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Measuring Teachers' Self-Efficacy in Implementing Inclusive Practices: Adaptation of the TEIP Scale and Group Comparisons

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The aim of the study is to present the results of the adaptation of the TEIP (Teacher Efficacy for Inclusive Practices) research instrument (Sharma et al., 2012) and the analysis of factors potentially influencing teachers' perceived efficacy in implementing inclusive practices. The research sample included 506 teachers. Through confirmatory factor analysis, it was demonstrated that the modified three-factor model of the TEIP scale best fits the data provided by primary and secondary school teachers in Slovakia. In terms of teacher subsamples, the model showed a better fit with data from primary school teachers compared to secondary school teachers. This may indicate that the nature of inclusive practices in secondary schools is somewhat different, which is subsequently reflected in a less accurate model fit, as evidenced by both the incremental and absolute fit index values. We identified statistically significant differences in teachers' perceived efficacy in inclusive teaching and in managing student behaviour, based on their achieved career level and leadership roles. Furthermore, significant differences were found in teachers' perceived efficacy in collaborating with other educational stakeholders, according to gender, the number of specialised activities undertaken, leadership roles, and participation in training aimed at developing competencies for implementing inclusive education. The research indicates that teachers' self-efficacy in inclusive teaching and managing student behaviour is influenced by their experience and skills, while in collaboration with other school stakeholders it is affected by gender-related specifics, involvement in school life through other pedagogical or professional roles, and the development of inclusive educator competencies. Holding leadership positions significantly contributes to all three components of teacher self-efficacy.

Keywords: inclusive education, self-efficacy, school, student, teacher

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INTRODUCTION

Currently, teachers are encountering growing tendencies toward the individualization of student education, the development of schools based on community principles, and the creation of a learning environment that respects and supports the multifaceted development of children's personalities (for more details see for example Lucena-Rodríguez et al., 2025). Learner-specific and differentiated teaching is one of the key tools for integration, as it enables methods and learning pace to be adapted to the needs of each individual (Lindner & Schwab, 2025). Teachers face several major tasks, including adapting teaching strategies to students' expectations, fostering a school environment that supports the development of positive relationships among teachers, students, and parents.

These challenges can be addressed by implementing the concept of inclusive education in schools, which European countries have recognised as a means of ensuring equal rights to education for all students without distinction (Haug, 2017). Importantly, both groups (disadvantaged and intact students) benefit from it (Roldán et al., 2021).

As stated in *The Salamanca Statement and Framework for Action on Special Needs Education* (UNESCO, 1994), the development of an inclusive school should focus on various aspects, which can be integrated into three pillars: school policy, culture, and practice. While changes in the first two involve multiple educational stakeholders, the application of inclusive practices in teaching primarily falls under the responsibility of teachers who respond to the recommendations of school specialists and the needs of students. *The Incheon Declaration* (UNESCO, 2015) notes that every child has the right to inclusive, equitable, and high-quality education, and that countries are obliged to monitor and promote the equality of their opportunities. The document *Welcoming Learners with Disabilities in Quality Learning Environments* (UNESCO, 2021) highlights the need to remove systemic barriers for students with special needs. This is reflected in the *Strategy for an Inclusive Approach in Education* (Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, 2021), which underscores the quality of teachers' skills and their motivation for lifelong learning. Central to this is the analysis of their educational opportunities and professional competencies.

In the newly developed *National Curriculum for Primary Education* (Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, 2023), it is emphasised that changes in schools should take place while respecting the principles of inclusive education, expanding digitalisation in educational resources, and creating a green school that supports sustainability. In response to this, the *Professional Standard for Primary School Teachers* and the *Professional Standard for Secondary School Teachers* (Ministerstvo školstva, výskumu, vývoja a mládeže Slovenskej republiky, 2025) highlight, among various competencies, those related to identifying the developmental and individual characteristics of students, recognising the internal and external conditions affecting students' learning and their educational needs, understanding the sociocultural environment and its impact on students' development and education, as well as collaborating with key stakeholders in education.

The success of a teacher's work depends on the development of their competencies; however, what is crucial is the energy they can exert to enhance the effectiveness of educational activities. It concerns how they perceive their potential to achieve what they aim for in teaching and what they consider the source of success and failure in activities with students. This refers to self-efficacy, which represents a set of determinants of personality self-regulation and serves as a significant predictor of work engagement (Heng & Chu, 2023), teaching success (Eghtesadi & Jeddi, 2019), shows a negative correlation with burnout syndrome risk (Li, 2023), and even influences teaching practices and job satisfaction (Alibakhshi et al., 2020).

It is understandable, as teacher self-efficacy is important because it strengthens their belief in their own ability to conduct lessons successfully and handle classroom challenges. Higher self-efficacy increases motivation, engagement, and willingness to try new teaching approaches (Gavora, 2011a). Such a teacher is also likely to show greater interest in participating in continuous professional development. Gavora (2011b), building on Bandura (2006), asserts that self-efficacy is situationally and contextually conditioned, which highlights the importance of addressing the contribution of teachers' self-efficacy in implementing inclusive education.

Savolainen et al. (2022) focused their study on identifying the interdependent relationship between teachers' attitudes toward inclusive education and their belief in their self-efficacy to implement inclusive practices. The conclusion suggests that increasing this efficacy is likely to positively influence their attitudes. Similar findings were reported by Koliqi and Zabeli (2022), who identified self-efficacy in implementing inclusive practices as a predictor of teachers' attitudes toward inclusive education.

