

Competences of the Kindergarten Teacher in Physical Activity

Miran Muhic

Faculty of Education, University of Maribor, Slovenia
Corresponding Author Email: miran.muhic@um.si

Abstract

In early childhood, physical activity (PA) is important for the development of basic motor skills and abilities and has a positive effect on the child's state of health. During their studies, students acquire all the necessary knowledge and skills to provide high-quality PA for pre-school children. The aim of this study was to determine the relationship between the type of study (full-time/part-time) of their competences for implementing PA for preschool children. A questionnaire was used to measure the importance that students attach to PA competence. The sample consists of full-time (N=166) and part-time students (N=117) in Early Childhood Education study programme. Based on the survey it was found that full-time students attach greater importance to PA competencies than part-time students ($p<0.05$), that they have more PA competences ($p<0.05$), there is no difference in the desired PA competences ($p=0.216$). The strength of the correlation between the opinions of full-time and part-time students on the PA competences is statistically significant ($p<0.05$). The PA competences of all students by final year of study decrease over the years ($p<0.05$). The WHO recommends at least 180 minutes of PA per day in early childhood. Children spend most of their waking hours in kindergarten and it is the responsibility of kindergarten teachers to ensure that they have sufficient opportunities and chances to be PA. The Early Childhood Education study programme for part-time students needs to be adapted to these realities as soon as possible.

Keywords

Early Childhood, Motor Competences, Physical Activity.

BACKGROUND

Physical activity (PA) is Physical activity (PA) is essential for promoting an active life from early childhood to adulthood. Increasing the duration and frequency of physical activity in early childhood has a positive effect on executive functions and the development of motor skills [1]. The preschool years are the cornerstone of motor development, as this is when a child's body is most exposed to and dependent on environmental influences. Appropriate motor activities, especially during the preschool years, are crucial for the child's motor and functional development. Changes in a child's motor development are gradual and cumulative from birth to death. Some aspects of development are more strongly influenced by genetic factors, others by environmental factors, including kindergarten teacher.

Children learn and experience sporting activities primarily through play, and the role of the kindergarten teacher is crucial in encouraging the child, providing basic information, observing the child's responses and creating a stimulating environment [2].

Regular PA can prevent non-communicable diseases (cardiovascular and respiratory diseases, diabetes) and improve mental health, cognitive function and education. In young children, regular physical activity and active physical play are essential for healthy growth and development, improve children's fitness, health and well-being and enable better learning outcomes [3].

The implementation of PA promotion strategies in kindergarten is likely to be enhanced by the implementation of educational policies, practises and programmes to promote

PA [4].

The European Commission for Education emphasises the importance of well-trained teachers to make Europe the most successful knowledge society in the world. The Common European Principles for Teacher Competences and Qualifications [5] set out four basic principles to guide countries in their national teacher education strategies, namely that the teaching profession (1) *requires high qualifications*, is (2) *a profession that requires lifelong learning*, is (3) *a mobile profession* and is (4) *a profession based on partnership*.

For general and specific competences in PA, an attempt has already been made to standardise the European visions in PA [6], and a comparison has been made between some competences of novice PA teachers and PA teachers with several years of experience [7].

As part of the AEHESIS project [8], the competences included in the training programmes for PA teachers were identified. Based on the results, a model of general and specific learning outcomes was defined, divided into *knowledge* (know) and the *application of this knowledge* (do), where knowledge is the basis or necessary condition for the acquisition and formation of competences and the application of knowledge.

The acquisition of competencies is defined as the training of individuals to mobilise, apply and integrate acquired knowledge in complex, diverse and unpredictable situations [9] [10] [11].

The competences that every kindergarten teacher should possess are defined in the *Eurydice report* [12], which distinguishes between subject-specific competences, which

relate to specific subject areas, and generic competences, which are acquired in several different areas.

Key competences are defined as a combination of *knowledge* and *skills* [13].

The kindergarten teacher considers themselves to be the least competent in the area of diagnostic skills, although the majority of students have attended courses to expand their professional and didactic competences [14].

During their training as kindergarten teacher, students acquire all the necessary knowledge and skills for the high-quality planning, preparation, implementation and evaluation of appropriate PA for preschool children [15].

The aim of this study was to determine the correlation between the type of study (full-time/part-time) of the prospective kindergarten teachers and their competencies for the implementation of PA for preschool children.

