



Psychometric study of a measurement scale for teaching social skills to students with special educational needs

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Introduction. Teaching social skills to students with special educational needs is essential for their personal development and integration into society. *Objectives.* The purpose of this study was to validate a measurement instrument for the elements involved in teaching and learning social skills in students with special educational needs. *Methods.* Two studies were conducted to accomplish this objective. We first performed exploratory research on half of the sample consisting of 166 Greek teachers working in primary and secondary special and general education schools in the Western Macedonia region. Then, we conducted a confirmatory study on a sample of 185 Greek teachers who were also working in primary and secondary special and general education schools in the same region. All education professionals work with students with mild special educational needs. The instrument used was an “ad hoc” questionnaire consisting of 17 items of a 5-point Likert scale, to which different analyses were applied to verify its validity and reliability. *Results.* An Exploratory Factor Analysis (EFA) showed a total of 3 factors corresponding to the “Preparedness of Teachers in Teaching Social Skills”, the “Elements of Influence on Teachers’ Suitability in Teaching Social Skills”, and the “Elements that play an important role in Teaching Social Skills”. Subsequently, a Confirmatory Factor Analysis (CFA) was carried out, through which the results derived from the AFE were ratified. *Conclusion.* The findings reveal an instrument that is adequate in validity and reliability, in accordance with the literature, demonstrating that the model is consistent and coherent with the initial theoretical assumptions.

Keywords: validation of scale, teachers’ preparedness, teaching social skills, EFA, CFA

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Introduction

In recent decades, various research studies and clinical applications have proven the intense interest that is now manifested in the social skills of children and adolescents (Pham et al., 2019). Acknowledging the limitations and challenges of measuring and assessing social skills in individuals with special educational needs (SEN) is crucial. These limitations include the heterogeneous nature of the disorder, individual differences in social abilities and challenges, and the influence of external factors such as environment and support systems on social skill development. Teaching social skills to students with special educational needs is essential for their personal development and integration into society. According to the American Psychiatric Association (2022), people with mild intellectual disabilities are characterized by a general social immaturity that extends primarily to social interactions, conversations, language, and communication. It is often difficult to understand social stimuli from peers, just as it is difficult to regulate emotions and behavior. They are clearly unaware of the danger they face in social situations and are very likely to be manipulated by someone because of their dysfunctional social crisis. Different methods and strategies can be used to help students with special educational needs acquire and improve their social skills, such as cooperative learning activities, peer tutoring, and social skills groups. Cooperative learning activities provide opportunities for students with special educational needs, including those with autism spectrum disorder (ASD), to work together in small groups, promoting social interaction and collaborative skills. Peer tutoring involves pairing students with special educational needs with peers who can provide support and guidance in academic and social tasks, fostering positive relationships and skill development. Social skills groups create a structured environment for individuals to practice and learn social skills in a supportive setting facilitated by trained professionals. Enhancing social skills teaching to students with special educational needs requires a multidisciplinary approach, ongoing assessment, and a commitment to creating a supportive and inclusive learning environment. Tailoring instruction to meet each student's unique needs and providing consistent support is essential for their success in developing social skills. Research on the problem of social skills for students with special educational needs has highlighted the challenges they face in developing and maintaining positive peer relationships, understanding social cues, and engaging in appropriate social behaviors (Marsh et al., 2017). This research has also identified the significant impact that social skills deficits can have on their academic performance, overall well-being, and future success. Furthermore, it has shed light on the importance of addressing these social skills deficits through targeted interventions and support in inclusive educational settings.

More precisely, the evaluation of existing instruments for assessing social skills in students with special educational needs is vital for ensuring accurate

and effective assessment practices. Examples of instrument construction that are similar include the Autism Spectrum Screening Questionnaire (ASSQ; Ehlers et al., 1999), the Social Responsiveness Scale (SRS; Constantino & Gruber, 2005), and the Teacher Observation of Classroom Adaptation-Checklist (TOCA-C; Koth et al., 2009). Given the wide range of instruments available, it is important for practitioners to carefully consider the psychometric properties of these measures, including reliability and validity. Furthermore, practitioners should assess the transparency of the psychometric properties, such as content validity, fairness, and substantive validity. This analysis is necessary to ensure that the instruments used are appropriate for evaluating social skills in students with special educational needs. In conclusion, when assessing social skills in students with special educational needs, practitioners should exercise caution and thoroughly evaluate the psychometric properties of existing measurement instruments to ensure accurate and reliable assessment.