The research findings of Montgomery and Mirenda (2014) show expected correlations between the dimensions of the Teacher Efficacy for Inclusive Practices (TEIP) scale and the dimensions of the revised scale of feelings, attitudes, and concerns about inclusive education in relation to students with developmental disorders. Building on these findings, Almalky and Alrabiah (2024), using regression analysis, found that teachers' self-efficacy, along with other variables, in implementing inclusive practices significantly influenced their intentions to integrate inclusive education into regular classrooms. The importance of attitudes toward inclusive education is further supported by the findings of Opoku et al. (2021) and Sharma and Jacobs (2016). Complementary findings come from the meta-analytic study by Dignath et al. (2022), which suggests that teachers' self-efficacy is a crucial factor in shaping perspectives on the implementation of inclusive practices, which naturally requires acquiring appropriate experience.

For the purpose of improving schools in the inclusion index rating among European Union countries (Booth & Ainscow, 2019), it appears necessary to monitor the areas that are also reflected in the TEIP scale, where continuous support for teachers in implementing the ideas of inclusion into the educational environment is appropriate. It is crucial to start already in the classroom itself. The adaptation of the Teacher Efficacy for Inclusive Practices (TEIP) scale has understandably been a longstanding research

trend in pedagogy (Martins & Chacon, 2020; Matić et al., 2023; Nina et al., 2020; Pivarč, 2022).

Although TEIP scale has been widely used internationally, its reliable adaptation for the Slovak context, taking into account cultural and systemic specifics, provides a tool for assessing teachers' self-efficacy in inclusive education, identifying factors affecting its effectiveness, and planning targeted interventions, thereby contributing to a better understanding of how inclusive practices are perceived and to the development of inclusive education in schools.

It appears that, in addition to adapting the scale, attention must also be paid to determinants that may potentially influence changes in teachers' self-efficacy in implementing inclusive practice. It is meaningful to consider gender (Zegeye et al., 2023), the performance of a specialist role (Kazanopoulos et al., 2022), the type of school or teachers' qualifications (San Martin et al., 2021), as well as the experience gained (Butabayeva et al., 2025) and training completed in the field of inclusion (Xafakos & Malafantis, 2025). Other relevant factors include age and highest level of education (Pivarč, 2022), leadership (Wang et al., 2022), class teacher responsibilities (Nur et al., 2024), and mentoring, understood as support for acquiring skills (Adaka et al., 2022). The location in which teachers work (Knickenberg et al., 2025) and their field of study (Novocký et al., 2024) should also not be underestimated, even though this may not concern individually measured self-efficacy in implementing inclusive practice within a different cultural context, or the teaching of humanities and science subjects, but rather the university preparation required for their didactic mastery.

METHOD

Among the constructs related to inclusive education, teacher self-efficacy has long been recognised as a key factor of effective practice. The concept of self-efficacy is based on Bandura's social-cognitive theory, according to which an individual's belief in their ability to successfully perform a task significantly influences their behaviour, perseverance, and outcomes (Gavora, 2011b).

Mapping self-efficacy in teachers is a key factor in their professional development. Perceived self-efficacy essentially reflects how individuals (in this case, teachers) view themselves in specific educational situations, particularly regarding their capacity to address or influence them. This should be examined both in general terms, assessing their perceived efficacy in using teaching strategies, managing classrooms, and engaging students in schoolwork (Nejati & Sahrapour, 2020; Tschannen-Moran & Woolfolk Hoy, 2001; Valls et al., 2020), as well as in the context of the prevailing educational philosophy of inclusive education and its resulting challenges. These challenges require teachers to address the specific needs and characteristics of students while creating an environment that fosters their personal and performance growth. For this purpose, a research instrument was developed to measure teachers' perceived efficacy in teaching in inclusive classrooms (Sharma et al., 2012). Its original version comprised three dimensions: the first focused on monitoring the efficacy of inclusive teaching (working with educational tools that meet the learning needs of students to enhance a differentiated approach), the second on monitoring the efficacy of managing

student behaviour (preventing disruptive reactions and ensuring compliance with classroom rules), and the third on monitoring the efficacy of collaborating with other educational stakeholders (cooperating with school staff and parents to fulfill inclusive policies). Although initially designed for a sample of pre-service teachers, it has also been used in studies mapping the efficacy of practicing (in-service) teachers in implementing inclusive practices in various contexts (Horan & Merrigan, 2021; Malinen et al., 2012; Yada et al., 2018).

The TEIP scale has been validated in various cultural contexts, but its use in a new environment requires careful adaptation to ensure conceptual equivalence and measurement validity. In adapting the scale and examining the significance of factors influencing its components, we employed a quantitative, non-experimental, instrumental (methodological) design.

The Strategy for an Inclusive Approach in Education (Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, 2021) states that for inclusive education to be adequately implemented in the school system, it is necessary to support the availability of continuous education for teaching staff. This education should stimulate the expansion of their professional competencies through participation in formal and non-formal educational activities, without undervaluing informal learning, which plays a strategic role in acquiring practical experience in inclusive environments. The goal is not only to eliminate the effects associated with desegregation, destigmatization, and barrier removal, but also to emphasise the updating of competencies in inclusive didactics. It is essential to identify educational topics for teachers that reflect their professional needs in conducting teaching that responds to diversity and performance variability. Kosová, Tomengová et al. (2015) argue that the ability to reflect on one's educational activities is the foundation for the self-improvement of professionals in education.

