

Slovak Teachers' Self-efficacy towards Inclusion of Students with Autism in Physical Education Classes from the Perspective of their Experience

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ABSTRACT:

The inclusion of students with autism spectrum disorders in physical education classes is a topic of growing interest due to its specific nature compared to other subjects where a high level of teachers' self-efficacy is required. The study's objective was to determine the level of self-efficacy toward the inclusion of students with autism spectrum disorders among physical education teachers in Slovakia and to compare it between teachers with and without experience. Of the total number of 117 physical education teachers in Slovakia (mean age of 41.92±8.74 years), 66 teachers had included students with autism in their lessons in the last 5 years (teachers with experience), and 51 PE teachers had not included students with autism (teachers without experience). The research data were collected using the PESEISD-A questionnaire. Levels of self-efficacy to include students with autism do not differ between teachers with and without experience. Slovak PE teachers perceive themselves as moderately capable of including students with autism in their classes. They strongly expressed the need to collaborate with other professionals to increase their self-efficacy. Low self-efficacy was declared by teachers without experience in modifying rules, instructions, activities, and equipment and also in managing the challenging behavior of students with autism.

Keywords: Self-Efficacy, Physical Education Teachers, Autism Spectrum Disorders, Inclusion, Experience.

INTRODUCTION

The latest published statistical data from the Slovak Centre of Scientific and Technical Information showed that last school year, 51,142 students with disabilities were included in Slovak mainstream primary schools. Out of the total number of these students, 2,898 students with autism spectrum disorders (ASD) attended mainstream primary schools, which represented the 5th place among other disabilities (SCSTI, 2023). In the Slovak educational system, the education of children with disabilities, including children with ASD, is carried out in either (a) primary schools for children with ASD, (b) special classes for children with ASD within inclusive primary schools, or (c) in inclusive mainstream schools (National Institute for Education in the Slovak Republic, 2022). In each of these settings, children with disabilities, as well as children with ASD, are educated according to an individual educational program, taking into account general, targeted, and specific support measures (Ministry of Education, Research, Development and Youth of the Slovak Republic, 2024). After completing primary school, more specifically lower secondary education, students with disabilities continue their education at the upper secondary level of education in practical and vocational schools or within secondary vocational and high schools (called gymnasiums in Slovakia) depending on their intellectual capacity (National Institute for Education in the Slovak Republic, 2022). The inclusion of students with ASD in the educational process in mainstream schools brings many challenges for all involved parties. Compared to other subjects, physical education (PE) is different from other subjects due to its specific content and environment in which the educational process is implemented.

The inclusion of students with disabilities in PE classes has been a topic of growing concern, particularly when students with ASD are included. Autism is a complex neurological condition that can impact an individual's social skills, communication abilities, and behavioral patterns, which can present unique challenges in a PE setting (Lüddeckens, 2021). Teacher self-efficacy has emerged as a dominant theoretical framework for examining the confidence and preparedness of PE teachers in effectively including students with disabilities in their classes. Research suggests that teachers' beliefs about their ability to support the learning and achievement of students with diverse needs, including those with autism, can significantly shape their implementation of inclusive practices in the classroom (Cvitkovic et al., 2024; Le Roux et al., 1998; Hwang & Evans, 2011; Woodcock et al., 2023).

The major findings of the literature review indicate that teachers' perceptions of training, amount of experience, and support from personnel significantly influence their self-efficacy toward teaching students with disabilities (Shaukat et al., 2019). Specifically, teachers who feel better prepared and supported are more likely to have a positive outlook on inclusion and be willing to modify their instructional strategies to meet the unique needs of students with ASD in PE classes. The ability to manage behaviors, provide instructional accommodations, and facilitate social interactions are critical competencies for PE teachers to develop to foster an inclusive learning environment for students with ASD (Nowland & Haegele, 2023).

The study results by Selickaitė et al. (2019) found that the type of student disability and the teachers' training in adapted PE significantly influenced their self-efficacy. The latest research from Chile stated that both training in inclusion and previous contact with individuals with disabilities positively influence PE teachers' self-efficacy (Muñoz-Hinrichsen et al., 2024). Likewise, a study on teachers' perspectives on barriers to inclusion of autistic students in Saudi Arabia revealed that while teachers had a generally positive attitude toward inclusion, they lacked the specific knowledge and skills to implement inclusive practices effectively (Ahmed, 2021).

