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**SUBJECT-SPECIFIC COMPETENCIES OF  
SLOVENIAN PHYSICAL EDUCATION  
TEACHERS REGARDING GENDER AND YEARS  
OF TEACHING**

**PREDMETNO-SPECIFIČNE KOMPETENCE  
SLOVENSkih UČITELJEV ŠPORTNE VZGOJE  
GLEDE NA SPOL IN DELOVNO DOBO**

**ABSTRACT**

This cross-sectional study was designed to analyse the subject-specific professional competencies of Slovenian physical education teachers (PETs) according to their gender and years of teaching. The participants evaluated their professional competencies (N=40) with self-administered questionnaire on a four-level Likert scale. Factor analysis is used for the examination of the internal structure of the competencies field and MANOVA is used to determine differences in belief statements about their competencies between three groups of PETs with different gender and years of teaching. There is a discrepancy in self-efficacy to teach physical education (PE) between PETs of both genders with less years of teaching (<10y) and those with more years of teaching (>20). Teachers with less years of teaching (<10y) evaluated their own competencies higher on the factor Teaching methods ( $p < .001$ ), while teachers with more years of teaching (>20y) on the factor Pedagogical and motivational strategies ( $p < .001$ ). Female PETs with more years of teaching (>20y) evaluated their General didactic knowledge higher than their male counterparts ( $p = .019$ ), while men evaluated their competencies higher on the factor Social aspects of sport ( $p = .006$ ). Regardless of gender, however, on the factor Social aspects of sport, PETs with more years of teaching (>20y) evaluated their competencies higher than their counterparts with less years of teaching (<10y) ( $p = .013$ ). The results of the survey confirm the need for the reintroduction of internships, mentoring by more experienced teachers to colleagues with less seniority, and a systematic process of continuous professional development, especially for teacher trainers.

*Keywords:* physical educators, self-evaluation, competencies, gender, working experiences

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**IZVLEČEK**

Namen študije je bil ugotoviti predmetno-specifične poklicne kompetence slovenskih učiteljev športne vzgoje (UŠV) glede na spol in leta poučevanja. Udeleženci so svoje poklicne kompetence (N=40) ocenjevali z vprašalnikom na štiristopenjski Likertovi lestvici. Za preučevanje notranje strukture kompetenc je bila uporabljena faktorska analiza, za ugotavljanje razlik v kompetencah med spoloma in tremi skupinami UŠV z različno dolžino delovne dobe pa MANOVA. Obstajajo razlike pri samoznavanju dejanske kompetentnosti pri poučevanju športne vzgoje med UŠV obeh spolov s krajšo delovno dobo (<10 let) in tistimi, ki poučujejo dalj časa (>20 let). Učitelji s krajšo delovno dobo (<10 let) so boljše ocenili svoje kompetence pri dejavnostih, ki sestavljajo faktor učne metode ( $p < .001$ ), učitelji z daljšo delovno dobo (>20 let) pa pri dejavnostih, ki pojasnjujejo faktor pedagoške in motivacijske strategije ( $p < .001$ ). Učiteljice ŠV z daljšo delovno dobo (>20 let) svoje splošno didaktično znanje ocenjujejo višje kot njihovi moški kolegi ( $p = .019$ ), medtem ko moški svoje kompetence višje ocenjujejo v dejavnostih, ki predstavljajo faktor socialni vidiki športa ( $p = .006$ ). Ne glede na spol v tem faktorju UŠV z daljšo delovno dobo (>20 let) ocenjujejo svoje kompetence višje kot njihovi mlajši kolegi (<10 let) ( $p = .013$ ). Rezultati raziskave nakazujejo, da potrebujemo ponovno uvedbo sistematičnega pripravništva, mentorstvo izkušenejših učiteljev manj izkušenim kolegom in dobro zasnovan proces stalnega strokovnega spopolnjevanja, zlasti za mlajše učitelje.