Merrell and Gimpel (2014) justify the focus on social skills both in identifying several important aspects of social skills and in understanding the contribution of socio-emotional development to individuals and society. They also note the difficulty of establishing a universal definition of social skills since the term is applied to various scientific fields (e.g., psychology, sociology, pedagogy, psychiatry) and includes other concepts (e.g., personality, mental potential, perception, communication, interaction with the environment, etc.) (Merrell & Gimpel, 2014). Nevertheless, in an attempt to delineate the content of social skills, Radley and Dart (2022) defined social skills as the behaviors that are most reinforced and socially acceptable in social settings, considering the context in which they occur. Thus, social and cultural variables are crucial in defining the norms and expectations of social skills. To this end, the ability to successfully complete a social task requires a certain class of behaviors, characterized as social skills (e.g., communication, play, work together) (McDaniel et al., 2017). According to Sørli et al. (2021), social skills improve from childhood to adolescence. An effective method for teaching proper social and communication skills as well as improving social self-efficacy is social skills training by human trainers. Human social skills training constitutes a significant way of acquiring social interaction norms (Tanaka et al., 2016; 2023). Also, Barwick (2011) notes that social skills are characterized by culturally defined behaviors that are acquired over time, on the one hand, and are in direct interaction with external social factors, such as the status and characteristics of each group, social position, individual characteristics and their reinforcement to the individual from the social environment. Social skills prove to be extremely useful in an organized society, as people are confronted daily with social situations that they have to manage, such as situations of interpersonal problem-solving that require the demonstration of specific social skills. According to Spence (2003), there is always the possibility of a person's inability to respond to

a particular situation in the most socially appropriate way, as various cognitive, emotional, and environmental factors can influence it. Schools, teachers, parents, and peers have significant problems when working with children and teens who lack social skills (Gresham, 2016; Merrell & Gimpel, 2014). Among these children are those with mild educational needs who face multiple difficulties and problems in terms of social skills (Adair et al., 2015; Hebbeler & Spiker, 2016; Kontu & Pirttimaa, 2016). Mild educational disabilities, as stated by ICD11 (World Health Organization, 2022), include limitations in present functioning within the context of community environments typical of the individual's age peers and culture, cultural and linguistic diversity, as well as differences in communication, sensory, motor, and behavioral factors.

Wiley and Sipersteint (2015) list groups of mild educational needs as high-frequency disabilities since these are more common than other disabilities (e.g., multiple disabilities). Children with special educational needs present a range of difficulties of cognitive, academic, social, and personal type (Garrote et al., 2017), also regarding specific teaching topics (Pérez-Valverde et al., 2021). The problems of social skills that they show are varied, such as problems of social interaction and relationships with peers. It is common for these people to experience rejection from their peers. Equally common are the problems they face in their relationships with teachers, as well as school adjustment problems. Particularly noticeable is a series of behavioral problems that are sometimes internalized (internalizing) and sometimes externalized (externalizing) (Peterson et al., 2016; Salavera et al., 2019). Such behaviors not only hinder children's academic performance but usually cause general problems in the school environment, as they usually lack bargaining skills and collaboration. Thus, teaching social skills to children with special educational needs through several methods (Tohara, 2021) constitutes a challenge both for the teachers themselves and for the educational system in general (Kasari et al., 2016). Theoretical and methodological aspects of social skills for students with special educational needs provide a foundation for understanding the underlying principles and strategies that can be used to support the social development of these students in inclusive educational settings. These aspects encompass theories and research on social skills acquisition, the impact of peer relationships on social development, and evidence-based interventions that have proven effective in promoting positive social outcomes for students with special educational needs. Practical application in inclusive educational settings involves translating these theoretical and methodological aspects into actionable strategies and interventions that can be implemented within the classroom.