While extant literature has shed light on the challenges and barriers that teachers face in including students with ASD in PE classes, more research is needed to further understand the specific factors that contribute to PE teachers. Providing teachers with the necessary knowledge, resources, and support to include students with autism in their PE classes effectively can empower them to create inclusive and engaging learning environments that cater to the diverse needs of all students. Existing research indicates that teachers' beliefs in their ability to implement inclusive practices, known as their self-efficacy successfully, is a crucial element in the effective inclusion of students with disabilities (Debasu & Yitayew, 2024), including those with ASD (Rabi & Zulkefli, 2018; Tanure Alves et al., 2021). Mastery experiences are the most influential source of self-efficacy as they are the results of one's own experiences (Gale et al., 2021; Jovanović et al., 2014). PE teachers who have had successful experiences teaching students with ASD in their classes are more likely to feel confident in their ability to include these students effectively (Healy et al., 2013). Additionally, vicarious experiences, or observing others successfully, including students with autism, can also contribute to a teacher's sense of self-efficacy (Nowland & Haegele,

2023; Rabi & Zulkefli, 2018). Providing teachers with the necessary knowledge, resources, and support to include students with autism in their PE classes effectively can empower them to create inclusive and engaging learning environments that cater to the diverse needs of all students (Lieberman et al., 2024). Jorgić et al. (2023) found that PE teachers generally have moderate levels of self-efficacy in inclusion, with no significant differences observed based on disability type, gender, or teaching experience. Research further indicated that PE teachers' self-efficacy towards including students with autism is a significant factor in determining the quality and effectiveness of the educational experience for these students. A study of Lithuanian PE teachers found that while they generally held positive attitudes towards inclusion, their self-efficacy levels were relatively low, particularly in areas such as modifying activities and managing behavior. Importantly, attitudes and behavioral intentions are strongly influenced by one's perceived self-efficacy (Woodcock et al., 2023). Recent studies revealed that PE teachers who feel more confident in their abilities to include students with autism successfully are more likely to hold positive attitudes towards inclusion and be willing to implement effective inclusive practices in their classes (Campos et al., 2022; Tarantino & Neville, 2023).

Ongoing professional development and training opportunities for PE teachers have been identified as critical in enhancing their self-efficacy towards including students with autism (Lei et al., 2022). By providing teachers with the knowledge and skills to effectively adapt their instruction, manage challenging behaviors, and foster social interactions, they can develop a greater sense of confidence in their ability to create inclusive and enriching PE experiences for all students, including those with autism (Woodcock et al., 2023).

Summarizing the theoretical findings, it can be concluded that fostering PE teachers' self-efficacy towards the inclusion of students with autism is crucial for ensuring these students have access to meaningful and equitable learning opportunities. Empowering teachers through comprehensive training, adequate resources, and support systems can enable them to create inclusive environments that address the unique needs of students with autism and promote their full participation and engagement in PE classes (Block et al., 2020; Rabi & Zulkefli, 2018; Woodcock et al., 2023).

Research conducted on PE teachers' self-efficacy towards the inclusion of students with ASD is generally scarce. Still, research of this kind conducted in Slovakia is entirely absent. The study's objective was to determine

the level of self-efficacy toward the inclusion of students with autism spectrum disorders among physical education teachers in Slovakia and to compare it between teachers with and without experience.

METHODS

Participants

The study involved 117 physical education teachers in Slovakia with an average age of 40.53 ± 9.22 years and an average length of teaching practice of 12.14 ± 8.88 years (Table 1). Of the total sample, 66 PE teachers with a mean age of 39.72 ± 9.52 years had included students with ASD in their lessons in the last 5 years (teachers with experience, $n=66$), and 51 PE teachers with a mean age of 41.92 ± 8.74 years had never included students with ASD in their general physical education (GPE) lessons (teachers without experience, $n=51$). The inclusion criteria were as follows: Teachers had to complete a university degree in physical education and have taught at a lower secondary education level (i.e., students aged between 11 and 14-15 years old). About 34.8 % ($n=23$) of experienced teachers had teaching assistants in their inclusive PE classes. About 60.6 % ($n=40$) of teachers with experience and 47 % ($n=24$) of teachers without experience took at least one course in physical education for students with disabilities during their university training (Table 1).