In educational systems undergoing curricular reforms, experiencing increasing student diversity, or moving towards inclusive policies, an adapted and psychometrically reliable tool for measuring teachers' perceived self-efficacy is highly valuable. Such adaptation supports cross-cultural comparison, facilitates evidence-based teacher training, and enables researchers to monitor changes in self-efficacy over time. For these reasons, adapting the TEIP scale to the target context represents an important step in advancing research on inclusive education and supporting the development of inclusive teaching competences.

In the first step, we conducted a back-translation of the scale. Upon comparing the two versions, no semantic shift was observed between the items (they were content-aligned). However, based on Gavora (2011b), who adhered to Bandura's (2006) recommendations for adapting instruments for examining teachers' self-efficacy–one of which suggests that items in scale questionnaires mapping perceived efficacy should include terms evoking potentiality rather than intention–we had to stylistically adjust four items. Although Sharma et al. (2012) used three consistent expressions (I can, I am confident that, I am able to) to indicate potentiality in the scale's statements, we preferred the term I can, which clearly dominated in the aforementioned translation of

the research tool. This formally unified scale (for example) has been used to monitor the collective self-efficacy of elementary school teachers (Sánchez-Rosas et al., 2022) and to assess teachers' self-efficacy in teaching students with disadvantages (Dawson & Scott, 2013). The phrase "I can" is preferred because it most accurately reflects the concept of self-efficacy, as it focuses on an individual's subjective belief that they can perform a specific task. In contrast, "I am confident that" captures more general self-confidence, and "I am able to" sounds static and may refer to an objective ability rather than subjective self-efficacy. The instrument was then subjected to pilot testing, during which respondents were asked to provide feedback on their understanding of the items and to analyse these statements for conceptual similarity (suggesting areas under which they could be categorised). This process was carried out with in-service teachers (N=10) and pre-service teachers (N=10). The conclusion was that the scale possesses a clear internal structure and adequately covers the dimensions of inclusive education. This was consistent with the results of a preliminary study conducted on a sample of 20 teachers. The number of items in the tool corresponded to its original version (18 items). The format of the scale remained the same as in its original version (1 = strongly disagree, 2 = disagree, 3 = disagree somewhat, 4 = agree somewhat, 5 = agree, and 6 = strongly agree). In the final step, we conducted a confirmatory factor analysis using the maximum likelihood estimator to assess the validity of the TEIP scale, as well as to evaluate the internal consistency of its dimensions and of the scale as a whole.

Research sample characteristics

The research sample was created using convenience sampling. Teachers were contacted via school email addresses available on the website of the Slovak Centre of Scientific and Technical Information. The distribution of the research instrument took place from November to December 2023. A total of 511 teachers participated in the study. After excluding those who did not perform the role of teachers in schools (e.g., teaching assistants, school specialists), the research sample consisted of 506 respondents. A detailed description of the sample is provided in Table 1. As participation depended on teachers' willingness to respond to email invitations, the sample may over-represent individuals who are more motivated and more actively engaged professionally. The aim, however, was to obtain the largest possible sample to proportionally reflect the possibilities for valid comparison, and therefore multiple variables were monitored. Of course, this may not fully correspond to the structure of the teaching population in Slovakia. Subsamples with fewer than 30 respondents were not included in the statistical comparison of dimension scores for the TEIP scale.

Table 1
Distribution of the Research Sample by Demographic Characteristics

Characteristic	N	%
Gender		
Female	391	77.27
Male	115	22.73
Location		
Western Regions	202	39.92
Central Regions	111	21.94
Eastern Regions	193	38.14
Type of School		
Primary School	255	50.40
Grammar School	70	13.83
Secondary Vocational School	166	32.81
Combined Schools	15	2.96
Age		
Up to 25 years, 26–35 years	61	12.06
36–45 years, 46–55 years	337	66.60
Over 56 years	108	21.34
Length of Practice		
0–2 years, 3–5 years	57	11.26
6–10 years, 11–15 years	123	24.31
16–20 years, 21–25 years	167	33.00
26–30 years, 31+ years	159	31.42
Career Level Achieved		
Beginning Teacher	14	2.77
Independent Teacher	162	32.02
Teacher with 1st Certification	176	34.78
Teacher with 2nd Certification	154	30.43
Method of Obtaining Teaching Qualification		
University Study in Teaching or Extension Study	385	76.09
University Study in Non-Teaching Field + Pedagogy	116	22.92
No Qualification (e.g., foreign language teachers)	5	0.99
Subjects Taught		
Humanities (or predominantly humanities)	174	34.39
Natural Sciences (or predominantly sciences)	139	27.47
Mixed Subjects	109	21.54
Vocational Subjects (in secondary school)	74	14.62
Specific Subjects (music, art, PE, technology, etc.)	10	1.98
Number of Specialised Activities		
None	109	21.54
One to Two	335	66.21
Three or More	62	12.25
Role as Class Teacher		
Yes	297	58.70
No	209	41.30
Role as Mentor Teacher		
Yes	64	12.65
No	442	87.35
Leadership Role		
Yes	85	16.80
No	421	83.20
Training in Inclusive Education (Last 5 Years)		
Yes	132	26.09
No	374	73.91

Data analysis

To identify statistically significant differences between variables, we employed parametric tests (Student's t-test, ANOVA, and within it the Bonferroni post hoc test, as the variances in the samples were equal, as determined by Levene's test). We assessed the normality of the variable distributions within subgroups by displaying the data in histograms with overlaid normal curves, since normality tests are sensitive to sample size (particularly for larger samples). The significance level was set at 0.05. From descriptive statistics, we used the arithmetic mean (AM) and standard deviation (SD). Statistical data analysis was conducted using SPSS 27.0.1.0 and JASP 0.14.1.