*Ključne besede:* športni pedagog, samoznavanje, kompetence, spol, delovna doba

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## INTRODUCTION

Quality physical education (PE) is one of the key counterbalances to inactive lifestyles of children and adolescents (Dudley et al., 2022), and its main aim is to make children and adolescents physically literate (Liu & Chen, 2020). PE teachers (PETs) are irreplaceable in this regard with their competencies, pedagogical approaches and motivational strategies (Burrows et al., 2020; UNESCO, 2015).

The concept of competencies is highly multifaceted and complex. The dynamic society characterised by cultural, demographic, economic and technological changes has a consequent impact on their conceptual definition. Teacher's key competencies are divided into general and specific ones (Key Competencies, 2002). General competencies are subject-independent and transferable; they relate to communication skills, teamwork, knowledge acquisition skills, lifelong learning, while specific competencies relate to specific learning subjects. The PETs are expected to deliver the best possible quality PE lessons, taking into account their individual characteristics and beliefs (Casolo et al., 2019). As objective measurement of competencies is extremely complex, questionnaires based on the subjective perception of the individual are used.

The perceived competencies of PETs depend on a number of objective factors: years of teaching, age, gender, the level of the educational system in which they teach (Del Valle et al., 2015; Kovač et al., 2008; Tul, 2016), the teacher's personal characteristics (Schnitzius et al., 2021), and the learning conditions (Kovač et al., 2021; Mäkelä & Hirvensalo, 2015; Maulini et al., 2022; Toropova et al., 2021). Important subjective factors that influence the teacher's perceived competencies are beliefs and values, perceived self-efficacy, and level of personal motivation (Casolo et al., 2019; Schnitzius et al., 2021).

The teachers' experiences and confidence increase with years of teaching. The years of teaching influence the pedagogical approach of the PETs and his/her teaching style (Addai-Tuffour et al., 2021; Rivas & Mateos, 2019), but researchers' findings are not always uniform on this point (Jaakkola & Watt, 2011). In principle, novice teachers show lower levels of self-efficacy compared to more experienced teachers, who have also acquired more effective behaviours due to many stressful experiences in their careers (Tschannen-Moran & Woolfolk Hoy, 2007). The more comprehensive pedagogical knowledge of more experienced expert teachers compared to novice teachers has also been reported by Manross et al (2013). Schoval et al. (2010) reported a high level of perceived specific knowledge of novice teachers, but they faced difficulties in

transferring this knowledge into practice; at the same time, novice teachers feel and show a high level of dependence on others, with no perception of a wider educational circle outside the group they teach. The teaching career also has specific characteristics: years of teaching is negatively related to teaching aptitude and to some of the teacher's personal characteristics (Bijender et al., 2023), with a decrease in motivation and desire for further education (Cotič, 2015). At the same time, there is a gradual deliberate drop-out of more demanding sport content (Lipponen et al., 2022), the perception of new personal attitudes in relation to the work done, and a more critical analysis of individual didactic situations (Skaalvik & Skaalvik, 2007).

Gender is also an influential factor in perceiving one's own competencies or the teacher's actual teaching effectiveness (Del Valle et al., 2015; Kovač et al., 2008; Nieminen et al., 2008; Preece & Bullingham, 2020; Romero Cerezo et al., 2011; Shnitzius et al., 2021). At the same time, researchers caution that the gender factor cannot be systematically related to teachers' self-efficacy beliefs and considered as a sufficiently strong predictor of efficacy (Tschannen-Moran & Hoy, 2007). Several studies have found higher perception of actual competencies in general didactics (lesson planning, assessment and evaluation) in favour of female PETs (Schnitzius et al., 2021; Kovač et al., 2008); on the other hand, male PETs are expected to have a higher perceived competencies in the field of classroom management (Schnitzius et al., 2021), interpersonal relationships and expectations (Arampatzi, et al., 2019), and in some methodological aspects of inclusion (Rojo-Ramos et al., 2022).

As Slovenia is in the process of reforming its school system and debates are being opened about the gendered role of teaching PE, the re-establishment of systematic internships and the reformulation of the concept of continuous professional development (CPD), this study aimed at examining differences in Slovenian PETs' perceptions of their own subject-specific competencies according to gender and years of teaching.