Potential participants were informed that participation was completely voluntary and that the dissemination of data was anonymous. The research was carried out within the framework of a grant project from the Ministry of Education, Research, Development and Youth of the Slovak Republic VEGA No. 1/0694/24. The grant project was approved by the Ethics Committee of the Faculty of Education, Comenius University Bratislava, with registration No. 4/2024, which included informed consent to participate in the research and was signed by involved teachers.

Instrument

All data were collected in person via a written questionnaire. Participants were recruited, and questionnaires were distributed to in-service PE teachers, by university students employed and trained by the lead author. The university students were asked to visit the schools in which the teachers worked and recruit them in person to complete the survey. The first author trained all university students to distribute the questionnaire and answer questions posed by the participants. The research data were collected using the standardized PESEISD-A

Table 1. Basic sociodemographic data of the sample

Sample data		With experience (n=66)	Without experience (n=51)	Total (n=117)
		n (%)		
Gender	Men	26 (39.4)	25 (49.0)	51 (43.6)
	Women	40 (60.6)	26 (51.0)	66 (56.4)
Assistant in inclusive PE classes	With assistant	23 (34.8)	0 (0)	23 (19.6)
	Without assistant	43 (65.2)	51 (100)	94 (80.4)
Inclusive PE course during university studies	Yes	40 (60.6)	24 (47.0)	64 (54.7)
	No	16 (24.2)	17 (33.4)	33 (28.2)
	I do not remember	10 (15.2)	10 (19.6)	20 (17.1)
Length of teaching practice (in years)		11.98±9.21	12.67±8.54	12.14±8.88

(Physical Educators' Self-Efficacy Toward Including Students with Disabilities – Autism) questionnaire compiled by the authors Taliaferro et al. (2010). The questionnaire was translated into Slovak and validated by authors Bundová & Nemček (2024a, 2024b). From the original version of the questionnaire, only the part on self-efficacy was processed for the presented research. The first part of the questionnaire consisted of a short description of a student with autism so that even teachers without experience could well imagine such a student in their PE classes. In the second part, teachers recorded their answers about self-efficacy on a 10-point Likert scale from 0 (cannot do at all) to 10 (highly certain can do). In the third part of the questionnaire, the teachers provided their demographic data, such as age, gender, length of teaching experience, the level at which they teach PE, region, and whether or not they have experience including a student with autism in general PE classes. Teachers' self-efficacy was reflected in 10 statements that contained abilities such as modification of equipment, activities, instructions, rules, saving environment creation, social interactions promotion, etc. (Table 2). Teachers rated their confidence in their abilities on a 10-point Likert scale from 0 to 10 points, with lower mean scores indicating lower levels of self-efficacy, higher scores indicating higher levels of self-efficacy, and point 5 meant a moderate level of teachers' self-efficacy.

Data analysis

The statistical processing of the data was carried out using the statistical software SPSS version 27. The responses of the PE teachers for each statement, as well as the overall self-efficacy (total score), were processed by

the mean score and standard deviation. Cronbach's alpha was used to calculate the reliability of the research instrument, which showed an excellent internal consistency of the used research instrument with a value of $\alpha=.958$ (George & Mallery, 2019). Differences in self-efficacy between teachers with and without experience were compared using a non-parametric Mann-Whitney U-test for two independent samples. The non-parametric Wilcoxon Signed Ranks Test for two dependent samples was used to construct the order of confidence in abilities in the groups of teachers with and without experience. Additionally, Pearson correlation coefficients were employed to explore relationships between teachers' self-efficacy and teaching experience with inclusive PE, length of teaching practice, PE courses focused on disability as part of pre-service training, and the use of assistants in PE (Augustovičová, 2024). The level of statistical significance of differences was set at $\alpha \leq 0.05$ (*).

