

Original Article

**Body, movement, and outdoor education in pre-school during COVID-19:  
perceptions of future teachers during university training**

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**Abstract**

Teachers play an important role in influencing childrens' physical activity levels, so it is crucial design the training course for teachers matching the different knowledges essential to be able to teach. Physical activity-related training and resources provided to pre-school teachers appears to be very important: if future teachers training includes adequate focus on physical activity they will be better disposed to improve children moving. This study aims to detect the opinions of students attending single-cycle master's degree courses in Primary Education in order to calibrate the contents and objectives of the Teaching methods of Physical Education class, through a qualitative survey carried out by submitting specific questionnaires through the Google Modules platform. The questionnaire has been submitted to students of Primary Education and it was composed by 28 questions related to: demographic data (1-5), practice of indoor and outdoor physical activity (6-14), safety during the practice of motor activity (15-18), the future practice or possibility of practicing outdoor lessons (19-23), on the psychological impact due to social distancing / closure of gyms (24-26 ) and on the perception of the importance of physical and motor activity during covid-19 (27-28). The data collected on the perception of students with regard to the body and movement field of experience and the adaptations for outdoor practice reveal specific training needs in the context of the teaching methods of physical education and the need to provide training actions also on outdoor movement education. University curricula represent an excellent opportunity to provide future teachers with enriched teaching methods of PE training and support, such as physical activity guidelines indoor and outdoor.

**Keywords: teaching methods; physical education; university curricula**

**Introduction**

Teachers play an important role in influencing children's physical activity levels, so it is crucial design the training course for teachers matching the different knowledge essential to be able to teach. In Italy, the university training of future primary and pre-school teachers has important psycho-pedagogical and didactic fundamental and it is based also on the study of various disciplines, including the teaching methods of physical activities. It is essential to provide for specific training aimed at enabling future teachers to develop teaching skills, according to the National Guidelines for school curriculum (2012), in each subject at primary school (D'Isanto 2019) and in five field of experiences at pre-school (Raiola, 2011). The subjects taught during the 5 years of primary school are: Italian, English, history, geography, mathematics, sciences, technology, music, art, physical education, civic education, Catholic religion (optional), while the curriculum of Italian pre-school covers five fields of experiences: 1. the self and the other; 2. the body and the movement; 3. the speeches and the words; 4. images, sounds, colors; 5. knowledge of the world. In particular, according to the teaching methods of Physical Education (PE) for primary school teachers the outcoming aims regard the educative functions of movement and physical activities, motor-learning processes and settings for PE, while for pre-school teachers the out coming aims regard more specifically the field of experience that involves "Body and movement". However, the complex field of physical activities is an interdisciplinary subjects to other ones and the specific quantitative and qualitative aspects also in order to gender differences and biomechanical aspects (Sgrò et al, 2019, 2018, 2017, 2015ab) are the *magna pars* (Altavilla, 2020, 2019, 2014) of the starting and developing of exercise and sports sciences (Raiola, 2019abc).

The importance of structuring specific core curricula for the teaching of PE in primary and pre-school has already been highlighted in previous studies, focusing on the training in Sport and Exercise Science degrees (D'Elia, 2019 ab) and on the scientific identity of physical and sports education (D'Isanto, 2019, Raiola, 2019abc, 2020ab), because sports science graduates often perform the role of experts and tutors of PE in the primary school, and it emerges that the current university curricula of master's degree in Sport and Exercise Science lack contents and learning outcomes centered on the teaching of sport and PE in school context, in spite of the possibility for graduates in Sport and Exercise Sciences to be able to become PE teachers. Physical education and sport at school set specific learning goals that covers a broad range of skills, as bodily, emotional,

social, cognitive and moral concepts that cannot be limited to improving just physical or sport skills. The physical, personal and social development of children and youth cannot be achieved by relying only on the specialization course for teaching, since in approaching this training course the will-be teacher must already have the theoretical, technical, didactic and methodological basic elements to teach the PE and sport. Core curriculum should consider specific contents about knowledges and understanding in sport science and PE for educative aims, ensuring that graduates will be able to apply these knowledges and understanding in the school context (D'Elia 2019a). The need to define core curricula to teach physical education it also extends to other degree courses where educators and teachers are trained. In these degree courses, in fact, classes of teaching methods of PE contribute to the methodological training of future teachers with specific contents, objectives and training activities that should first of all sensitize future teachers to a more active and experiential teaching that focuses on the body and movement (D'Elia et al., 2020, Raiola 2013, 2015ab), considering them the center of the teaching and learning process (Raiola, 2017), as well as placing future teachers in the conditions to adequately teach physical education in the primary school and to conduct a wide range of experiences in the field of Body and Movement in pre-school.