Methods

Sample

The instruments included in the sample were likely chosen based on their relevance to the research question or topic being investigated (Glod et al., 2015). Moreover, investigators have considered the measures selected in previous studies or the common use of tools by a particular research group when deciding which instruments to include in their sample. In addition, the researchers have chosen the instruments based on their psychometric properties and validity in assessing social skills in individuals with SEN.

In order to validate the research tool concerning the construction of a measurement scale for teaching social skills to students with special educational needs, two quantitative studies were conducted. More specifically, an Exploratory Factor Analysis (EFA) was performed on a sample of 166 Greek teachers working in primary and secondary special and general education schools in the Western Macedonia region, and a Confirmatory Factor Analysis (CFA) was conducted on a sample of 185 Greek teachers with the same characteristics. Thus, the factor analysis model was formed using EFA and ratified through a relevant CFA (Kourkounasiou & Skordilis, 2014; Schneider et al., 2020).

In assessing social skills in individuals with special educational needs, it was important for researchers to consistently report the psychometric properties of the measurement tools used in their study. It is crucial to consider contextual factors, such as educational authorities, local service delivery needs, and population fit (gender, age, etc.), to determine whether an academic instrument is suitable for a specific administrative context. These factors may vary depending on the research study or evaluation being conducted. However, it can be inferred that the sample type would likely consist of individuals with special educational needs, as the sources mention studies (Shattuck et al., 2012) and assessments conducted on individuals with SEN or disabilities. The choice of the framework will be based on the specific characteristics of the sample population, such as age, language skills, and gender. The researchers conducting the study or evaluation were required to select the most suitable academic instrument based on the specific characteristics of the sample population. In addition, it is crucial to consider the usability of an academic instrument.

Researchers informed the participants about the instruments' purpose and their contribution to the study. Clear communication with participants, including teachers, was essential to ensure their understanding and willingness to participate. They were provided with clear and concise explanations about the purpose of filling in the instrument and how their input would contribute to research or evaluation. Finally, the researchers obtained the necessary approvals and permissions from schools before conducting the research.

Sample of Study 1

The EFA study sample consisted of 166 teachers working in schools attended by students with mild special educational needs. The sample was collected using non-probabilistic sampling methods. More specifically, convenience sampling and snowball sampling were used, as the research tool was distributed directly to the teachers and forwarded by the school administrations to the subjects. The demographic and professional characteristics of the participants are presented in Table 1. Specifically, the researchers employed a combination of methods, such as school visits, interviews, and questionnaires, to collect data from the participants. It is important to note that the sample was chosen purposefully for a specific purpose, indicating that the researchers selected participants who could provide valuable insights and data. The researcher and two research assistants visited the schools to gather data from the participants. It was vital for researchers to carefully consider the characteristics of the sample population, such as age and gender, when selecting the most appropriate instrument. Researchers had a clear understanding of the methodology behind selecting instruments and creating samples, which ensured transparency and rigor in current research.

Table 1
Study 1 Sample Characteristics

		N	%
Gender	Male	84	50.60%
	Female	82	49.40%
Age	≤ 25	4	2.40%
	26-33	23	13.90%
	34-41	58	34.90%
	42-49	42	25.30%
	≥ 50	39	23.50%
	≤ 10	46	27.70%
Years of service	11-20	73	44.00%
	21-30	26	15.70%
	≥ 50	21	12.70%
Working structure	Special education	84	50.60%
	General education	140	84.3
Education	University graduate	158	95.20%
	Training studies	83	50.00%
	Master's degree	78	47.00%
	PhD	10	6.00%
Students with Special Educational Needs	Yes	116	69.90%
	No	50	30.10%

		N	%
Type of Special Educational Needs	Special Learning Disabilities	119	71.70%
	Speech and Communication Disorders	45	38.80%
	Emotional Disorders and Behavioral Problems	35	21.10%
	Attention Deficit Hyperactivity Disorder	71	42.80%
	Mild Mental Disability	32	19.30%
	Autism Spectrum Disorders	22	13.30%

Sample of Study 2

The sample of 185 teachers used for the CFA was also collected using convenience and snowball sampling. The demographic and professional characteristics of the sample are presented in Table 2.

