scales (Izah et al., 2024). The normal distribution of variables was not examined, since the assumption for conducting linear regression concerns the normal distribution of residuals rather than the variables themselves (Schmidt & Finan, 2018).

Among the preliminary analyses, multicollinearity was also assessed. For the predictor variables entered into the model, VIF values ranged between 1.082 and 1.256, satisfying the criterion of $VIF < 5$. Tolerance values ranged between .796 and .925, also meeting the requirement of $\text{tolerance} > .20$. Taken together, these findings indicate that no multicollinearity problems were present; therefore, the regression analysis could be appropriately conducted.

In the first model, various *demographic and disability-specific variables* were entered and treated as dummy variables (Neifer, 2024). The results demonstrated that these variables significantly predicted positive attitudes toward inclusion, although they explained only 5.6% of the variance ($R^2 = .056$, $F(6,226) = 2.222$, $p = .042$). Significant predictors included the absence of previous personal relationships with students with SEN ($B = -2.216$, $p = .042$) and the lack of prior university preparation ($B = -1.833$, $p = .030$).

In the second stage, *pedagogical variables* were added to the existing demographic and disability-specific variables. As a result, the explained variance increased by an additional 3.7% ($\Delta R^2 = .037$), meaning that the expanded model explained 9.3% of the variance overall ($R^2 = .093$, $F(7,225) = 3.296$, $p = .002$). The results indicate that special education preparedness emerged as a statistically significant positive predictor of positive attitudes toward inclusion ($B = .259$, $p = .003$). Furthermore, the lack of direct contact with individuals with SEN remained a significant negative predictor.

In the third stage of the analysis, *psychological variables* were incorporated into the model. This addition resulted in a further significant increase in explanatory power ($\Delta R^2 = .057$), allowing the model to explain 15% of the total variance overall ($R^2 = .150$, $F(9,223) = 4.382$, $p < .001$). Negative attitudes toward individuals with SEN emerged as the strongest predictor in the model ($B = -.253$, $p = .002$), showing a negative relationship with positive inclusive attitudes. In contrast, intolerance toward difference did not emerge as a significant predictor ($p = .186$).

4.5. Conclusions

The findings of the study demonstrate multiple consistencies with previous literature (Boyle et al., 2020; Jurca et al., 2023; Sharma et al., 2008; Vieira et al., 2024) and further emphasize the validity and relevance of the Knowledge-Attitude-Behavior (KAB) model (Allassaf, 2025). Our results highlight the multidimensional nature of attitude formation, indicating that positive inclusive attitudes are jointly predicted by demographic, pedagogical, and psychological factors.

According to our findings, the lack of direct contact and interaction with individuals with SEN, as well as insufficient prior university preparation regarding the education of students with SEN, emerged as significant predictors of more negative inclusive attitudes. At the same time, greater methodological and special education preparedness was identified as a clear predictor of positive attitudes, reflecting the direct attitude-shaping role of knowledge and competence.

An additional important finding of our model concerns the significance of teachers' affective experiences. It became evident that teachers' negative emotions toward individuals with SEN favor more negative attitudes toward inclusive education, which is consistent with the findings of Brandes and Crowson (2009) and Lyra et al. (2023).

Contrary to the previous findings of Linder et al. (2023), in our study the type of SEN, length of professional experience, and teaching location did not emerge as significant predictors. One possible explanation is that, within the present sample, qualitative aspects of experience - such as special education preparedness or direct contact with individuals with SEN - played a more prominent role than the quantitative dimension of experience itself. Another possible explanation is that urban and rural teaching contexts did not appear sufficiently differentiated within the investigated population.

Taken together, the results reflect that positive inclusive attitudes cannot be reduced to a single factor or dimension. Both the KAB theoretical framework and the present findings suggest that teacher education should include not only theoretical knowledge transfer but also opportunities for direct experiential contact with individuals with SEN. As a future direction, the development of teachers' fundamental special education competencies combined with awareness-raising and empathy-enhancing practical components may therefore be emphasized, as appropriate professional and methodological preparedness, together with more balanced

emotional patterns regarding individuals with SEN, may function as protective factors against negative inclusive attitudes.