FINDINGS

In the following Tables (2, 3, 4), we present the results from the adaptation of the TEIP scale. First, we address the psychometric properties of the items, the values of fit indices and information criteria across several tested models, and the internal consistency of the individual dimensions as well as the entire scale questionnaire. Only in Table 5 do we present the data regarding the comparison of the three dimensions of the TEIP scale with respect to the independent variables (presented in Table 1).

Table 2
Titles and Psychometric Characteristics of Items in the Slovak Version of the TEIP Scale

Assigning an item to a factor	N	AM	SD	CITC
(II) I can clearly communicate my expectations regarding student behaviour.	506	4.94	1.09	0.379
(II) I can calm disruptive or noisy students.	506	4.76	0.86	0.604
(III) I can create a welcoming environment for parents visiting the school.	506	5.00	0.86	0.529
(III) I can assist families in improving their child's academic performance.	506	4.33	0.78	0.454
(I) I can assess students' level of understanding of the material covered.	506	4.93	0.69	0.550
(I) I can provide advanced students with exercises that offer appropriate challenges.	506	4.84	0.82	0.554
(II) I can prevent disruptive behaviour in the classroom.	506	4.63	0.83	0.600
(II) I can correct disruptive behaviour in the classroom.	506	4.75	0.78	0.638
(III) I can involve parents of disadvantaged students in school activities.	506	3.59	1.13	0.430
(I) I can create assignments tailored to the individual needs of disadvantaged students.	506	4.54	0.83	0.580
(II) I can enforce adherence to rules in the classroom.	506	4.63	0.86	0.535
(III) I can collaborate with other professionals (school psychologists, special educators) in developing curricula for disadvantaged students.	506	4.98	0.92	0.639
(III) I can collaborate with other staff members (teaching assistants, colleagues) in teaching disadvantaged students.	506	5.04	0.87	0.602
(I) I can motivate students to work in pairs or groups.	506	4.91	0.82	0.591
(I) I can use various types of assessment (portfolio-based, performance-based, etc.).	506	4.45	1.07	0.631
(III) I can educate the uninformed about laws and policies concerning the inclusion of disadvantaged students.	506	4.06	1.08	0.551
(II) I can handle situations involving physically aggressive students.	506	4.29	0.90	0.547
(I) If a student does not understand the material, I can provide an alternative explanation or example.	506	5.08	0.75	0.584

Legend: N – sample size, AM – arithmetic mean, SD – standard deviation, CITC – corrected item-total correlation, I – factor of efficacy in inclusive teaching, II – factor of efficacy in managing student behaviour, III – factor of efficacy in collaborating with other educational stakeholders.

To determine the discriminatory power of the instrument's items, we used the corrected version of the correlation coefficient (see Table 2). Only the first item in the table exhibited low discriminatory effectiveness compared to the others (although the value of the corrected correlation between this item and the overall scale score was higher than 0.30). This was considered one of the reasons for potentially excluding it from analyses following the confirmatory factor analysis.

Table 3
Fit Index Values for Tested TEIP Models in Confirmatory Factor Analysis

Models	Samples					
	Primary School (N=255)		Secondary School (N=208)		Full Sample (N=506)	
Single-Factor Model	CFI	0.771	CFI	0.737	CFI	0.760
	TLI	0.740	TLI	0.702	TLI	0.727
	RMSEA	0.114	RMSEA	0.118	RMSEA	0.113
	SRMR	0.073	SRMR	0.081	SRMR	0.071
	GFI	0.790	GFI	0.768	GFI	0.801
	AIC	10745.760	AIC	8176.719	AIC	20749.836
	BIC	10873.245	BIC	8296.870	BIC	20901.991
Uncorrelated Three-Factor Model	CFI	0.701	CFI	0.690	CFI	0.701
	TLI	0.661	TLI	0.649	TLI	0.661
	RMSEA	0.130	RMSEA	0.128	RMSEA	0.126
	SRMR	0.279	SRMR	0.260	SRMR	0.265
	GFI	0.765	GFI	0.764	GFI	0.786
	AIC	10881.435	AIC	8246.217	AIC	20962.344
	BIC	11008.921	BIC	8366.369	BIC	21114.499
Correlated Three-Factor Model	CFI	0.870	CFI	0.833	CFI	0.861
	TLI	0.849	TLI	0.806	TLI	0.839
	RMSEA	0.087	RMSEA	0.095	RMSEA	0.087
	SRMR	0.072	SRMR	0.079	SRMR	0.068
	GFI	0.848	GFI	0.831	GFI	0.868
	AIC	10556.376	AIC	8038.605	AIC	20383.581
	BIC	10694.486	BIC	8168.769	BIC	20548.416
Modified Correlated Three-Factor Model	CFI	0.936	CFI	0.894	CFI	0.925
	TLI	0.923	TLI	0.872	TLI	0.909
	RMSEA	0.064	RMSEA	0.080	RMSEA	0.068
	SRMR	0.050	SRMR	0.063	SRMR	0.048
	GFI	0.899	GFI	0.875	GFI	0.913
	AIC	9678.020	AIC	7443.020	AIC	18760.582
	BIC	9819.670	BIC	7576.522	BIC	18929.644

Legend: CFI – Comparative Fit Index, TLI – Tucker Lewis Index, RMSEA – Root Mean Square Error of Approximation, SRMR – Standardised Root Mean Squared Residual, GFI – Goodness-of-Fit Index, AIC – Akaike Information Criterion, BIC – Bayesian Information Criterion.