Table 2

Study 2 Sample Characteristics

		N	%
Gender	Male	85	45.90%
	Female	100	54.10%
Age	≤ 25	9	4.90%
	26-33	30	16.20%
	34-41	55	29.70%
	42-49	48	25.90%
	≥ 50	43	23.20%
Years of service	≤ 10	54	29.20%
	11-20	65	35.10%
	21-30	43	23.20%
Working structure	≥ 50	23	12.40%
	Special education	79	42.70%
Education	General education	170	91.90%
	University graduate	176	95.10%
	Training studies	102	55.10%
	Master's degree	91	49.20%
	PhD	17	9.20%

		N	%
Students with Special Educational Needs	Yes	123	66.50%
	No	62	33.50%
Type of Special Educational Needs	Special Learning Disabilities	132	71.40%
	Speech & Communication Disorders	49	26.50%
	Emotional Disorders & Behavioral Problems	41	22.20%
	Attention Deficit Hyperactivity Disorder	83	44.90%
	Mild Mental Disability	44	23.80%
	Autism Spectrum Disorders	34	18.40%

Instrument

Intentional question selection allows researchers and educators to have more control over the assessment process, ensuring that it serves their instructional goals and the unique needs of their students. This approach can lead to more effective teaching and learning outcomes by providing targeted and relevant assessments. In research studies, it is common to choose factors that are relevant and reflect the construct being measured. In the case of measuring teachers' ability to teach social skills, researchers may have selected factors such as teacher training in social skills, classroom strategies used to promote social skills, student outcomes related to social skills, and teacher self-assessment of their own ability in teaching social skills. The selection of these factors is likely to be guided by existing literature and theories on effective teaching of social skills, as well as consultation with experts in the field. By using a questionnaire that includes factors such as teacher-related factors, school-related factors, and contextual variables, researchers can gather data on various aspects that contribute to a teacher's ability to teach social skills. The research tool of the present study was created "ad hoc", and it includes 17 items of concern. The basis for the selected questions was the teacher's ability to teach social skills. They were asked to rate the importance of social skills for students with special educational needs, the challenges they face in developing these skills, and the effectiveness of current interventions in addressing these challenges (Table 3):

1. Teacher's ability to teach social skills (4 items).
2. Factors that can affect the teacher's competence in teaching social skills (7 items).
3. Factors that play an important role in teaching social skills (6 items).

All data aim to capture the teachers' perceptions on the aforementioned issues. More specifically, the degree of agreement of the respondents with the developing proposals is reflected, and, therefore, the answers are attributed to a 5-point ascending Likert scale ranging from 1= totally disagree to 5= totally agree.

Table 3

Research Tool Items

Teacher's ability to teach social skills

Note to what extent you agree with each of the following statements:

1. I feel familiar with the content of the concept of "social skills".
2. I am able to identify and recognize the social difficulties of my students.
3. I feel capable of teaching social skills effectively.
4. I would like to improve my ability to teach social skills.

Factors that can affect the teacher's competence in teaching social skills

Note to what extent you agree that each of the following factors can affect the teacher's competence in teaching social skills.

1. Studies.
2. Teaching Experience.
3. Collaboration with other teachers.
4. Collaboration with mental health professionals.
5. Attendance of training programs.
6. Study of scientific material (books, articles, etc.).
7. Personal opinion regarding the role of the teacher in teaching social skills.