CHAPTER V. SPECIAL EDUCATION PREPAREDNESS AS A MEDIATING FACTOR BETWEEN ATTITUDES TOWARD INDIVIDUALS WITH SEN AND ATTITUDES TOWARD INCLUSION

5.1. Introduction

Within the literature concerning the successful implementation of inclusive education, teachers' attitudes are identified as one of the most relevant contributing factors (Anthos, 2024). The formation of inclusive attitudes is strongly influenced by the emotional patterns and orientations teachers hold toward difference and toward individuals with SEN (Lyra et al., 2023). In cases where individuals hold more negative perceptions of people with SEN, they are also more likely to interpret inclusive education and the integration of such students into mainstream education as greater challenges. Conversely, more positive orientations may promote greater openness and adaptive capacity regarding the understanding and application of differentiated pedagogical practices (Levins et al., 2005). This is further supported by findings indicating that teachers' inclusive attitudes may be shaped by their concerns, reservations, and beliefs associated with different types of SEN (Linder et al., 2023).

From the perspective of fostering positive attitudes toward inclusion, the literature also emphasizes the importance of the level of special education preparedness (Razalli et al., 2021). Various competence-based (Cate et al., 2018) and self-efficacy-based theories (Yeşilyurt, 2014) highlight that professional knowledge, together with adequate methodological and conceptual understanding, may support teachers' subjective perceptions of effectiveness when teaching and educating diverse and heterogeneous student groups (Alassaf, 2025; Vieira et al., 2024).

A reciprocal relationship can be identified between attitudes toward individuals with SEN, inclusive attitudes, and special education preparedness. While negative attitudes may maintain avoidant and disengaged orientations toward professional preparation and competence development, acquired knowledge and developed skills may reduce resistance toward individuals with SEN and support greater openness and more favorable attitudes toward inclusive education (Gal et al., 2025; Yada et al., 2022). This theoretical framework therefore suggests the existence of a significant relationship between inclusive attitudes, attitudes toward individuals with SEN, and the level of special education preparedness, in which special education preparedness may function as a mediating factor in the development of attitude systems.

5.2. Objectives of the Study

The present study aims to contribute to the expansion of scientific research in this field, as literature reviews indicate that relatively few studies have examined in an integrated manner the relationship between special education preparedness, attitudes toward individuals with SEN, and inclusive attitudes. The primary objective of our research was therefore to investigate special education preparedness as an explanatory factor in the relationship between attitudes toward individuals with SEN and inclusive orientations.

5.3. Method and Procedure

The G*Power software was used to determine the required sample size. Since our analysis was based on a three-variable multiple linear regression model, the ideal sample size under conditions of 95% statistical power and medium effect size was estimated at 119 participants. If statistical power is reduced to the conventional 80% level commonly applied in the social sciences while maintaining a medium effect size, the recommended sample size would ideally consist of at least 77 participants (Goodwin & Goodwin, 2014).

The final sample size of the study was $N = 233$ participants, satisfying the established criteria. All 233 participants were Hungarian-speaking teachers over the age of 18 working and teaching in Hungarian in Transylvania.

The present study employed a cross-sectional, correlational research design involving correlation analyses, regression analyses, and mediation analysis. Within the model, attitudes toward individuals with SEN served as the predictor variable, attitudes toward inclusion constituted the outcome variable, and the level of special education preparedness functioned as the mediator.

The online questionnaire package used for data collection included the Demographic Questionnaire, the Sentiments, Attitudes, and Concerns about Inclusive Education - Adapted Version scale, the Attitudes and Perspectives toward Individuals with Special Educational Needs - Adapted Version scale, and the Special Education Preparedness Scale.

5.4. Presentation and Interpretation of Results

The obtained results indicate that the skewness values of the variables ranged between -.090 and .165, while kurtosis values ranged between -.287 and -.375. These findings suggest that the assumptions of normality were not violated, therefore the use of parametric tests during the analyses was considered appropriate. Further preliminary analyses involved assessing the reliability of the instruments. Since all scales included in the study demonstrated Cronbach's alpha values above .700, according to the recommendations of Tavakol and Dennick (2011), all three instruments were considered suitable for the reliable measurement of the intended psychological and pedagogical constructs.