Physical activity-related training and resources provided to pre-school teachers appears to be very important: if future teachers training includes adequate focus on physical activity they will be better disposed to improve children moving (Goldfield et al., 2012). Ensuring greater awareness of the importance of movement activity, during university training of teachers, could produce substantial educational benefits for children whose development could be influenced in a positive way. This is corroborated by knowledge and experiences that physical activity interventions appear to be the most successful when executed by educators and/or teachers in the educational setting (Gordon et al., 2013, Tortella et al., 2019).

The present study is a part of a wide research activity that examine the changes in physical activity levels during the lockdown due to COVID-19 in Italy (Raiola et al., 2020). In particular, this study aims to detect the opinions about physical activity also in outdoor environment by students attending single-cycle master's degree courses in Primary Education, in order to detect their perception about educational opportunities, motivations, and barriers they associate with outdoor (Ernst et al., 2012, Kernan, 2010). These student will teach in pre-school, so it is important to define the educational contents and the objectives of teaching methods of PE classes, to develop teaching and methodological skills in future teachers that allow them to plan and to conduct movement experiences, also in outdoor environments (Haug et al, 2010, Valentini et al., 2019), through which the child learns, starting from pre-school, to become aware of one's own body and possibilities.

The specific purposes of this survey were instead those of knowing the levels of physical activity practice achieved by the university students, the impact that current contingencies due to the pandemic are having on the level of physical activity, the value that students attribute to outdoor experiences for achievement by children of the educational goals during pre-school, so as to deduce the training needs related to the teaching methods of PE and outdoor educational practices that consider the body and movement key elements for an harmonious development.

### Materials and methods

The present study is a preliminary analysis conducted adopting the cluster methodology (which investigates a homogeneous group of data) to explore the field of early childhood and pre-adolescence teachers' training from the perspective of the trainees. The groups considered in this study are university students who attend Primary Education Science courses in south Italy, as future preschool teachers. Starting from the increasing number of sports practitioners we have been witnessing in recent years at national level, it's interesting to understand the trend of this growth trend in local realities and in specific groups of people and to focus on some indicators capable of detecting the specific needs of these particular groups, so as to intercept the real needs and photograph the reality with which we are confronted. For the purposes of this study we focused on students who attend two important universities in southern Italy and who presumably will teach in preschools in neighboring territories to learn more about their habits related to the practice of physical activities and, especially, the value that students attribute to the activities carried out outdoors to better calibrate the contents and training objectives of the teaching of methods of PE classes so that when these students become teachers they can also fully enhance outdoor activities.

A sample of 198 Primary Education Science students (98% female), attending two south Italy universities (University of Salerno and University of Basilicata), took part in the study with an average age of 23,5. A structured questionnaire was prepared with Google Forms and disseminated by e-mail.

The questionnaire was composed by 28 questions divided into the following sections:

- Demographic and anthropometric data
- Physical activity indoor and outdoor
- Practice (current and future) of outdoor lessons
- Impact on PA due to social distancing and limitation of activities
- Perception of the importance of physical and motor activity during covid-19

Descriptive statistics were used to calculate the variables expressed as a percentage.

## Results

The results obtained made it possible to understand how active are students, where they practice, how the pandemic and the smart configuration of life affected their lifestyles, what are their perceptions and perspectives about outdoor movement education (Table 1).