RESULTS

According to the total score, in both groups of PE teachers (with and without experience), a moderate level of self-efficacy was revealed toward including students with ASD in PE classes. PE teachers with experience expressed a self-efficacy overall score of 6.66 ± 2.22 points, while those without experience showed a slightly lower overall self-efficacy score of 6.24 ± 1.96 points. Even though no significant differences were revealed in the total self-efficacy score or its statements between teachers with and without experience, and most significant differences were demonstrated in the modification of activities and the modification of instructions for students with ASD (Table 2).

Table 2. Comparison of PE teachers' self-efficacy

STM No.	Statement	With experience (n=66)	Without experience (n=51)	Mann-Whitney U-test	
		$\bar{x} \pm SD$		U	p
1	Modify equipment for students with autism who are included in my GPE classes.	6.15±2.39	5.96±2.53	1603	0.657
2	Modify activities for students with autism who are included in my GPE classes.	6.48±2.45	5.68±2.44	1373	0.086
3	Create a safe environment for students with autism who are included in my GPE classes.	6.66±2.82	6.25±2.59	1517	0.358
4	Promote social interactions with peers for students with autism who are included in ...	6.77±2.55	6.31±2.12	1458	0.212
5	Manage behaviors of students with autism who are included in my GPE classes.	6.36±2.58	5.84±2.05	1441	0.180
6	Modify instructions for students with autism who are included in my GPE classes.	6.66±2.53	5.92±2.25	1369	0.082
7	Assess the motor skills of students with autism who are included in my GPE classes.	6.77±2.52	6.66±2.36	1601	0.651
8	Modify rules to games for students with autism who are included in my GPE classes.	6.54±2.65	6.00±2.46	1461	0.218
9	Collaborate effectively with other teachers/professionals regarding students ...	7.19±2.74	7.23±2.32	1611	0.689
10	Motivate students with autism who are included in my GPE classes.	7.04±2.45	6.56±2.28	1479	0.259
Total score		6.66±2.22	6.24±1.96	1465	0.231

Note. STM – Statement; No. – Number; GPE – General physical education; \bar{x} – Mean; SD – Standard deviation; U and p – Mann-Whitney U-test statistics calculation.

Generally, we can conclude that teachers with and without experience have the same moderate level of self-efficacy when including students with ASD in their PE classes. However, teachers without experience are less confident in modifying activities and instructions for these students than teachers with experience.

By using the Wilcoxon Signed Ranks Test for related samples, we surveyed the teachers in which areas they are the most confident and in which areas they feel less confident about including students with ASD in their PE classes. In the sample of teachers with experience, we found equal, and highest, levels of self-efficacy in four following areas: working with other specialists (7.20±2.74 points), motivating children with ASD to participate in PE class (7.04±2.45 points), promoting social interactions with peers (6.77±2.55 points), and assessing their motor skills (6.77±2.52 points). There was no significant differences between these statements, as the p-value was greater than 0.093 (Table 3). Lower levels of self-efficacy were found in the sample

of experienced teachers in the following areas: creating a safe environment for students with ASD (6.66±2.82 points), modifying instructions (6.66±2.53 points), rules (6.54±2.65 points), activities (6.48±2.45 points) for students with ASD, and managing behaviors of students with ASD (6.36±2.58 points). Among these statements, the p-value was greater than 0.161, meaning there were no significant differences between them, and thus, we can conclude that they were at the same self-efficacy level. The lowest level of self-efficacy teachers with experience demonstrated in modifying equipment for children with ASD (6.15±2.39 points) as the mean scores difference of the previous statements was significantly different (p=0.036*) (Table 3).

The sample of teachers without experience showed the highest self-efficacy in collaboration with other specialists with the highest mean score (7.23±2.32 points). The difference between this statement and the statements with lower mean scores had a p-value of 0.015, making it significantly different (Table 4).