A fundamental prerequisite for constructing and testing a mediation model is the existence of statistically significant relationships among the variables included in the model (Hayes, 2018). To examine these relationships, Pearson correlation analyses were conducted between special education preparedness, attitudes toward individuals with SEN, and inclusive orientations. The results indicate that special education preparedness demonstrated a statistically significant negative relationship with attitudes toward individuals with SEN ($r = -.421, p < .01$). The negative direction of the relationship can be explained by the fact that the scale assessing attitudes toward individuals with SEN measures negative attitudes, whereas the preparedness scale measures positive dimensions and higher levels of preparedness. Furthermore, special education preparedness showed a statistically significant positive relationship with inclusive attitudes ($r = .344, p < .01$), where positive attitudes were assessed. Regarding the relationship between attitudes toward individuals with SEN and inclusive orientation, a statistically significant negative association was identified ($r = -.344, p < .01$). Similar to the previous explanation, the negative direction of this relationship is attributable to the scoring characteristics of the scales used.

As the next step of the analyses, mediation analysis was conducted. Regarding analytical settings, a bootstrap procedure with 10,000 resamples and a 95% confidence interval was applied (Fossum & Montoya, 2023). Subsequently, direct, indirect, and total effects were examined to determine the results (Schuler et al., 2022). The obtained findings indicate that attitudes toward individuals with SEN emerged as a negative predictor of perceived special education preparedness ($a = -.393, SE = .055$). The scoring characteristics of the scales provide an explanation for this negative effect, since the attitude scale measures negative attitudes, while the preparedness scale assesses higher levels of preparedness. Accordingly, more negative attitudes and emotional patterns toward individuals with SEN were associated with

less favorable perceptions of special education preparedness. With regard to special education preparedness, it appeared as a statistically significant positive predictor in the formation of inclusive attitudes ($b = .191$, $SE = .082$). The direct effect was also statistically significant, suggesting that attitudes toward individuals with SEN may influence the development of positive inclusive attitudes not only indirectly but also directly ($c = -.318$, $SE = .077$). The indirect effect likewise proved to be statistically significant ($ab = -.075$), since the values of the 95% bootstrap confidence interval (95% CI = $-.148$; $-.005$) did not include zero. Based on the obtained results, it can therefore be concluded that the level of special education preparedness functions as a partial mediator in the relationship between attitudes toward individuals with SEN and attitudes toward inclusion.

5.5. Conclusions

The findings of the present study emphasize the significant relationships among teachers' supportive attitudes toward inclusion, the level of special education preparedness, and positive emotional orientations toward individuals with SEN. The results highlight a statistically significant association between negative beliefs and emotions toward individuals with SEN and favorable attitudes toward inclusive education, which is consistent with the findings reported by Lyra et al. (2023).

It became evident that teachers who demonstrate more unfavorable attitudes and emotional orientations toward students characterized by difference may also display greater rejection of inclusive principles and practices. This finding underscores the importance of addressing emotional components when supporting attitude formation. Accordingly, it may not be sufficient merely to expand teachers' knowledge and conceptual understanding; training programs should also be complemented with components aimed at increasing awareness and regulation of emotions and prejudices related to difference, as well as fostering empathy development.

Consistent with the findings of Levins et al. (2005), the present research demonstrates that individuals displaying lower levels of negative attitudes toward persons with SEN also evaluate inclusive pedagogical practices and principles significantly more favorably.

The mediation analysis highlights the partial mediating role of special education preparedness in the relationship between attitudes toward individuals with SEN and inclusive attitudes. The practical implication of this finding lies in the possibility that increased special

education preparedness may indirectly contribute to changes in attitudes. It may be associated with reduced negative emotional orientations toward difference, which can manifest in the strengthening of more supportive inclusive attitudes.

The obtained results support previous research findings (Cate et al., 2018; Razalli et al., 2021), which emphasize the crucial role of special education, methodological, and didactic competencies in successful cooperation with highly diverse student groups and in effective educational processes. It becomes apparent that during teacher preparation, greater emphasis should be placed on the targeted integration of differentiated educational practices, methodological components, and adapted pedagogical strategies related to students with SEN. Such efforts may contribute not only to the expansion of professional competencies but also to the strengthening of more positive attitudes toward difference and inclusive education.

CHAPTER VI. “TOUCH WITH UNDERSTANDING!” - EFFECTIVENESS EVALUATION OF AN AWARENESS-RAISING PROGRAM IN SUPPORTING SPECIAL EDUCATION PREPAREDNESS AND ATTITUDES TOWARD DIFFERENCE AND INCLUSION AMONG TEACHER EDUCATION STUDENTS

6.1. Introduction

Both national and international research findings indicate that significant challenges can be identified in Romania regarding general attitudes toward effective inclusive pedagogical practices and perspectives (Walker, 2010). This is reflected in a strong tendency toward segregation, as evidenced by the high number of children studying in various forms of special classes or institutions, which may point to difficulties in the practical implementation of inclusive educational principles (European Commission, 2021).