In Table 3, we present models of the factor structure of the TEIP scale, focusing on their level of fit with real data collected from primary and secondary school teachers. Among these, we first tested the alternative of an uncorrelated three-factor model. This choice was based on the original development of the scale, where exploratory factor analysis was applied, specifically using the principal components method with varimax orthogonal rotation, assuming that the factors would be independent (Sharma et al., 2012). A similar approach was employed by Narkun and Smogorzewska (2019) during

the scale's adaptation to the Polish educational context. Likewise, Belková et al. (2020) adopted the same analytical procedure when evaluating the validity of the TEIP scale for assessing teachers' self-efficacy in implementing inclusive practices in Slovakia. However, based on the fit index values, this tested model did not demonstrate a good fit with the data (it was the least satisfactory). Given the reported correlations between the scale dimensions in the study by Narkun and Smogorzewska (2019) (r=0.57–0.61), it was clearly necessary to consider the correlated three-factor model. The fit indices for this model confirmed its greater suitability. This model has also been shown to be the most appropriate in construct validation studies of the TEIP scale by Alnahdi (2019) and Emam and Al-Mahdy (2019), aided by modifications to the fit indices. In the first case, error covariances were utilised, while the second case added the removal of three items. Similarly, we modified the correlated model by removing the item with the lowest standardised factor loading (which increased the Cronbach's alpha value for the dimension of managing student behaviour from 0.80/0.81 to 0.83) and incorporating residual covariances between three pairs of conceptually related items within the scale's factors. All remaining items on the scale demonstrated higher standardised factor loadings (above 0.40; $p < 0.001$). This approach was applied to modify the correlated three-factor model across all three samples (using the same items). The modified model revealed relatively strong correlations between the factors for primary school teachers (r=0.59–0.74), secondary school teachers (r=0.55–0.66), and the full sample (r=0.57–0.71), which included teachers from non-specific school types (e.g., combined schools, eight-year grammar schools, etc.). Reflecting the recommendations of Soukup (2022), this led us to examine a one-factor model solution. However, based on the fit index values, this model was explicitly rejected. The indices did not approximate values indicative of acceptable model fit (CFI > 0.90; TLI > 0.90; RMSEA < 0.08; SRMR < 0.08; GFI > 0.90) (Hair et al., 2010). Considering the information criteria (AIC and BIC), where lower values indicate better model adaptability, we conclude that the data best fit the modified correlated three-factor model.

Table 4
Internal Consistency of the Original and Slovak Versions of the TEIP Scale and Its Dimensions

Dimensions and Entire Instrument	TEIP – O (Sharma et al., 2012)	TEIP – SK					
Efficacy in Inclusive Teaching	Cronbach's Alpha (α)	Cronbach's Alpha (α)			McDonald's Omega (ω)		
	0.93	PS	SS	CRS	PS	SS	CRS
		0.81	0.81	0.80	0.81	0.81	0.80
Efficacy in Managing Student Behaviour	Cronbach's Alpha (α)	Cronbach's Alpha (α)			McDonald's Omega (ω)		
	0.85	PS	SS	CRS	PS	SS	CRS
		0.83	0.83	0.83	0.83	0.83	0.83
Efficacy in Collaboration with Other Educational Stakeholders	Cronbach's Alpha (α)	Cronbach's Alpha (α)			McDonald's Omega (ω)		
	0.85	PS	SS	CRS	PS	SS	CRS
		0.79	0.75	0.77	0.78	0.75	0.77
Efficacy in Implementing Inclusive Practices	Cronbach's Alpha (α)	Cronbach's Alpha (α)			McDonald's Omega (ω)		
	0.89	PS	SS	CRS	PS	SS	CRS
		0.91	0.90	0.90	0.91	0.89	0.90

Legend: PS – primary school, SS – secondary school, CRS – complete research sample.

In Table 4, we present a comparison of the internal consistency levels of the original and adapted versions of the TEIP scale. Apart from the dimension of efficacy in inclusive teaching, no significant differences in Cronbach's alpha values were observed. Marko (2016) notes that maximising the alpha coefficient is not always necessary, citing Cattell (1978), who pointed out the issue of high inter-item correlations, which may indicate redundancy among the items. The values we present exceed the threshold of 0.70, which indicates very good reliability of the scale and its dimensions (George & Mallery, 2003). Given that Cronbach's alpha, as a reliability estimate for a set of items, is often subject to criticism (Malkewitz et al., 2023), we also include McDonald's omega values for comparison. There was no notable shift in reliability when using this alternative estimation method, which aligns with the conclusion of the aforementioned study regarding the comparable performance of both coefficients.

Table 5
Statistically Significant Differences in the Dimensions of Perceived Teacher Efficacy in Implementing Inclusive Practices with Respect to Selected Variables