METHODS

The sample of respondents consists of full-time (N=166)

and part-time (N=117) students enrolled in their final year of study between 2021 and 2024 (Table 1).

The measuring instrument is the questionnaire on sport competence in kindergarten, which is based on earlier studies [16] [17] [18]. The questionnaire (Figure 1) consists of 40 specific competencies that were rated by the students on a four-point Likert scale (1 - *unimportant/I am not at all competent*; 2 - *less important/I am not sufficiently competent*; 3 - *important/I am competent*; 4 - *very important/I am very competent*).

The questionnaire was developed to assess how students rate their competences and knowledge in PA at the end of their studies. The PA competency score (Table 2) represents the average score on a four-point Likert scale.

ANOVA and effect sizes (Eta-squared) were used to determine the correlation (Pearson Correlation) between full-time and part-time students' self-assessment of the *importance of competencies* and their *acquired* and *desired* competencies for PA in kindergarten.

Table 1: Sample by type of study and final year of study

| type of study / employment | final year of study (N / %) | | | | Total |
|----------------------------|-----------------------------|-----------|-----------|-----------|-------|
| | 2021 | 2022 | 2023 | 2024 | |
| full-time | 27 (46.6) | 34 (58.6) | 59 (65.6) | 46 (59.7) | 166 |
| <i>in a kindergarten</i> | 22 (37.9) | 8 (13.8) | 14 (15.6) | 16 (20.8) | 60 |
| part-time | 3 (5.2) | 7 (12.1) | 4 (4.4) | 8 (10.4) | 22 |
| <i>elsewhere</i> | 3 (5.2) | 7 (12.1) | 4 (4.4) | 8 (10.4) | 22 |
| <i>unemployed</i> | 6 (10.3) | 9 (15.5) | 13 (14.4) | 7 (9.1) | 35 |
| Total | 58 | 58 | 90 | 77 | 283 |

| Subject-specific competence for PA in kindergarten | Own evaluation of competence | | | | | | | | | | | |
|--|--|---|---|---|-----------------------------------|---|---|---|----------------------------------|---|---|---|
| | A - the importance of competence/knowledge | | | | B - acquired competence/knowledge | | | | C - desired competence/knowledge | | | |
| 11. Knowledge of the physical and motor development of children. | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 24. Ability to apply a variety of teaching methods and forms in the delivery of PA. | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| 31. Be able to encourage creativity in sport (finding different solutions to movement problems). | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

Figure 1: Excerpt from the questionnaire

RESULTS

When analysing the data (questionnaire responses), it was found (Table 2) that full-time students attach greater importance to PA competences than part-time students, the difference is statistically significant ($p=0.008$), the effect size is *small* ($\eta^2=0.042$). Full-time students are also of the opinion that they have more *acquired* competences and more knowledge to implement PA in kindergarten than part-time students, the difference is statistically significant ($p=0.030$), the effect size is *small* ($\eta^2=0.033$). There is no difference between full-time and part-time students with regard to the *desired* PA competencies and knowledge ($p=0.216$), the

effect size is *small* ($\eta^2=0.017$).

The *importance of the competencies* and the *acquired competencies* were rated highest by full-time students, while the *desired competencies* were rated highest by part-time students.

All three categories of PA competencies were rated lowest by part-time students who are *unemployed*.

The *importance of the competencies* and the *acquired competencies* were rated highest by full-time students, while the *desired competencies* were rated highest by part-time students.

The strength of the correlation between the opinions of full-time and part-time students on the *importance of PA*

competences is small and negative ($r=-0.193$) and statistically significant ($p<0.001$); it is small and negative ($r=-0.160$) and statistically significant ($p=0.004$) for the opinion on the *acquired* PA competences; and it is small and negative ($r=-0.096$) for the opinion on the *desired* PA competences, with a tendency towards statistical significance ($p=0.056$).

The PA competences of all students by final year of study (Table 2) decrease over the years. The difference is not statistically significant ($p<0.05$), effect size is *small* ($0.012<\eta^2<0.025$).

A closer look shows a downward trend in the *acquired* PA competencies for full-time students (Figure 2) and a downward trend in the *desired* PA competencies for part-time students (Figure 3).