The lack of targeted and specialized training, methodological guidance, and other time- and resource-related conditions necessary for differentiated education can significantly contribute to teachers' feelings of unpreparedness and negative attitudes toward inclusive education (European Agency Statistics on Inclusive Education, 2024). This highlights that one of the key determinants of successful inclusive pedagogy is teachers' preparedness, as well as their fundamental beliefs and attitudes toward individuals characterized by difference and toward persons with SEN (Sharma et al., 2008).

Numerous studies (Beunza-García et al., 2025; Kármán et al., 2022) emphasize that so-called awareness-raising programs may be effective in reducing unfavorable attitudes. These programs consist of consciously designed activities that integrate both formal, knowledge-oriented components and interactive, experience-based methods and elements with the aim of developing participants' skills and knowledge, supporting prosocial behavior, and reducing negative emotional patterns toward various individuals and social groups (Forlin, 2014; Hayes & Bulat, 2017).

Previous findings suggest that following participation in complex, multidimensional awareness-raising programs targeting cognitive, emotional, and behavioral change simultaneously, participants reported more positive attitudes toward inclusion compared to their pre-intervention state (Hassanein et al., 2021; Kármán et al., 2022). Studies also emphasize that such interventions may facilitate positive attitude formation toward individuals with SEN when they provide opportunities for shared experiences and direct interaction with them (Beunza-

García et al., 2025). Equal-status interpersonal interactions may reduce discriminatory beliefs while supporting empathy and openness, thereby facilitating the emergence and stabilization of inclusive behavioral patterns (Pettigrew & Tropp, 2006).

The findings further draw attention to the fact that expanding conceptual knowledge and acquiring new information may lead to significant improvements in teachers' sense of competence and self-efficacy, which may constitute another important facilitator of more open attitudes toward inclusion (Campbell et al., 2003; Rae et al., 2011). Similar effects may also emerge through interpersonal factors such as strengthening teachers' tolerance toward diversity, which may likewise contribute to the development of more positive attitudes toward inclusion (Kolosova et al., 2022).

6.2. Objectives of the Study

The practical objective of the present research was to develop and structure a complex awareness-raising program capable of strengthening positive attitudes toward inclusion among students participating in teacher education. In their literature review, Kármán et al. (2022) identified the following common characteristics of interventions demonstrating significant effectiveness: *a) they involve repeated encounters over an extended period of time, b) they provide direct interaction with individuals with SEN, c) they integrate psychoeducational and methodological knowledge-enhancing components, d) they simultaneously target cognitive, emotional, and behavioral dimensions.*

Accordingly, a central consideration during program design was to structure the intervention units in alignment with these guiding principles.

6.3. Method and Procedure

A total of $N = 82$ teacher education students participated in the study. Of these, $N = 37$ constituted the control group, while $N = 45$ participants belonged to the experimental group. All participants were first-year full-time students enrolled in the Preschool and Primary Education Pedagogy program within the Faculty of Psychology and Educational Sciences at Babeş-Bolyai University.

Members of the experimental group studied at the Odorheiu Secuiesc extension of the Department of Pedagogy and Applied Didactics, whereas the control group consisted of

students studying at the department's main campus in Cluj-Napoca. Both the experimental and control groups were assessed using the same questionnaire package, which included: Demographic Questionnaire, Sentiments, Attitudes, and Concerns about Inclusive Education Scale - Adapted Version, Attitudes and Perspectives toward Individuals with Special Educational Needs Scale - Adapted Version, Special Education Preparedness Scale, and Tolerance and Acceptance of Difference Scale.

The present study employed an experimental design. The independent variable was participation in the “Touch with Understanding!” awareness-raising program, while the dependent variables included attitudes toward inclusion and toward individuals with SEN, special education preparedness, and intolerance toward difference. The study involved two measurement occasions, a pre-test (before the intervention) and a post-test (after the intervention), with both experimental and control groups. Members of the experimental group participated in the awareness-raising intervention, while the control group did not receive the program during this period.