Table 3. Self-efficacy of teachers with experience

Order	STMS	$\bar{x} / \pm SD$	p
1.	Collaborate effectively with other teachers/professionals regarding students with autism who are included in my GPE classes.	7.20±2.74	p>0.093
	Motivate students with autism who are included in my GPE classes.	7.04±2.45	
	Promote social interactions with peers for students with autism who are included in my GPE classes.	6.77±2.55	
	Assess the motor skills of students with autism who are included in my GPE classes.	6.77±2.52	p=0.036*
2.	Create a safe environment for students with autism who are included in my GPE classes.	6.66±2.82	p>0.161
	Modify instructions for students with autism who are included in my GPE classes.	6.66±2.53	
	Modify rules to games for students with autism who are included in my GPE classes.	6.54±2.65	
	Modify activities for students with autism who are included in my GPE classes.	6.48±2.45	
	Manage behaviors of students with autism who are included in my GPE classes.	6.36±2.58	p=0.036*
3.	Modify equipment for students with autism who are included in my GPE classes.	6.15±2.39	

Note. STMS – Statements; \bar{x} – Mean; SD – Standard deviation; GPE – General physical education; p – Wilcoxon Signed Ranks Test statistics calculation.

Lower levels of self-efficacy were declared by teachers without experience in the following areas: motor skills assessment (6.66±2.36 points), motivating students with ASD (6.56±2.28 points), promoting social interactions between students with ASD and their able-bodied peers (6.31±2.12 points), and create a safe environment

for students with ASD (6.25±2.59 points). Among these statements, the Wilcoxon Signed Ranks Test for related samples revealed no significant differences, thus concluding that PE teachers without experience demonstrated the same level of self-efficacy in these statements. In the inclusion of students with ASD, see teachers

Table 4. Self-efficacy of teachers without experience

Order	STMS	$\bar{x} / \pm SD$	p
1.	Collaborate effectively with other teachers/professionals regarding students with autism who are included in my GPE classes.	7.23±2.32	p=0.015*
2.	Assess the motor skills of students with autism who are included in my GPE classes.	6.66±2.36	p>0.229
	Motivate students with autism who are included in my GPE classes.	6.56±2.28	
	Promote social interactions with peers for students with autism who are included in my GPE classes.	6.31±2.12	
	Create a safe environment for students with autism who are included in my GPE classes.	6.25±2.59	p=0.021*
3.	Modify rules to games for students with autism who are included in my GPE classes.	6.00±2.46	p>0.199
	Modify equipment for students with autism who are included in my GPE classes.	5.96±2.53	
	Modify instructions for students with autism who are included in my GPE classes.	5.92±2.25	
	Manage behaviors of students with autism who are included in my GPE classes.	5.84±2.05	
	Modify activities for students with autism who are included in my GPE classes.	5.68±2.44	

Note. STMS – Statements; \bar{x} – Mean; SD – Standard deviation; GPE – General physical education; p – Wilcoxon Signed Ranks Test statistics calculation.

Table 5. Summary of the PE teachers' self-efficacy results

Order	Teachers with experience	Teachers without experience
	Self-efficacy areas	
1.	Collaborate effectively with other professionals; Motivate students with ASD; Promote social interactions with peers; Assess the motor skills.	Collaborate effectively with other professionals.
2.	Create a safe environment; Modify instructions; Modify rules to games; Modify activities; Manage behaviors of students with ASD.	Assess the motor skills; Motivate students; Promote social interactions with peers; Create a safe environment.
3.	Modify equipment	Modify rules to games; Modify equipment; Modify instructions. Manage behaviors of students with ASD; Modify activities.

without experience an even more significant challenge in the following areas of self-efficacy: modifying rules to games (6.00±2.46 points), modifying equipment (5.96±2.53 points), instructions for students with ASD (5.92±2.25 points) as well as in managing their behaviors (5.84±2.05 points) and modifying activities for them (5.68±2.44 points) (Table 4).

Summarising the results, the highest levels of self-efficacy toward the inclusion of students with ASD in PE classes were shown by teachers with experience in working effectively with other professionals, motivating students with ASD, promoting social interactions with peers, and assessing motor skills. Teachers without experience show the highest level of self-efficacy only when working effectively with other professionals (Table 5). The lowest level of self-efficacy toward the inclusion of students with ASD in PE classes was declared by teachers with experience only in equipment modification for students with ASD and by teachers without experience in modifying rules, equipment, instructions, activities, and managing behaviors of students with ASD (Table 5).