Variables	Dependent Variables					
Independent Variables	Teacher Efficacy in Inclusive Teaching		Teacher Efficacy in Managing Student Behaviour		Teacher Efficacy in Collaborating with Other Educational Stakeholders	
Gender	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	1.737	0.084	-1.048	0.295	2.632	0.009**
Location	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	1.295	0.275	1.042	0.354	1.959	0.142
Type of School	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	1.008	0.366	1.350	0.260	1.219	0.296
Age	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	1.259	0.285	0.843	0.431	1.371	0.255
Length of Practice	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	2.341	0.072	2.384	0.068	2.188	0.089
Achieved Career Level	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	4.303	0.014*	4.919	0.008**	1.181	0.308
Method of Obtaining Qualification	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	0.457	0.648	-0.281	0.779	-0.261	0.794
Teaching Subjects	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	0.636	0.592	1.137	0.333	0.116	0.951
Number of Specialised Activities Performed	ANOVA (F)	p-value	ANOVA (F)	p-value	ANOVA (F)	p-value
	0.586	0.557	0.877	0.416	4.660	0.010*
Class Teacher Function	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	-0.290	0.772	0.039	0.969	-0.681	0.496
Mentor Teacher Function	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	1.128	0.260	0.952	0.341	0.429	0.668
Function of Leading Pedagogical Employee	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	2.289	0.022*	2.978	0.003**	2.687	0.007**
Completion of Training	Student's t-test	p-value	Student's t-test	p-value	Student's t-test	p-value
	1.883	0.060	0.968	0.333	2.804	0.005**

A statistically significant difference was found in the perceived efficacy of teachers in collaborating with other educational stakeholders with respect to gender (Student's t-test = 2.632; p-value = 0.009). Female respondents scored higher than male respondents (AM = 4.54; SD = 0.65; AM = 4.36; SD = 0.64).

A statistically significant difference was found in the perceived efficacy of teachers in inclusive teaching and managing student behaviour with respect to achieved career level (ANOVA = 4.303; p-value = 0.014; ANOVA = 4.919; p-value = 0.008). In terms of pairwise comparisons, this difference was observed in both cases between teachers with the career level of independent pedagogical employee and pedagogical employee with second certification (p = 0.011; p = 0.006). Respondents with a higher career level scored higher than respondents with a lower career level (AM = 4.90; SD = 0.56; AM = 4.70; SD = 0.62; AM = 4.74; SD = 0.59; AM = 4.51; SD = 0.68).

A statistically significant difference was found in the perceived efficacy of teachers in collaborating with other educational stakeholders with respect to the number of specialised activities performed (ANOVA = 4.660; p-value = 0.010). In terms of pairwise comparisons, this difference was observed between teachers who perform one to two specialised activities and teachers who perform three or more specialised activities (p = 0.007). Respondents performing more specialised activities scored higher than respondents performing fewer of these activities (AM = 4.73; SD = 0.56; AM = 4.46; SD = 0.64).

A statistically significant difference was found in the perceived efficacy of teachers in inclusive teaching, managing student behaviour, and collaborating with other educational stakeholders with respect to performing the function of leading pedagogical employee (Student's t-test = 2.289; p-value = 0.022; Student's t-test = 2.978; p-value = 0.003; Student's t-test = 2.687; p-value = 0.007). Respondents who performed this function scored higher in all three cases than those who did not hold this function (AM = 4.93; SD = 0.62; AM = 4.76; SD = 0.59; AM = 4.78; SD = 0.54; AM = 4.58; SD = 0.67; AM = 4.67; SD = 0.63; AM = 4.47; SD = 0.65).

A statistically significant difference was found in the perceived efficacy of teachers in collaborating with other educational stakeholders with respect to the completion of training aimed at developing skills to implement inclusive education (Student's t-test = 2.804; p = 0.005). Respondents who completed this training scored higher than those who did not participate in the said training (AM = 4.64; SD = 0.68; AM = 4.45; SD = 0.63).

A summary can be drawn from these findings. Gender, the number of specialised activities performed, and the completion of training aimed at developing skills for inclusive education influence teachers' self-efficacy in collaborating with other educational stakeholders. Career level affects self-efficacy in inclusive teaching and in managing student behaviour. Holding a pedagogical leadership position impacts self-efficacy across all three areas: inclusive teaching, managing student behaviour, and collaboration with other stakeholders. These findings highlight the importance of professional reflection, professional development, and holding strategic roles in schools for strengthening teachers' confidence in inclusive education.

DISCUSSION

The primary objective of the study was the adaptation of the TEIP tool, created with the intention of mapping teachers' perceived efficacy in implementing inclusive practices.

Although this process involved subtle adjustments to the wording of items (where we preferred a uniform form with the verb "can" in the sentence), attention was primarily focused on the psychometric characteristics of the scale. Since we were familiar with its factor model, we directly applied confirmatory factor analysis to the data. In line with the principle of parsimony, we examined the suitability of a one-factor model and three-factor models. Among them, the three-factor correlated model best fit the data, but after adjustment by eliminating one item and modifying residual covariances among three content-similar items saturated by the same factor. Although this procedure is relatively common in scale validation (it is not a rule that even after back-translating the tool and administering it to a similar target population, the values of fit indices will exceed the given threshold limits), it likely indicates discrepancies in the correspondence between the aforementioned model and the data collected from teachers. When comparing model fit between samples, the three-factor correlated alternative with adjustments appears to be the least responsive among secondary school teachers, which may be the reason for lower fit index values when assessing model suitability on data obtained from both respondent groups.

Regarding the reliability of the scale and its dimensions, we did not make any significant adjustments (Cronbach's alpha and McDonald's omega values were above the cut-off of 0.70). These findings robustly confirm the conclusion of the study by Selenius and Hau (2024), which summarises the empirical literature on the structural validation and reliability of the TEIP scale, that it requires further validation before being used to compare populations and various contexts (from a theoretical standpoint, to align with the multifaceted concept of inclusive education). This is also associated with its use as a self-diagnostic (self-reflective) tool.

The second objective of the study was to conduct group comparisons of teachers' perceived efficacy in implementing inclusive practices (with regard to its dimensions). In this context, we address five relevant independent variables (gender, career level, number of specialised activities, the role of leading pedagogical employee, and completion of training aimed at developing skills in inclusive education).