The development program consisted of 12 sessions. Most sessions involved 90–120 minute activities; however, certain program components included several-hour-long or full-morning activities. The intervention began in March 2025 and concluded in June 2025. Several modules focused on expanding methodological, didactic, and other forms of conceptual knowledge. In addition, multiple opportunities were created for direct interaction and shared activities with individuals with SEN and their family members. The awareness-raising sessions were also supplemented on several occasions by guest lectures delivered by individuals living with different types of disabilities.

6.4. Presentation and Interpretation of Results

H1: Members of the experimental group participating in the “Touch with Understanding!” program will demonstrate significantly more positive attitudes toward inclusive education following the intervention compared to members of the control group.

For the total scale, Cronbach’s alpha = .776, satisfying the criterion for reliability. Consequently, analyses were conducted using the overall scale score. Regarding the Shapiro-Wilk test, the assumption of normality was not violated either for the experimental group ($W = .956, p = .088$) or for the control group ($W = .952, p = .111$), therefore parametric tests were applied in the analyses.

To examine the effectiveness of the intervention across time and groups, a 2x2 ANOVA was conducted (Field, 2009). The 2x2 design reflects the two temporal parameters (pre-test and post-test) and the two groups (experimental and control). The results demonstrated no statistically significant main effect of time ($F(1,80) = .005, p = .946$), indicating that no substantial change occurred in positive inclusive attitudes from pre-test to post-test across the total sample.

The Time×Group interaction ($F(1,80) = 2.755, p = .101$), together with the small effect size ($\eta^2p = .033$), further supports this conclusion (Field, 2018), indicating that no significant differences emerged between the groups from pre-test to post-test.

Since no statistically significant differences were identified between the groups following the intervention, the first research hypothesis was not confirmed.

H2: Members of the experimental group participating in the “Touch with Understanding!” program will demonstrate significantly lower levels of negative attitudes toward individuals with SEN following the intervention compared to members of the control group.

According to the Shapiro-Wilk test results, although the assumption of normality was not violated in the experimental group ($W = .956, p = .084$), it was violated in the control group ($W = .908, p = .005$). Consequently, the second research hypothesis was tested using a non-parametric procedure. Since the objective was to compare two independent samples (experimental and control groups), the Mann-Whitney U test was applied (Hart, 2001). The reliability coefficient for the total scale was Cronbach’s alpha = .732. Since this indicates that

the instrument reliably measures attitudes toward individuals with disabilities, analyses were conducted using the global variable.

The Mann-Whitney U test revealed that following the intervention, lower mean ranks were identified among members of the experimental group (Mean Rank = 32.310, Sum of Ranks = 1454) compared to participants in the control group (Mean Rank = 52.68, Sum of Ranks = 1949). Although the rank differences themselves indicate divergence between the groups, the analysis confirmed that the observed difference was statistically significant ($U = 419$, $Z = -3.880$, $p < .001$). The effect size was moderate to large ($r = .43$) (Field, 2018), indicating not only statistical significance but also practical relevance of the intervention.

For the interpretation of the findings, it is important to note that the scale primarily measures negative attitudes; therefore, higher scores indicate more unfavorable beliefs and stronger negative emotions toward individuals with SEN. The lower scores observed in the experimental group indicate that participation in the awareness-raising program was associated with a reduction in negative attitudes, supporting the emergence of more favorable beliefs, positive emotions, acceptance, and openness toward individuals with disabilities. No such changes were observed in the control group. Overall, the significant difference between the two groups confirms the second research hypothesis.

H3: Members of the experimental group participating in the “Touch with Understanding!” program will demonstrate significantly higher levels of special education preparedness following the intervention compared to members of the control group.

The Shapiro-Wilk test further indicated that the assumption of normality was not violated either for the experimental group ($W = .963$, $p = .159$) or for the control group ($W = .948$, $p = .081$), thus parametric procedures were applied in subsequent analyses (Das, 2016). The obtained results indicated Cronbach's $\alpha = .610$. According to the recommendations of Hair et al. (2019), values above .600 may already be considered acceptable; however, the findings should be interpreted with caution, since most literature favors values above .700.

From a statistical perspective, a significant effect of time was identified ($F(1,80) = 19.159$, $p < .001$, $\eta^2p = .19$), indicating that a substantial increase in special education preparedness was observed from pre-test to post-test across the total sample. Furthermore, the Time $\times$ Group interaction was also statistically significant ($F(1,80) = 15.462$, $p < .001$),

suggesting that the magnitude of change between pre-test and post-test differed between the two groups. This interpretation is further supported by the moderate-to-large effect size ($\eta^2p = .16$) (Field, 2018).