## **METHODS**

### **Participants**

The sample consisted of 612 Slovenian PETs; 369 men (60.3%) and 243 women (39.7%). In this paper, we consider these three groups of PETs: less years of teaching (<10 years, N=175, 28.6%), medium years of teaching (11-20 years, N=169, 27.6%) and more years of teaching (>20 years, N=268, 43.8%).

## **Instrument**

In line with previous studies (Gallardo, 2006; Kovač et al., 2008) and the theoretical model of PETs educational outcomes (Hardman et al., 2008), a self-administered questionnaire was designed for the purpose of the study. The questionnaire consisted of three parts: 1) demographic (gender, years of teaching, age, teaching level), 2) general competencies (36 items) and 3) subject-specific competencies (40 items). The general competencies included the ability to communicate; to lead a group; to plan and adapt the learning process; to understand general pedagogical and didactic principles; to use information and communication technology (ICT); to communicate in a foreign language; to mentor; to observe safety principles; to behave ethically and responsibly. Specific competencies included specific aspects of PE, such as an understanding of the social, biological and physiological aspects of physical activity and sport; an understanding of exercise theory; possession of pedagogical skills; didactical skills related to teaching PE in both the narrow (demonstration of movement skills and methodical steps) and broader sense (cross-curricular integration, use of ICT in PE, evaluation of the learning process). PETs reported their current levels of competencies on a four-level scale (1-totally incompetent, 2-slightly competent, 3-competent and 4-highly competent). In this study, only subject-specific competencies were analysed.

## **Data collection and statistical processing**

The questionnaire was sent to all Slovenian primary (N=449) and secondary schools (N=137) by regular mail. Teachers were informed about the objectives of the survey and about the voluntary and anonymous nature of their participation. A total of 612 questionnaires were completed (92.3%).

The data were analysed using the PASW Statistics 18.0 computer programme. First, the Kaiser Meyer-Olkin test (KMO) was used to assess the sample adequacy of the variables. Then the Bartlett's test of sphericity was calculated. Maximum likelihood (ML) factor analysis with oblique rotation (Direct oblmin) was used to identify underlying structure of the questionnaire items. Kaiser's criterion ( $\lambda > 1$ ), the scree plot and the interpretability of the factors were considered when deciding on the number of factors. Cronbach's alpha was used to evaluate internal consistency of the questionnaire.

A multivariate analysis of variance (MANOVA) was used to identify the size of effects of gender and years of teaching in explaining the differences between teachers' perception of their subject-specific professional competencies.

## RESULTS

The complete questionnaire shows a high degree of internal consistency (Cronbach's alpha = 0.95), the single sets of competencies (factor) show values between 0.73 and 0.91 (Table 1). The results of Kaiser-Meyer-Olkin test (KMO = 0.97) and Bartlett test ( $p < .001$ ) confirmed the eligibility of factor analysis. The procedure extracted 5 factors, which together explain 50.3% of the total variance (Table 1). The name and the structure of factors with the loadings of variables on individual factor, the reliability coefficient (Cronbach's alpha) and the proportion of variance explained for each factor are shown in Table 1.

Table 1. Factor structure of competencies and differences by teacher's years of teaching and gender.

	L	$\alpha$	%Var	MANOVA
<b>Pedagogical and motivational strategies</b>		0.91	27.73	(>20y)><10y) $p < .001^{***}$
-Qualification for encouraging student's learning in an instructive and creative way	0.799			
-Qualification for encouraging personal progress of a student	0.743			
-Qualification for encouraging creativity in finding solutions to motor tasks	0.689			
-Capacity to integrate, individualise and differentiate the teaching of PE	0.589			
<b>Teaching methods</b>		0.73	12.05	(<10y)>>20y) $p < .001^{***}$
-Qualification for demonstrating skills that are not a part of curriculum	1.058			
-Qualification for demonstrating skills that are a part of the curriculum	0.539			
-Understanding methodical ways in teaching skills that are not a part of the curriculum	0.423			
<b>Biological aspects of sport</b>		0.87	3.83	
-Understanding anatomical-functional aspects of sport	-0.936			
-Understanding physiological aspects of sport	-0.853			
-Understanding health aspects of PE and sport	-0.523			
<b>Social aspects of sport</b>		0.85	3.05	$m > f$ , $p = .006^{**}$ (>20y)><10y) $p = .013^*$
-Understanding historical aspects of sport	0.704			
-Understanding philosophical aspects of sport	0.623			
-Understanding cultural aspects of sport	0.577			
<b>General didactic knowledge</b>		0.86	2.13	$f > m$ , $p < .001^{***}$ (>20y)>(11/20y) $p = .019^*$
-Qualification for planning a process according to status analysis and curriculum	0.75			
-Qualification for setting goals according to curriculum	0.701			
-Understanding general didactics of PE process	0.662			