Gender emerges as a key factor in the perceived efficacy of teachers in collaborating with other educational stakeholders. A similar finding is confronted in the study by Emam and Al-Mahdy (2019), where, in addition to this dimension, a statistically significant gender difference was also demonstrated in the dimension of inclusive teaching, as well as in the overall factor favoring female teachers.

A plausible reason can likely be found in the research by Triviño-Amigo et al. (2022), who aimed to measure the perceived preparedness for inclusive education among secondary school teachers, with the intention of identifying statistically significant difference concerning gender. Although no significant difference was found in this regard, regarding the perceived readiness to handle diversity, it appears that female teachers are more confident in their competencies, as they exhibit a lower need for preparation when addressing the diverse needs of students with disabilities and in supporting inclusive education.

Collaboration with parents and specialised school staff requires teachers to be willing to revise their original perceptions of the most suitable ways to meet students' needs and to effectively work with feedback in order to improve educational practices through differentiated instruction.

From the results of the study by Ansarin et al. (2015), which also examined the relationship between teachers' gender and the level of their reflection, it was found that female teachers surpass male teachers in pedagogical reflection (they appear to be more reflective). For example, female teachers more frequently engage in constructive criticism of their own teaching, analyse the contribution of cooperative education (partner and peer groups) to student learning, are determined to improve their practice, and are convinced that teaching methods remain open to reevaluation.

In the study by Novocký and Rovňanová (2021), a statistically significant difference was observed in the frequency of implementing traditional reflective methods (including self-assessment, self-observation, reflective conversations with colleagues, and lesson preparation) based on teachers' gender, with female respondents achieving higher scores. A relatively stable approach of teachers to inclusion and perceiving the school as a transformative organization also plays a significant role. In Saloviita's (2020) research, a statistically significant difference was noted in teachers' attitudes toward inclusive education based on gender, with female teachers perceiving it more positively.

The achieved career level of teachers is a determining factor in the perceived efficacy of inclusive teaching and managing student behaviour. Their professional growth depends not only on the length of practice and acquired experiences but, more importantly, on the development of professional competencies. These competencies become tools for introducing innovative elements into teaching and for purposefully organising students' work. Teachers' professional advancement should lawfully reflect improvements in educational activities through the enrichment of self-reflection and the development of pedagogical knowledge, which is typical for pedagogical employees with a second certification. These areas provide sources for experiencing successful mastery or mediated experiences, which, according to Narkun (2019) based on Bandura (2015), are factors that enhance teachers' perceived efficacy. Those aspiring to higher career levels must familiarise themselves with the *Professional Standard of Primary and Secondary School Teachers* (Ministerstvo školstva, výskumu, vývoja a mládeže Slovenskej republiky, 2025), which facilitates the assessment of their work and the communication of professional needs, including the appropriate selection of training corresponding to current opportunities. This standard is structured to deepen skills toward didactic, diagnostic, and reflective competencies. Crucially, as career levels advance, the content and scope of these competencies are modified, with teachers continuously working on their professionalization.

In the aforementioned study by Emam and Al-Mahdy (2019), experienced teachers and those with intermediate pedagogical practice reported higher perceived efficacy in implementing inclusive practices compared to novice teachers. In the research conducted by Azizi et al. (2023), which focused on comparative analyses of self-

efficacy among beginning, more experienced, and expert teachers with an emphasis on their cognition, metacognition, experiences, and behaviours, there is an indication that the perceived self-efficacy of EFL (English as a Foreign Language) teachers reaches a terminal point in the middle years of their teaching careers. In the study by Özokcu (2017), a moderately strong positive statistically significant relationship was demonstrated between teachers' general self-efficacy and their self-efficacy in implementing inclusive practices. This suggests a possible interconnection of concepts and validates the findings of Azizi et al. (2023) concerning the perceived efficacy of teachers in implementing inclusive practices.

The number of specialised activities performed is a significant determinant within the framework of teachers' perceived efficacy in collaborating with other educational stakeholders. This number essentially reflects teachers' engagement in participating in the school's operations and not limiting themselves solely to issues arising within their teaching subjects. Additionally, to perform these functions, teachers engage in continuous professional development and often expand their field of professional practice (such as school psychology and special education). However, it appears crucial to monitor whether teachers themselves demonstrate a voluntary interest in these functions (which should stem from mapping their professional predispositions) or if these functions are assigned to them for pragmatic reasons (such as fulfilling workload requirements or formal appointments mandated by law). This is evidenced by the significant difference observed between the group of teachers who perform fewer specialised activities and those who concurrently perform more. In the study by Rahmadani and Kurniawati (2021), teacher engagement served as a mediator between their perceived efficacy in implementing inclusive practices and classroom management. According to the authors, engagement represents an individual's self-expression as physically, cognitively, and emotionally active (encouraging others to perform their work better).

An even more critical factor influencing all components of teachers' perceived efficacy in implementing inclusive practices is whether they hold the position of leading pedagogical employee. Two explanations are proposed here. The first is that to serve as a principal or deputy principal, a teacher must have successfully completed functional training, which includes acquiring knowledge in school policy, legal regulations, financial and school management. Participants of this type of training are thus capable of conceptually managing and operating a school and its educational institutions. The second explanation is that the position of leading pedagogical employee should primarily be sought by a teacher who has accumulated a sufficient number of years of practice (possessing expert experience in working with students, parents, and colleagues) and simultaneously is knowledgeable about current trends in education and critically evaluates prevailing educational philosophies. In such cases, we refer to them as leaders. The systematic literature review by Wray et al. (2022) states that factors influencing teachers' self-efficacy related to inclusive education also include knowledge of relevant policies and legislation, as well as teachers' experience and age.