Additionally, Pearson correlation coefficients revealed that the PE teachers self-efficacy were teachers' self-efficacy was not related to the length of their teaching practice, their experience with inclusive PE, or the completion of PE courses focused on disability as part of their pre-service training. On the other hand, there is a positive relationship between PE teachers' self-efficacy and the use of an assistant in PE classes ($r(117) = .27, p = .00^{**}$), weak in strength and statistically significant. These results suggest that the use of a teaching assistant

in PE classes significantly increases the level of PE teachers' self-efficacy.

DISCUSSION

The objective of the present study was to determine the level of self-efficacy toward the inclusion of students with autism spectrum disorders among physical education teachers in Slovakia and to compare it between teachers with and without experience. This pilot study in this area, which was conducted for the first time in Slovakia, showed that there were no differences in self-efficacy between teachers with and without experience toward including students with autism in PE lessons. Despite these findings, teachers with experience demonstrated slightly higher levels of self-efficacy in modifying activities and instructions for students with ASD than teachers without experience. Studies declare that the number of hours of courses with the content of adapted physical education and adapted physical activities taken during the pre-service preparation for future PE teacher profession, as well as the length of teaching practice they have during their studies, have a significant impact on increasing the self-efficacy in their future role as a PE teacher toward teaching students with autism and other disabilities (Devi & Ganguly, 2024; Koh, 2018; Love et al., 2019; Orakçı et al., 2023). Our research did not support these findings, which may have been due to the small research sample of PE teachers.

The research, on the other hand, declares a close connection between self-efficacy and effective collabo-

ration with other professionals, such as teaching assistants during PE classes, toward the inclusion of students with autism. The authors Morrison & Gleddie (2019) also point out this important attribute of the successful inclusion of students with disabilities in PE classes in their research. Authors argue that it is essential that teachers and teaching assistants plan and create an inclusive environment together to ensure appropriate and meaningful opportunities for inclusive PE for students with disabilities. Both samples of PE teachers in this study confirmed that effective collaboration with other professionals would help them increase their self-efficacy, which would subsequently increase the quality of inclusion of students with autism in their PE process. Unfortunately, in Slovakia, teaching assistants, as one of the supportive measures for inclusive education, only participate to a minimal extent in PE lessons to help the successful inclusion of students with autism in PE lessons, which is also evidenced by our research when only 23 teachers out of a total of 117 (19.6 %) were assisted by assistants in their PE classes. Teachers themselves must deal with all the challenges that the inclusion of students with autism in PE lessons brings. Bundová and Nemček (2024a) found that PE teachers in Slovak schools have the most significant difficulty in the inclusion of students with autism due to the different motor skill levels of these students, problems in students staying on task, the large class size of students, and behavioral problems, which make it difficult for them to manage the inclusive PE process. As a result of these problems, 33% of Slovak PE teachers feel stressed, and 31% feel nervous if a student with autism is included in their PE class (Bundová & Nemček, 2024a). With this revelation, we call on education policymakers to implement in support measures the mandatory presence of teaching assistants when students with ASD and other disabilities are included in PE lessons.

Although the present research revealed a moderate level of self-efficacy among Slovak PE teachers (score from 7.23 ± 2.32 to 5.68 ± 2.44 points), according to the calculated order of the self-efficacy rate, teachers with experience declare a higher level of confidence in several abilities than teachers without experience. As we mentioned above, teachers without experience feel the highest level of self-efficacy only in effective cooperation with other experts, teachers, with experience, besides this, declare a higher level of self-efficacy in motivating students with ASD, promoting social interactions with peers, and in assessment of their motor skills. Current studies declare that students with autism often face barriers to partici-