To determine the extent of change within each group, post hoc analyses were conducted (Pallant, 2011). These analyses revealed a significant increase in the experimental group ($t(44) = 6.510, p < .001$), whereas no significant change was observed in the control group ($t(36) = .284, p = .77$). This suggests that the intervention exerted a substantial effect within the experimental group, while no meaningful change occurred in the control group. The results therefore support the confirmation of the third research hypothesis.

H4: Members of the experimental group participating in the “Touch with Understanding!” program will demonstrate significantly lower levels of intolerance toward difference following the intervention compared to members of the control group.

The results indicated that the assumption of normality was not violated in the control group ($W = .986, p = .924$), whereas it was violated in the experimental group ($W = .948, p = .044$). Consequently, the analyses were conducted using the non-parametric Mann-Whitney U test (Rina et al., 2023). Further examination of the preliminary assumptions yielded Cronbach’s $\alpha = .862$, indicating that the instrument reliably measures the intended construct (Pallant, 2011).

The results of the Mann-Whitney U test demonstrated that the experimental group (Mean Rank = 34.460, Sum of Ranks = 1550.500) displayed lower mean ranks than the control group (Mean Rank = 50.070, Sum of Ranks = 1850.500). These values indicate statistically significant differences between the two groups at post-test ($U = 515.200, Z = -2.960, p = .003$).

The lower mean rank observed in the experimental group indicates that participants who received the intervention achieved lower scores during the post-intervention assessment. Since higher scores reflect stronger intolerance toward difference, the lower scores of the experimental group suggest that participation in the program positively influenced participants’ tolerance levels, strengthening more open and accepting attitudes toward difference. The moderate effect size ($r = .33$) likewise demonstrates the positive effect of the intervention (Field, 2018).

6.5. Conclusions

The intervention did not produce statistically significant differences regarding inclusive attitudes; however, significant effects were identified concerning attitudes toward individuals with disabilities, special education preparedness, and intolerance toward difference. Within the theoretical framework, these findings can be interpreted on multiple levels.

The reduction of negative attitudes toward individuals with disabilities and the decrease in intolerance toward diversity suggest that the most effective components of the program were emotional and experience-based activities, such as direct interaction with individuals with disabilities and empathy-development exercises. These findings are consistent with previous research (Beunza-García et al., 2025) highlighting the positive mechanisms of intergroup contact (Pettigrew & Tropp, 2006). According to this perspective, situations providing opportunities for direct equal-status interaction and shared activities may reduce discriminatory beliefs and negative emotional orientations.

In addition, the effectiveness of the program's cognitive components is reflected in the significant development identified in special education preparedness. The obtained findings are consistent with previous conclusions (Forlin et al., 2014; Kolosova et al., 2022), emphasizing that psychoeducation and knowledge-oriented activities may enhance teacher education students' methodological preparedness, competencies, and consequently their sense of self-efficacy.

In contrast, the lack of significant positive change regarding the first hypothesis, that is, inclusive attitudes, may be explained by the fact that such attitudes are rooted in deeper cognitive and value-based systems. Consequently, their modification may require longer-term interventions sustained over extended periods of time (Campbell et al., 2003; Rae et al., 2011). The findings should also be interpreted globally, as the previously presented positive effects concerning attitudes toward individuals with disabilities, special education preparedness, and intolerance toward difference may indicate that the program's initial observable effectiveness manifested primarily in the development of more specific attitudes - for example, directly toward individuals with disabilities - or in the development of particular methodological competencies. With regard to inclusive perspectives more broadly, more profound and longer-term interventions may be necessary to facilitate global attitude transformation.

Overall, it can be concluded that the practical integration of a complex, multidimensional awareness-raising program into teacher education may be highly beneficial,

as it may strengthen more inclusive perspectives, greater acceptance of diversity, and teachers' methodological preparedness. In order to achieve more comprehensive and global attitude transformation concerning inclusive perspectives, it may be worthwhile to place greater emphasis on extending the temporal framework of such interventions.

CHAPTER VII. CONCLUSIONS

The general objective of the present doctoral dissertation was to comprehensively investigate the attitudes of Hungarian teachers in Transylvania toward the integration and inclusion of individuals with Special Educational Needs (SEN), with particular emphasis on their measurement and structural characteristics, predictive factors and mediating mechanisms, as well as possibilities for their support and development. Five interrelated empirical studies jointly aimed to achieve the established system of objectives. Studies involving instrument adaptation, explanatory analyses, and intervention effectiveness evaluations highlighted the dynamics of attitudes, their influencing factors, and the mechanisms through which they may be shaped.