Factors that play an important role in teaching social skills

Note to what extent you agree with each of the following statements:

1. The role of the school in the psychosocial development of students is important.
2. Teachers have a primary role in teaching social skills.
3. The family has the sole responsibility for teaching social skills.
4. Mental health professionals (e.g., psychologists) have the greatest responsibility for teaching social skills.
5. Teaching social skills becomes more effective when it is carried out exclusively by the class teacher.
6. Teaching social skills proves more effective when done collaboratively by classroom teachers and mental health professionals.

Research procedure

A sample of teachers from inclusive educational settings was selected for the research. These teachers were provided with the research tool, which consisted of 17 items related to the social skills of students with special educational needs. They were asked to rate the importance of social skills for these students, the challenges they face in developing these skills, and the effectiveness of current interventions. The findings

from the research demonstrated that teachers recognized the significance of social skills for students with special educational needs. They also acknowledged the challenges these students face in developing these skills and expressed a need for more effective interventions. The results of the research highlight the crucial role that teachers play in supporting students with special educational needs, particularly in developing their social skills. This underscores the importance of providing teachers with adequate training and resources to effectively support students with SEN in developing their social skills.

Data analysis

An Exploratory Factor Analysis (EFA) was applied to construct factors concerning the adequacy of teachers in teaching social skills to children with special educational needs and elements that show an important role in teaching social skills. The main function of EFA is to gather an extended number of hierarchical variables in a perceptible entity that studies concepts based on an average or cumulative scale (Taherdoost et al., 2022).

For this purpose, Pearson correlation matrices were used alongside the “optimum implementation of parallel analysis” (Timmerman & Lorenzo-Seva, 2011) in order to determine the number of factors. The “Maximum robust likelihood” method was used for the extraction of common factors, with the use of the “Robust Oblimin” rotation criterion (Lorenzo-Seva & Ferrando, 2019), while the factors’ internal consistency was investigated through the calculation of Cronbach’s Alpha coefficients. The software used was that of the statistical package SPSS (v26).

Confirmatory Factor Analysis (CFA) is used to determine whether an EFA model results, which show a redefined relationship framework between the research items variables, are, in practice, confirmed through the structural equations model (Kourkounasiou & Skordilis, 2014).

In this sense, structural equations models were carried out with the use of SPSS Amos, and the fit of the model was assessed by using the following statistics: the χ^2 /degrees of freedom test (Schober & Vetter, 2020), the comparative fit index (CFI), the incremental fit index (IFI), the normed fit index (NFI), the Tucker-Lewis index (TLI) (Byrne, 1994; 2001; Hu & Bentler, 1999), the root mean square residual (RMR), the root mean square error of approximation (RMSEA) (Hu & Bentler, 1999), and the expected cross-validation index (ECVI).

Results

Study 1: Exploratory factor analysis

Moving on to the results concerning the Exploratory Factor Analysis, it initially appears that it yields three factors, which explain 67.64% of the total variance. The factor loadings were obtained through the Exploratory Robust

Maximum Likelihood (RML) method. The procedure for determining the number of dimensions was that of the Optimal implementation of Parallel Analysis (PA) (Timmerman & Lorenzo-Seva, 2011). The technique of factor analysis allows encoding a set of variables into a smaller number of aggregate factors based on their linear correlation (Brown, 2015). Applying the Exploratory Factor Analysis (EFA) technique presupposes satisfactory sampling adequacy. In the present study, this was examined by using the Kaiser-Meyer-Olkin coefficient (KMO). The index takes values from 0 to 1, and the closer to the unit is, the greater the adequacy of sampling, with a minimum acceptable value of .80. In this case, the Kaizer-Meyer-Olkin (KMO) index, which informs about the appropriateness of using the Factor Analysis technique, is considered satisfactory as it is equal to .900. At the same time, Bartlett's Test of Sphericity was performed, by using the χ^2 statistic, with the results of this leading to the rejection that the correlation matrix of the research data is the unitary matrix ($p < .001$) and therefore the data are suitable for the application of Exploratory Factor Analysis (Table 4). Regarding the composition of the factors resulting from the Exploratory Factor Analysis, it is initially noted that one element concerning the importance of the family environment for teaching social skills is excluded from the corresponding process as it presented a factor loading of less than .3.