Notes. L – factor loadings,  $\alpha$  – Cronbach's alpha, %Var – percentage of total variance explained by factor; MANOVA – MANOVA results, f – female, m – male, (<10y) – teachers with less than 10 years of teaching, (11/20y) – teachers with years of teaching between 11 and 20, (>20y) – teachers with more than 20 years of teaching, \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

The size of the effects of gender and years of teaching on the perception of actual competence were determined by multivariate analysis of variance (MANOVA). Results are shown partially in Table 1 and Table 2.

All differences between groups (gender, years of teaching) are statistically significant for the full set of factors. The interaction between gender and years of teaching is statistically insignificant. It can be concluded that gender ( $\eta^2=0.11$ ) and years of teaching ( $\eta^2=0.048$ ) influence the perception of the actual competencies of PETs to different degrees. The detailed results of MANOVA are shown in Table 2.

Table 2. Differences in self-evaluation competencies concerning the PETs' years of teaching and gender.

	$\lambda$	F value	Hypothesis df	Error df	p	$\eta^2$
Intercept	0.994	0.627	6	601	0.708	0.006
Gender	0.890	12.422	6	601	0.000	<b>0.110</b>
Years of teaching	0.907	5.000	12	1202	0.000	<b>0.048</b>
Gender*Years of teaching	0.971	1.467	12	1202	0.130	0.014

Notes.  $\lambda$  – Wilks' lambda; p – statistical significance;  $\eta^2$  – Partial Eta squared.

Results have demonstrated:

- a) PETs with more years of teaching (>20y) of both genders perceive their competencies that constituted the factor Pedagogical and motivational strategies at a higher degree in comparison to their colleagues with less years of teaching (<10y) ( $p < .001$ ).
- b) PETs of both genders with less years of teaching (<10y) perceive their competencies in the factor Teaching methods at a higher degree in comparison to PETs with more years of teaching (>20y) ( $p < .001$ ).
- c) In the factor Social aspect of sport results show that the male PETs perceive their competencies at a higher degree in comparison to their female colleagues ( $p = .006$ ); at the same time, PETs of both genders with more years of teaching (>20y) perceive their competencies at a higher degree in comparison to their colleagues with less years of teaching (<10y) ( $p = .013$ ).
- d) In the factor General didactical knowledge results show that the female PETs perceive their competencies at a higher degree in comparison to their male colleagues ( $p < .001$ ); at the same time, PETs of both genders with more years of teaching (>20y) perceive their competencies at a higher degree in comparison to their colleagues with medium years of teaching (11/20y) ( $p = .019$ ).

e) There are no differences in the perception of competencies by gender and years of teaching in the factor Biological aspects of PE.

## DISCUSSION

The primary findings of the study are:

The perceived competencies of Slovenian PETs are influenced by years of teaching and by gender to varying degrees. In terms of years of teaching, statistically significant differences between the groups with less (<10y) and more years of teaching (>20y) were found in three factors: Pedagogical and motivational strategies, Social aspects of sport and General didactic knowledge, where the longer-serving (>20y) PETs rated their own competencies higher than the shorter-serving (<10y) PETs. In the factor General didactic knowledge, statistically significant differences emerged between the group of PETs with medium years of teaching (11/20y) and those with more years of teaching (>20y). On the other hand, PETs with less years of teaching (<10y) rated their own competencies higher in the factor Teaching methods.