The primary theoretical contribution of the dissertation lies in outlining a multifactorial model of inclusive attitudes. The findings demonstrated that attitudes toward inclusion and toward students with SEN cannot be interpreted as a one-dimensional construct. Both instrument adaptation studies clearly indicate that, compared to the structural models of the original instruments, the factorial structure of attitudes appears in a modified form within the population of Hungarian teachers in Transylvania.

The segmentation of the emotional dimension observed in the first study into two distinct components - emotions toward individuals with SEN and fear of disability - demonstrates that teachers' emotional orientations are more differentiated than originally assumed by the instrument. From a theoretical perspective, this finding suggests that the attitude system related to atypicality and difference possesses not only an interpersonal but also an intrapersonal layer of meaning. The distinction between emotions associated with individuals with SEN and their education, and fears related to one's own subjective vulnerability, highlights that deeper and more complex psychological processes contribute to attitude formation. This observation is particularly relevant from the perspective of potential intervention strategies.

Similar tendencies were identified in the second study. The original four-factor structure reorganized into a simpler two-factor model, consisting of a global emotional orientation and a cognitive attitude dimension. This process of reorganization draws attention to cultural characteristics related to the measurement of attitudes and to the considerable context-dependency of conceptual frameworks, emphasizing that the mechanical transfer of attitude constructs from one cultural context to another is not advisable. Taken together, the findings of the first two studies support an integrated, multidimensional model according to which attitudes toward inclusion may be described through at least three closely interconnected factors. These

include, first, cognitive attitudes shaped by beliefs and convictions. Second, affective components emerge that capture emotional orientations. Finally, a competence-based component associated with preparedness and self-efficacy was also distinguished. This organizational structure demonstrates consistency with the Knowledge-Attitude-Behavior framework, complemented by the independent and substantial role of emotional components.

The third and fourth studies of the dissertation examined the predictive factors and structural relationships associated with attitudes toward inclusion. At the level of conclusions, it became evident that positive inclusive attitudes were most strongly predicted by direct contact with individuals with SEN, comprehensive methodological and special education preparedness, and lower levels of negative emotional orientation toward individuals with SEN. The relevance of these findings was further deepened through mediation analysis. The partial mediating role of special education preparedness emphasizes that the relationship between attitudes toward individuals with SEN and attitudes toward inclusive education is not exclusively direct but is partly mediated through perceived competence. This demonstrates that an adequate level of preparedness is not merely a formal, knowledge-based component, but may also function as a bridge between emotional orientations and support for inclusive practices.

Finally, the complex nature of our intervention program, which integrated cognitive, emotional, and behavioral dimensions, was consistent with the previously presented findings of the dissertation emphasizing the multidimensional nature of attitudes. The intervention resulted in significant improvements regarding attitudes toward individuals with SEN, reduced intolerance toward difference, and increased levels of special education preparedness. However, no substantial change was observed regarding overall inclusive attitudes. The obtained findings emphasize that certain targeted and specific attitude components may be shaped even in the short term, whereas broader and more global inclusive perspectives are likely influenced by deeper belief-related mechanisms that require longer periods to become modifiable. This further highlights the layered nature of attitudes.

At the same time, the intervention primarily provided opportunities to support the cognitive and emotional components of attitudes through methodological preparation and empathy development. The program, however, was unable to provide opportunities for participants to apply their acquired knowledge and interpersonal skills within authentic practical educational and pedagogical contexts. This may explain why no substantial changes emerged specifically regarding inclusive attitudes, while changes were identifiable in other

attitude dimensions. Consequently, a possible developmental recommendation would involve extending the program modules with targeted behavior-based components.

From a practical perspective, the interconnected series of studies draws attention to the fact that supporting an inclusive pedagogical perspective requires a complex and multifaceted approach. During teacher education, it may become increasingly important to integrate more substantial special education and methodological preparation related to teaching students with SEN. Within teacher preparation, it may also be beneficial to support experiential and direct-contact-based shared experiences with individuals with disabilities, as well as to introduce long-term, comprehensive awareness-raising programs in which the development of emotional reflectivity and empathy may receive greater emphasis.

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