Regarding the structure of the resulting factors, it is observed that the first of them, "Preparedness of Teachers in Teaching Social Skills", contains 8 items concerning the following:

1. The teachers' degree of familiarity with the content of the concept of "social skills".
2. Ability to identify and recognize students' social difficulties.
3. Ability to teach social skills effectively.
4. Intention to improve skills in teaching social skills.
5. Importance of adequate studies in teaching social skills.
6. Importance of teaching experience in teaching social skills.
7. Importance of working with other teachers in teaching social skills.
8. Importance of personal views on the role of the teacher in teaching social skills.

The second factor, "Elements of Influence on Teachers' Suitability in Teaching Social Skills", includes 3 items that relate to teachers' perceptions about the following subjects:

1. Importance of working with mental health professionals in teaching social skills.
2. Importance of attending training programs in teaching social skills.
3. Importance of studying scientific material in teaching social skills.

Finally, the third factor of the study, “Elements that Play an Important Role in Teaching Social Skills”, consists of 5 items concerning the following subjects:

1. Importance of the school’s role in students’ psychosocial development.
2. Importance of the role of teachers in teaching social skills.
3. Importance of the role of mental health professionals in teaching social skills.
4. Importance of the role of classroom teachers in the effectiveness of teaching social skills.
5. Importance of the role of collaboration between classroom teachers and mental health professionals in the effectiveness of social skills teaching.

Table 4

Rotated Loading Matrix

Items	Factor	Factor	Factor
	1	2	3
Item1	.876		
Item2	.739		
Item3	.885		
Item4	.366		
Item5	.781		
Item6	.749		
Item7	.455		
Item8	.497		
Item9		.637	
Item10		.856	
Item11		.497	
Item12			.738
Item13			.727
Item14			.579
Item15			.766
Item16			.787

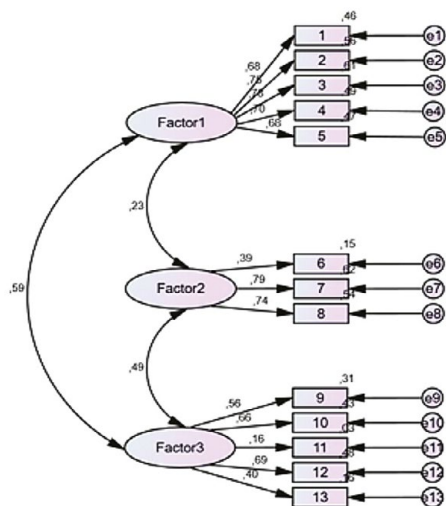
At the same time, it appears that all factors, as well as the research tool as a total, present satisfactory internal consistency, as the corresponding Cronbach’s Alpha coefficients are greater than the minimum acceptable limit of .6 (Table 5).

Table 5*Cronbach's Alpha Coefficients for the EFA factors*

Factors	Cronbach's Alpha
Preparedness of Teachers in Teaching Social Skills	.883
Elements of Influence on Teachers' Suitability in Teaching Social Skills	.698
Elements that Play an Important Role in Teaching Social Skills Total instrument	.697
Social Skills Total instrument	.841

Study 2: Confirmatory factor analysis

Presenting the results of the Confirmatory Factor Analysis, it is initially emphasized that 4 items had to be eliminated because they were similar to more than one factor. The results of the Confirmatory Factor Analysis process are presented in Figure 1:

Figure 1*Confirmatory Factor Analysis***CFA Factor Loadings**

Based on the presented results, it appears that the first factor includes 5 items concerning the “Preparedness of Teachers in Teaching Social Skills”, the second factor includes 3 items concerning the “Elements of Influence on Teachers' Suitability in Teaching Social Skills”, and the third factor includes

5 elements concerning the “Elements that Play an Important Role in Teaching Social Skills”. The results of the diagnostic tests initially show a good fit of the data on the structural equation model, and the χ^2/DF ratio is lower than the limit of 3.84 and equal to 1.477. The results obtained through the RMSEA ratio are similar, which is lower than .05, signaling the good fit of the structural equations model. At the same time, the values of the comparative fit (CFI, NFI, RFI, IFI, and TLI) are significantly higher than .900 (Table 6), signaling the certainty of the good fit of the structural equations model.