pation in PE and sports, and therefore participate less in regular sports activities compared to typically developing students (Streach et al., 2022). Among others, the main barriers to participation in PE and sports among students with autism were low motivation and low self-efficacy (Hickingbotham et al., 2021). In this direction, the motivation and promotion of social interaction by PE teachers play an important role, and therefore, we are pleased to learn that teachers with experience feel a higher level of self-efficacy in the motivation as well as social interaction promotion of these students in their inclusive PE classes. Despite these findings, authors Švecová & Nemček (2024) found that classmates with ASD are perceived more positively than classmates with ADHD by typically developing students in inclusive PE classes. However, the competitive environment of PE classes appears to act as a barrier for many children and youth with ASD and typically developing peers. In this direction, the researchers emphasize the importance of making various physical activities available for the successful inclusion of students with ASD in inclusive PE classes (Okkenhaug et al., 2024). Another positive finding of the presented research was that PE teachers with experience declare a higher level of self-efficacy in the assessment of motor skills in students with ASD, even though modified motor tests are mostly not available for them (Kaur et al., 2024). With these revelations, we confirm that teachers' experiences with the inclusive PE process led them to increase their expertise and self-efficacy in several abilities, such as motivation, support of social relationships, and assessment of motor skills.

On the other hand, the research further revealed that while PE teachers with experience show the lowest level of self-efficacy in modifying equipment, teachers without experience, besides this, feel the lowest self-efficacy to modify rules, instructions, and activities and to manage problem behaviors of students with ASD. Sport-specific modifications such as adapting rules, instructions, and activities may also be closely related to the reluctance of typically developing peers, especially boys, who, out of a desire to win, do not like to modify rules, instructions, and activities in PE classes for students with disabilities (Nemček, 2022; 2024). This may then be reflected in the low self-efficacy of teachers who have such students in their PE class. The low self-efficacy in coping with problem behaviors of PE teachers without experience may also be related to the often-dismissive attitudes of typically developing classmates toward students with ASD. Authors Haegele and Maher (2022) found that many times, autistic students in PE classes are not accepted

by their typically developing peers and even experience bullying, which is most often associated with the locker room area. Students with ASD experienced these negative experiences despite actively trying to connect with their peers. Teachers, in general, feel the lowest level of self-efficacy in the educational process with autistic students in the ability to train peer models, teach play skills, and translate information from assessment into instructional goals for students (Ryan & Mathews, 2022). It is important to mention that not only the experience toward the inclusion of students with autism into the educational process, as has been shown by current research, but also the level of achieved knowledge in the field of ASD is closely related to self-efficacy (Alkahtani, 2024), that means if PE teachers know the field of autism, their self-efficacy in PE lessons will also be higher. This shows the need for more rigorous training in the field of disabilities for future PE teachers during their pre-service settings in Slovakia.

CONCLUSIONS

The present research indicates that regardless of PE teachers' experience, their self-efficacy toward including students with ASD in PE classes does not significantly differ. Both groups of teachers perceive themselves as moderately capable of including students with autism in their PE classes, with slightly higher self-efficacy of teachers with experience who were more confident in their abilities to modify activities and instruction for students with autism than teachers without experience. Teachers with and without experience strongly express the need to collaborate with other professionals to increase their self-efficacy in PE towards the inclusion of students with autism. Based on the presented research, there is a need for PE teachers in their pre-graduate studies to complete teach-

ing practices, the content of which will be more focused on appropriate modifications of the rules of sports games, modifications of instructions and activities, as well as on modifications of sports equipment and the possibility of managing the challenging behavior of students with autism in inclusive PE classes. Teachers working longer in practice are recommended to acquire these abilities through educational seminars and workshops to increase their self-efficacy in the inclusive PE process.

LIMITATIONS

The self-efficacy of PE teachers has not yet been researched in the Slovak Republic; therefore, this pilot research contains few limitations. The first limitation is the lower number of the sample. It is necessary to expand the research sample and to continue collecting research data in the future to obtain more objective research results. Another limitation was that PE teachers teaching at secondary schools (upper secondary education level) could also be included in the research. In the future, we will try to expand the research with a sample of PE teachers teaching at Slovak secondary schools, and we will try to compare the level of self-efficacy of teachers in different subjects.

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DECLARATION OF INTEREST STATEMENT

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