The factor Pedagogical and motivational strategies (Table 1) includes a set of different competencies of a didactic and pedagogical nature, with a particular focus on encouraging students to be creative in finding solutions to movement tasks, to make personal progress and to engage in leisure sports activities. The experiences of the PETs are probably relevant in this case, in particular to broaden teachers' perception of sport, but also probably to communicate more effectively with the individuals who need this encouragement. The findings of the present study are therefore in line with the conclusions of research on the adaptation of the pedagogical approach and teaching style of older PETs (Addai-Tuffour et al., 2021) and the lack of transfer of theoretical pedagogical knowledge into practice that characterises novice teachers (Shoval et al., 2010).

An important feature of the isolated factor of Pedagogical and motivational strategy is the emphasis on motivational aspects in relation to fostering creativity and progress of students. Schnitzius et al. (2021) positively relate this feature to teacher's self-efficacy, their enthusiasm and their vocational interests. Dmitrieva (2024) defines the motivational aspects of the PETs as an important potential in the process of educating the innovation-oriented personality of future PETs; motivational potential is therefore one of the most important teaching attributes and an important factor of success in the profession, which is directly related to the teacher's

ability to help the student initiate the process of a creative-imaginative approach to practice. An important item (Capacity to integrate, individualise and differentiate in the teaching of PE) in this factor also relates to the integration and adaptation of practice to individuals or groups with the same characteristics. In a meta-analysis of the literature on inclusion, Hutzler et al. (2019) summarise that, in relation to working with students with special needs, PETs show no differences in perceived self-efficacy between younger and older ones, with some exceptions, where they find that younger PETs have higher self-efficacy ratings in this area. In contrast, the present study finds that older teachers rate their own competencies in the area of inclusion and individual approach to individual students higher. This finding is in line with Manross and Templeton (1997), who reported that an expert teacher is able to focus on individual needs and achievements much more than a novice teacher.

Younger PETs show more competencies in the factor Teaching methods, which refers to the demonstration of the sport skills as the most important teaching method in the PE process (Darden, 1997). The factor is characterised by items related to the ability to demonstrate different sport skills, both those that are present and those that are not in the official PE curriculum. New sports are constantly emerging that are of interest to young people (e. g. paddle, snowboarding, skateboarding, rollerblading, climbing on climbing walls, various new types of dance and aerobics, etc.). PETs try to learn and integrate these into their regular lessons, knowing that this is the important way to keep up with young people's interests, which requires them to be able to demonstrate them properly and to know the methodological procedures that can be used to communicate them effectively to young people. It is therefore not surprising that the shorter-serving PETs (<10y) have a higher perception of their own methodological competency, which is also understandable, as they feel in a more appropriate psycho-physical state compared to the older PETs in demonstrating the modern sport skills. Addai-Tuffour et al. (2021) also justify the higher perceived self-reported display competencies of younger PETs by the fact that younger teachers received more modern-contemporary instruction during their training period compared to older teachers.

The gender differences that emerged are not uniform. The study shows that male PETs have a higher perceived competence in the area of Social aspects of sport, as they are more involved in extracurricular sport activities, including their work in sport clubs. They perceive the historical significance of certain sports through competitive sport, which, due to their success, are important in shaping national identity (Tul, 2016). The differences in perceptions may be also due to gender stereotypes, which make gym practices emphasize masculinity dominance

and gendered habitus for both PETs and PE students (Castejon et. al, 2015; Parri & Ceciliani, 2021; Preece & Bullingham, 2020). At the same time, in the factor Social aspects of sport, PETs of both genders with more years of teaching (>20y) perceived their own competence higher than those with less years of teaching (<10y). We believe that, due to their experience and knowledge of the broader socio-political as well as historical background of sport-related topics, longer-serving (>20y) PETs are more aware of the social role of PE and its pedagogical potential.