Table 6

Model Fit Indices

χ^2	df	p	χ^2/df	CFI	IFI	NFI	NNFI(TLI)	RMSEA	ECVI
73.835	50	.016	1.477	.968	.969	.91	.95	.021	.869

Finally, the Cronbach’s Alpha Coefficients of all factors and total instrument are reduced for the CFA results, but in this case, they are also greater than the minimum acceptable limit of .6, signaling satisfactory internal consistency (Table 7).

Table 7

Cronbach’s Alpha Coefficients for the CFA factors

Factors	Cronbach’s Alpha
Preparedness of Teachers in Teaching Social Skills	.855
Elements of Influence on Teachers’ Suitability in Teaching Social Skills	.651
Elements that Play an Important Role in Teaching	.638
Social Skills Total instrument	.805

Discussion

Based on the above, the teachers believe that they play a key role in the social and emotional well-being of students, making it imperative to take a holistic approach to education (Payton et al., 2008). A holistic approach is not limited to cognitive teaching but aims to enhance the cognitive, emotional, social, physical, and spiritual development of students (Djambazova-Popordanoska, 2016). Therefore, general and special education teachers are challenged to create learning environments that support and promote both academic and social success (Meadan & Monda-Amaya, 2008). As the majority of teachers acknowledge their lack of knowledge in teaching social skills, many of them argue that mental health professionals within the school context should play

a key role in children's socio-emotional development (Mazzer & Rickwood, 2015). In addition to the above, some teachers believe that teaching social skills is not the school's responsibility. Dutton Tillery et al. (2010) treat student behavior as a feature of the developmental phase in which they find themselves and not as targets for intervention. Therefore, they believe that social behavior patterns should be learned at home, and it is the family's duty to ensure the acquisition and ownership of these behaviors (Vaughn et al., 2004).

Assessments of a child's social adequacy and social skills in applying the above methods are provided by various sources of information, such as parents, teachers, peers, outside observers, and the children themselves. Each type of information provision has its advantages and disadvantages, which is why, most of the time, the evaluation of a child's social skills is chosen to be done with the participation of multiple sources of information. In this way, multifaceted conclusions are drawn, and a complete picture of the child's social behavior is provided in all social contexts (Renk & Phares, 2004). Similarly, issues of reliability, validity, and effectiveness are inherent in each of the above evaluation methods, which is why researchers suggest collecting information from different sources, social contexts, and methods in order to form an accurate description of students' strengths and weaknesses. The combination of appropriate assessment methods will lead to the selection of the most effective intervention to address the specific target behavior that has been set, resulting in the gradual removal of the child's social deficits.

Conclusion

According to the research study, the instrument used focused on capturing teachers' perceptions of the importance of social skills for students with special educational needs and the challenges they face in developing these skills. The context of the study was within educational settings, specifically addressing the experiences and perspectives of teachers working with students with special educational needs. The present study aimed to validate a research tool that will be able to identify the adequacy of teachers in teaching social skills to children with special educational needs and the elements that have an important role in the aforementioned process. For this purpose, Exploratory and Confirmatory Factor Analysis techniques were applied to a set of 17 items concerning the above components. The results of the research revealed three factors that reflect the "Readiness of teachers and the importance of their competence in teaching social skills", the "Elements of influencing the adequacy of teachers in teaching social skills", and the "Elements that have an important role in teaching social skills", presenting a satisfactory goodness of fit. Regarding the readiness of teachers and the importance of their competence in teaching social skills, it is considered that elements concerning teachers' abilities determine it, as well as

their degree of competence in assessing students' social difficulties, while the role of cooperation between teachers and their increased academic level and their experience in teaching social skills should also be emphasized. At the same time, key elements that influence the adequacy of teachers in teaching social skills are cooperation with mental health professionals, attendance of respective training programs, and the continuous study of relevant scientific material. Finally, the role of the teachers and the mental health professionals is important in teaching social skills, as well as the cooperation between them.