**Table 1**

<i>How active are you?</i> 16,8% practice regular physical activity according to the WHO Recommendation, 56% practice some physical activity but don't meet the WHO Recommendation; 27,2% are sedentary.		
<i>Where do you practice?</i>	79% INDOOR	21% OUTDOOR
<i>How easy it is to reach the sports facilities indoor and outdoor?</i>	84% Indoor	54% Outdoor
<i>How much the pandemic has affected the quantity and quality of physical activity?</i>	18,8% had no effect	81,2% had effect (47,4% have moderately reduced their activities, 33,9% have seriously reduced their activities)
<i>With "smart" working and learning, do you have more free time to do physical activity?</i>	27,8% Yes	72,2% No
<i>Do you think that the practice of physical activity can have beneficial effects against COVID19?</i>	70,7% Yes	29,3% No
<i>During pandemic you think it is safer to do physical activity:</i>	22,8% Indoor	77,2% Outdoor
<i>How important is it to practice physical activity? Very Important</i>	- in daily life (81%)	- to reach the skills development goals at the end of pre-school (100%)
<i>Do you have experienced outdoor activities?</i>	Yes 66,3%	No 33,7%
<i>When you will teach in pre-school, would you like to practice outdoor education?</i>	Yes 98%	No 2%
<i>Do you think you are properly trained for this goal?</i>	Yes 65,3%	No 34,7%

## Discussion

Results show that only 16.8% of the students are physically active, that's mean they reach the levels of physical activity recommended by the WHO, while 56% are partially active, so they carry out some activities but don't reach the 150 minutes of physical activity recommended and 27.2% declare that they are sedentary and don't practice physical activity in their free time. These first data already makes us reflect on the need for future teachers to be encouraged to be more active to promote in turn an active and experiential teaching that places the body and movement at the center of the teaching/learning processes, an efficient body and an harmonious and coordinated movement, to adapt and to respond effectively to environmental variability. However, it should also be considered that 81% of students declared that the restrictive measures, due to pandemic, adopted in Italy alternately in the last 8 months had a negative impact on the amount of physical activity carried out, in particular they affected the closure of gyms and sports facilities, restriction of circulation, social isolation and distancing. When asked about the places of practice, excluding sedentary people, it emerges that the activity is carried out mainly in indoor environments (home, gyms or indoor sports facilities) and only in 21% of cases in outdoor environments (city parks, urban environment, nature, etc.). This data should also be read in relation to the availability of environments for practice which seems to be greater for indoor activities than for outdoor ones. As well as for the amount of physical activity also for the places of practice, new horizons must be envisaged, proposing outdoor education not as an alternative and sporadic practice, but as a complementary way of experiencing the body and movement, capable to fully stimulate the body, movement, cognitive, emotional, affective and social potentialities of children.

It was also interesting to find that in the face of the current and now consolidated smart configuration of work, study and social relations, students do not have a greater amount of free time to devote to physical activity, except in 27.8% of cases. and that in this particular period in 77.2% of cases the practice of outdoor activities increases the perception of safety in carrying out physical activity.

Regarding the value that students attribute to physical activity, the importance of physical activity in daily life emerges in 81% of cases and the unanimous recognition of the contribution that physical activity, through the body and movement, offers for the achievement of skills development goals at the end of pre-school. It is important to train teachers to look at the experience of the body and movement in a global way, not only in the sense of body-movement-mind-emotions integration, but also as an experience that is not contingent on defined times and spaces, but which is extends over time and in different learning environments to become a child's life experience.

It also emerges that despite a direct experience of outdoor practice by 66.7% of students, there is a perspective by 98% of students to be able to create outdoor experiences in the future, even with the perception by 34.7 % of future teachers is not being adequately trained for this goal. This data bring us to define specific contents and objectives of the teaching methods of PE outdoor that also take into account these specific training needs of students, offering them theoretical and methodological ideas and, where possible also through laboratories, practical opportunities to be able to realize this type of experience in the best possible way.

### Conclusions

Physical education-related training and resources provided to pre-school teachers appears to be limited. Emphasizing the numerous benefits of physical activity for adults and children (D'Isanto, 2016, Gaetano, 2016, Tiziana et al., 2017, Di Domenico et al., 2019 ab), in particular the the advantages deriving from an outdoor physical education (Fjørtoft, 2001, Niklasson et al., 2010, Storli et al., 2010, Monti et al., 2019) might be important for Science of Education students' self-reported physical activity levels. The specific findings from the current study reveal specific training needs about the teaching methods of PE, the need to provide training actions also on the teaching of outdoor movement education as it offers a series of "challenging" stimuli that implement the development of the child in the different areas of functioning and the ability to integrate those areas.

Moreover, by providing these knowledges during teachers' training, it is possible that they can increase children chances of moving and of a global development of their skills.

University curricula represent an excellent opportunity to provide future teachers with enriched teaching methods of PE training and support, such as physical activity guidelines indoor and outdoor.

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