Effective school leadership is an essential condition for the successful implementation of inclusion in schools, which relies on individualised educational planning for students

(Lambrecht et al., 2022). In the study by Tanzi and Hermanto (2024), a similar conclusion is reached, stating that a leader seriously engages with students with special needs, develops responsive teaching skills, and creates an environment that accommodates children with disabilities. This is likely a matter of advocating for inclusive changes in schools (noting that inclusive education is not limited exclusively to students with physical and psychological disabilities but primarily involves education that responds to societal demands).

Completion of training focused on developing the abilities to implement inclusive education is a factor influencing teachers' perceived efficacy in collaborating with other educational stakeholders. Typically, these trainings involve updating and innovative courses that address the creation of an inclusive culture within schools and classrooms (adhering to the inclusion index). The aim of such trainings also includes efforts to strengthen inclusive values among students. A consistent component of these trainings is the demonstration of activities to support an inclusive environment and the development of ideas for designing and implementing educational activities in accordance with the *Strategy for an Inclusive Approach in Education* (Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, 2021) and the *Strategy for Equality, Inclusion, and Participation of Roma by 2030* (Úrad splnomocnenca vlády Slovenskej republiky pre rómske komunity, 2021). These strategies are based on eliminating prejudices and stereotypes in teaching and in communicating students' issues with parents (see NIVAM, 2023; OZ EDUSTEPS, 2024).

The results of the detailed study by Krischler et al. (2019) indicated that teachers with a deeper understanding of inclusive education also felt better prepared to implement inclusive practices in practice. The study by Crispel and Kasperski (2021) confirms that teacher education programs should include courses that facilitate the application of inclusive education. These courses should incorporate current knowledge from special pedagogy and should not be limited solely to special educators.

Findings from Tümkaya and Miller (2020), who conducted an analysis of 24 peer-reviewed articles utilising the TEIP scale (from 2012 to 2018), revealed that perceived self-efficacy in implementing inclusive practices among teacher trainees and practicing teachers is associated, among other factors, with the length of professional training and the level of education. Dvorská (2020) asserts that for teachers to achieve educational efficacy with students, their competencies must synergise with their self-efficacy.

The research sample was assembled through convenience sampling, which presents a limitation in generalising the study's results to primary and secondary school teachers (this is considered the main limitation of the research). Additionally, this approach creates challenges in formulating practical recommendations. Consequently, we provide only suggestions for enhancing teachers' self-efficacy in implementing inclusive practices. The independent variables that should not be underestimated in further research, given the dimensions of the TEIP scale (see Table 5), are also those with p-values close to 0.05 (e.g., length of practice, completion of education focused on inclusive education within the framework of teacher efficacy in inclusive teaching). This fact may have been caused by the use of mentioned sampling.

CONLUSION AND IMPLICATIONS

Teacher self-efficacy is crucial for the successful implementation of inclusive education. In this study, the Teacher Efficacy for Inclusive Practice (TEIP) scale was adapted and validated for the Slovak context, resulting in a modified three-factor structure. This suggests that the educational reality of inclusion in Slovakia may have specific characteristics that warrant further investigation. Examination of potential factors influencing the components of teachers' self-efficacy in implementing inclusive practice revealed relevant patterns associated with teachers' personal and professional characteristics, highlighting the importance of tailoring professional development to these aspects.

Schools may benefit from focusing on identifying and providing resources that enhance teachers' self-efficacy, particularly through collaboration with colleagues, specialised staff, and parents. Regular monitoring of teachers' perceptions of their preparedness is reflected in teacher education by enabling the adaptation of the content, format, and timing of professional development to specific needs, increasing the effectiveness of training and supporting a culture of continuous learning (based on the collective needs of teachers, taking into account the specific characteristics of the school), provided that a valid and reliable instrument is used.

Teachers might be encouraged to participate in didactic reflective communities, where they can share experiences, discuss inclusive strategies, and receive feedback. Such communities may help clarify the practical impact of studying inclusive education on classroom practices and teachers' professional development. While career progression can be supported, priority might be given to developing teachers' self-efficacy in inclusive teaching and in managing student behaviour. Schools could facilitate this development by providing structured opportunities for teachers to acquire educational knowledge, apply it in practice, and share it with colleagues.

The assignment of specialised tasks and school responsibilities may be most effective when it considers teachers' motivation and professional qualifications. This approach could increase the likelihood of success and positive recognition from the school community, including parents. Teachers' participation in school management, even without formal leadership roles, might be promoted through familiarisation with school policies and inclusive education strategies. Understanding the school's vision may help teachers select professional development programs that strengthen pro-inclusive thinking and support comprehensive student development.

Future studies should examine how school policies and professional development programs influence teacher self-efficacy in inclusive education. Longitudinal research could explore the long-term effects of participation in didactic reflective communities and school-based mentoring on inclusive practices. Further investigation is also needed to determine which factors—such as experience, career progression, or the performance of specialised/leadership roles in schools—most strongly affect teachers' engagement and effectiveness in inclusive programs. Research could also assess how teachers' understanding of the school's vision and strategic goals influences their participation in professional development initiatives aimed at strengthening inclusive education

practices. Finally, the specificities revealed by the modified three-factor TEIP structure in Slovakia suggest a need to explore how contextual school factors (primary and secondary schools) influence teachers' self-efficacy and the practical implementation of inclusive education.

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