Table 2: Competences of the kindergarten teacher in Physical activity

| type of study / employment | Early childhood education Sport competences | | | | | |
|----------------------------|---|---------------------|--------------|---------------------|-------|---------------------|
| | A | $r_{ft/pt}$ Sig. | B | $r_{ft/pt}$ Sig. | C | $r_{ft/pt}$ Sig. |
| full-time | 3.58 | | 2.89 | | 3.50 | |
| <i>in a kindergarten</i> | 3.45 | -0.193 | 2.89 | -0.160 | 3.43 | -0.096 |
| part-time | 3.45 | <.001 | 2.79 | 0.004 | 3.53 | 0.056 |
| <i>elsewhere</i> | 3.45 | | 2.67 | | 3.33 | |
| <i>unemployed</i> | 3.38 | | | | | |
| ANOVA (Sig.) | 0.008 | | 0.030 | | 0.216 | |
| Effect Sizes (Eta-squared) | 0.042 | | 0.033 | | 0.017 | |

Legend:

A the importance of competence

B acquired competence/knowledge

C desired competence/knowledge

$r_{ft/pt}$ Pearson Correlation full-time/part-time

Table 3: Competences of the kindergarten teacher in PA by final year of study

| final year of study | Early childhood education PA competences | | |
|----------------------------|--|-------|--------------|
| | A | B | C |
| 2021 | 3.56 | 2.95 | 3.54 |
| 2022 | 3.50 | 2.86 | 3.46 |
| 2023 | 3.56 | 2.84 | 3.51 |
| 2024 | 3.46 | 2.79 | 3.36 |
| ANOVA (Sig.) | 0.352 | 0.193 | 0.080 |
| Effect Sizes (Eta-squared) | 0.012 | 0.018 | 0.025 |

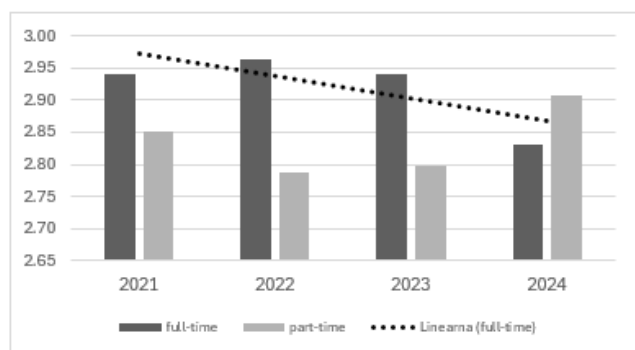


Figure 2: Current PA competence/knowledge by type of study

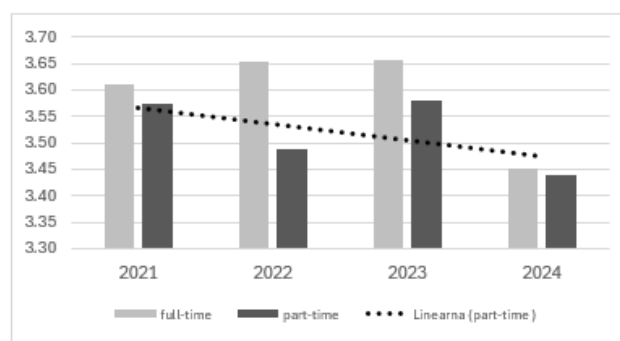


Figure 3: Desired PA competence/knowledge by type of study

DISCUSSION AND CONCLUSION

The aim of this study was to determine the correlation between the type of study (full-time/part-time) of the prospective educators and their self-assessment of their competence to carry out PA in kindergarten using a questionnaire.

All students had attended courses to expand their subject and didactic competences during their studies.

The World Health Organization (WHO) recommends at least 180 minutes of physical activity per day in early childhood, including at least 60 minutes of moderate to vigorous physical activity [3].

Our study confirmed that there is a difference in PA competences and knowledge between full-time and part-time students, which is in favour of full-time students. Therefore, we suggest adapting the Early Childhood Education curriculum for part-time students.

The implementation strategies have a positive effect on the implementation itself [4]. If we want to have competent and creative kindergarten teachers, we must also enable them to acquire the necessary PA competences.

One option is to increase the number of practice hours students spend in kindergarten, where part-time students can gain more PA experience and thus focus more on developing their PA competences [14].

Children spend most of their waking hours in kindergarten, and kindergarten teachers have a responsibility to ensure that children have sufficient opportunities and chances for movement and appropriate motor development.

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