Future research should replicate the current findings with other samples. Using the current data, researchers can identify potential factors that will influence the evolution of teacher perceptions over time and assess the correlation between this process and the increase in teacher ratings of students. It's probable that these processes are interrelated and impact each other. In conclusion, it is recommended that data from multiple sources be obtained to triangulate it most efficiently.

While the research tool used in this study provided valuable insights into teachers' perceptions of social skills for students with special educational needs, including those with ASD, there are a few considerations to take into account before recommending its use for future research purposes. Firstly, the sample size of teachers included in the study should be expanded to ensure a more representative population. Additionally, the reliability and validity of the research tool should be assessed to ensure its effectiveness in measuring teachers' perceptions accurately. Furthermore, it may be beneficial to include other stakeholders, such as parents and students, in future research to gain a more comprehensive understanding of the challenges and interventions related to social skills in inclusive educational settings.

Based on the information provided, it is difficult to determine whether the data obtained clearly indicates that the research instrument used in this study is a useful tool for assessing teachers' perceptions of social skills for students with special educational needs. However, the results of the study suggest that the research instrument provided valuable insights into teachers' knowledge and attitudes towards inclusive education and their ability to support students with SEN in developing their social skills. The information provided does not explicitly indicate whether the metric characteristics of the research instrument speak to its usefulness in assessing teachers' perceptions accurately. However, it does mention that 17 items included in the instrument have information on reliability and validity. This suggests that the included research instrument is likely to have reliable and valid metric characteristics, which can contribute to its usefulness in accurately assessing teachers' perceptions of social skills in inclusive educational settings.

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Psihometrijsko proučavanje merne skale za nastavu socijalnih veština učenika sa posebnim obrazovnim potrebama

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Uvod: Podučavanje socijalnih veština učenika sa posebnim obrazovnim potrebama od suštinskog je značaja za njihov lični razvoj i integraciju u društvo. *Ciljevi:* Svrha ove studije je da se validira instrument za merenje elemenata uključenih u podučavanje i učenje socijalnih veština kod učenika sa posebnim obrazovnim potrebama. *Metod:* Da bi se postigao ovaj cilj, sprovedene su dve studije. Prvo, eksplorativna studija, sa polovinom uzorka, koja se sastoji od uzorka od 166 grčkih nastavnika koji rade u osnovnim i srednjim školama specijalnog i opšteg obrazovanja u regionu Zapadne Makedonije. Drugo, potvrдна studija, koja se sastoji od uzorka od 185 grčkih nastavnika koji takođe rade u osnovnim i srednjim školama specijalnog i opšteg obrazovanja u istom regionu. Svi prosvetni radnici rade sa učenicima sa blagim posebnim obrazovnim potrebama. Korišćeni instrument je bio „ad hoc” kreiran upitnik, koji se sastojao od 17 stavki po Likertovoj skali od 5 poena, na koji su primenjene različite analize da bi se potvrdila njegova validnost i pouzdanost. *Rezultati:* Eksploratorna faktorska analiza (EFA) pokazala je ukupno tri faktora koji odgovaraju „Spremnosti nastavnika u podučavanju socijalnih veština”, prema „Elementima uticaja na nastavnike; Pogodnosti u podučavanju socijalnih veština i Elementima koji imaju važnu ulogu u podučavanju socijalnih veština”. Nakon toga je sprovedena Konfirmatorna faktorska analiza (CFA), kroz koju su potvrđeni rezultati dobijeni iz AFE. *Zaključak:* Nalazi otkrivaju instrument koji je adekvatan u validnosti i pouzdanosti, u skladu sa literaturom, pokazujući da je model konzistentan i koherentan sa početnim teorijskim pretpostavkama.

Ključne reči: validiranje instrumenta, pripremljenost nastavnika, podučavanje socijalnih veština, EFA, CFA

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