The General didactic knowledge (Table 1) identifies several important didactic competencies, such as the competency to plan the teaching process, which is the most influential item in this cluster. Many researchers point to the importance of planning, which should be oriented towards adapting the teaching PE process to the characteristics of individual child, the characteristics of the learning environment in which the practice takes place, the structure of motor skills and the organisational forms of the teaching process used by the teacher to achieve the specific objectives of the lessons (Casolo et al., 2019). The results are consistent with the findings of Schnitzius et al. (2021) and Kovač et al. (2008), who found that female PETs perceived their own competencies higher than their male counterparts in the general didactics knowledge of PE, ability to analyse and plan the PE process, competencies in pedagogical classroom management of the PE lessons, and other related competencies. It can be concluded that female PETs seem to be more attentive to the formal didactic requirements of PE lessons and are probably more used to adapting the practice process on an ongoing basis, and that as a consequence they perceive this aspect more intensively compared to their male counterparts.

## CONCLUSION

Encouraging teachers to continue developing and extending their competencies is vital in a fast-changing world. This study highlights that PETs with more years of teaching (>20y) are more proficient in some pedagogical and didactic competencies due to their experience; at the same time, we find that some key aspects of a teacher's work, such as some narrower pedagogical and didactic competencies, are missing in the case of novice teachers.

According to the aforementioned findings, we propose the following policy recommendations. First, we propose an appropriate period of internship for novice teachers and second, properly planned and mandatory CPD, which should focus in particular on those issues where Slovenian PETs reported weaker competencies.

At the European Community level, the programmes for beginning teachers should include the support of mentors and other highly competent specialists, a reduced teaching commitment without a reduction in income, access to support resources, participation to a guided mentoring programme and the opportunity to systematically integrate theory and practice (European Commission, 2010). Before 2008, all Slovenian novice teachers were included in a special internship program. After that year, due to economic crisis all Slovenian pre-service teachers, who have completed their teacher education qualification, have two possibilities: to complete a special, 10 months internship program (participating at seminars, workshops; teaching eleven hours per week and observing his/her teacher-mentor eleven hours per week) or to teach 840 hours at primary or secondary school as a novice teacher (with some support of a teacher-mentor). A maximum of 80 additional hours completed by the individual in the field of education and training during their studies (running interest programs, participation to a school in nature, substitute teaching, etc.) can be calculated in the 840 hours of this internship process. Upon completion of the internship process all novice teachers need to successfully pass the theoretic exam at ministry, responsible in the field of education for qualification of teachers (Rules on professional exam for professionals in the field of education, 2015). Due to a lack of financial resources, more than 95% of teachers are unfortunately not included in the special internship program and the ministry has not yet responded to a number of initiatives regarding the reintroduction of a compulsory internship program for all novice teachers (Kovač & Potočnik, 2022).

At present, CPD is not compulsory in Slovenia, but is included in the teacher promotion system. Seminars are organised by different providers and they are weighted with points for career advancement and salary increases (Rules on further education and training for education professionals, 2017). In practice, however, the number of seminars is significantly lower and attendance of teachers is also decreasing. The proportion of those who have never attended a seminar in the last reported decade (17.6%) is also quite significant (Tul, 2016). At the same time, the issue of CPD remains, which should be made mandatory, with the imminent introduction of teacher licensing (Kovač & Potočnik, 2022).

We found that gender is also an influential factor in perceiving the teacher's actual teaching effectiveness. In Slovenia, female PETs educate girls from the sixth grade onwards. We believe that their valid perception of girls' needs and high perceived competencies in general didactics knowledge of PE, ability to analyse and plan the adequate PE process and competencies in

pedagogical classroom management of the PE lessons, contribute to girls' high level of physical fitness and success in PE and sport.

The current study has some obvious limitations. First, beliefs in one's competence are an active and learned system that changes over the professional career. The cross-sectional design of the study gives a rather static view of the dynamic interaction between teachers, their beliefs and society. In the future, longitudinal studies that account for changes over time and provide adequate explanations would be beneficial. Second, when defining the contents of individual factors, a certain degree of attention is required, mainly because of the different levels of reliability of individual factors and also due to the different degrees of expression of individual items. Third, since teaching is much more than a task and involves values or assumptions concerning education, learning, and society, the concept of teacher competencies may resonate differently in different national contexts (European Commission, 2013, p. 8). Therefore, the results of this study must be carefully transferred to different teaching environments.

### **Declaration of Conflicting Interests**

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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