

Physical education in primary school and impact on educational leadership

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Purpose: In Italy, the 2022 Budget Law, established the compulsory curricular teaching of physical education (PE) by the specialist teacher, with a master's degree in exercise and sport sciences, in classes IV and V of primary school to achieve the objectives of the National Recovery and Resilience Plan, inherent in the assumption of behaviors and lifestyles appropriate to the harmonious development of the children. Since the impact studies of many internal stakeholders in primary schools have already been done, it remained to extend the impact study among school headmasters. Therefore, the aim of the study was to investigate the perceptions of school headmasters on PE teaching and to verify the variables that could influence their opinions, to complete the study on the impact the reform has produced.

Methods: The sample consisted of 32 primary school headmasters from Naples and province, who filled out a questionnaire to investigate their perceptions on PE teaching. Chi Square (X²) was performed to test the associations between variables.

Results: 96.9% of headmasters favoured the introduction of the specialist teacher in PE and the compulsory teaching of PE, as it was considered essential. The perceptions of the need of a specific education to teach PE influenced both the importance of PE and the way it should be included in the school curriculum.

Conclusions: Most of headmasters were aware that teaching PE required a specific education, possessed by the specialist teacher, wishing for its introduction in all primary school classes. Knowing the perceptions of school headmasters is crucial because, they can influence how PE is taught in the school, essential to ensure proper mental and physical development of the children and to counteract problems related to the need for movement.

Keywords: perceptions; specialist teacher; generalist teacher; children wellbeing; headmasters.

Introduction

It is well-established that physical education (PE) is a key tool to promote mental and physical development in primary school children, through a multi-teaching approach.¹⁻³ Physical activity is negatively related to depression⁴, anxiety⁵ and feelings of nervousness, while it is positively related to self-esteem, life satisfaction, and well-being.⁶⁻⁷ To be successful, it is necessary to stimulate the adoption of healthy and active lifestyles from the early years of the school experience.⁸ Globally, most school-age youth do not meet the World Health Organization⁹ guidelines on moderate to vigorous physical activity (MVPA) for health.¹⁰ According to a systematic review¹¹, a very low percentage of children and adolescents achieve the recommended levels of physical activity for school time; consequently, the authors suggest developing strategies to increase levels of movement in the school setting. In the primary school context, PE teachers, both generalist and specialist, play a key role to ensure the promotion of healthy and active lifestyles, as well as the harmonious development of the children, in several aspects.¹² The WHO's Global Physical Activity Action Plan 2018-2030¹³ aims to reduce physical inactivity globally by 15% by 2030. New WHO guidelines in 2020 suggest increasing physical activity levels in children and adolescents from "at least" to "an average" of 60 minutes of MVPA per day.¹⁴ The need for movement has increased especially if we consider the effects caused by the COVID-19 pandemic.^{15,16} In Italy, the 2022 Budget Law¹⁷ art.1 cc.329 - 338, provided for the compulsory curricular teaching of PE by the specialist teacher, with a master's degree in exercise and sport sciences¹⁸,

in classes IV and V of primary school to achieve the objectives of the National Recovery and Resilience Plan (PNRR), inherent to the assumption of behaviours and lifestyles appropriate to the harmonious development of the person, psycho-physical well-being and the best possible state of health. Specifically, "In order to achieve the objectives of the PNRR and to promote in young people, starting from primary school, the assumption of behaviours and lifestyles appropriate to harmonious growth, health, psycho-physical well-being and the full development of the person...the curricular teaching of PE in primary school in classes IV and V by teachers provided with appropriate title and the related class of competition - Exercise and Sports Sciences in Primary School- is introduced".¹⁷ Since the impact studies of many internal stakeholders in primary schools have already been done, e.g., generalist teachers, sports tutors, and science of primary education students¹⁹, it remains to extend the impact study among school headmasters. Leadership in schools is crucial for innovation not to remain in political decisions but to be implemented. Headmasters must constantly confront the socio-political, cultural, economic, technological, and legal challenges that characterize a given historical moment. In this case, they should first and foremost ensure quality PE through the inclusion of the figure of the PE specialist teacher for two mandatory hours a week in V and IV classes, in the school curriculum. On the other hand, headmasters should ensure that I, II, and III children perform their PE hours by adequately educated generalist teachers, and hence taking care to improve their PE education. They are responsible for the results achieved by both teachers and students, so it is important to investigate their attitudes and behaviours, which

influence the entire school organizational system. Several variables can influence their perceptions, including the teaching-organizational model adopted, which can vary from 24 to 27 hours and, in relation to the total staff assigned to the school, can extend up to 30 hours and 40 hours²⁰, cultural barriers, and the professional preparation of generalist teachers who also teach PE²¹, the relative importance of the specific teaching given by the PE teacher, the availability of adequate space to carry out movement activities and aids people with disabilities.²² Therefore, the aim of the study was to investigate the perceptions of school headmasters on PE teaching, the primary implementers of the reform because of the educational leadership they hold, and to verify the variables that could influence their opinions, to complete the study on the impact the reform has produced.

Method

Design and study participants

The design of the study was exploratory, as the topic of the impact of the compulsory curricular teaching of PE by the specialist teacher on educational leadership had to be understood in depth. A convenience sample, consisting of 32 school principals ($M \pm SD = 10 \pm 6.6$ years of experience) from Naples and the surrounding area who head schools in which there are V classes of primary school, was recruited. Convenience sampling was due to the feasibility and effectiveness of the study, even assuming the low generalizability of the results. Informed consent was obtained from the participants, and the data were processed anonymously. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Data Collection

An ad-hoc questionnaire was prepared with Google Forms and sent to school headmasters by e-mail. The questionnaire included sections:

- Data on the state of the art regarding PE teaching and

suitable spaces

- Data on perceptions toward PE teaching and issues that might arise because of L.234/2021
- Data on the promotion of PE by school headmasters

Construct and content validity were assessed.²³ The questionnaire was revised by two study groups: a group of survey experts adapted the structure of the questionnaire as they saw fit, while a group of sports science professors and school headmasters assessed whether the questions correctly covered the topic. Items with a content validity index (*CVI*) greater than .78 were included in the final questionnaire. All participants were informed, before completing the questionnaire, about voluntary participation, purpose of the research, data protection, to conclude with informed consent.

Statistical analysis

Descriptive statistics were used to summarize data in frequencies (*N*) and percentage (%). Since the data obtained were qualitative, Chi Square (χ^2), was performed to identify associations between variables. The null hypothesis (H_0) stated that the two variables were independent, while the alternative hypothesis (H_1) stated that the two variables were associated. In this case dependence means that knowing the value of one variable helps to predict the value of another variable. Finally, Cramer's V was calculated to measure the degree of association between the variables. It ranges from 0 to 1 (values near 0 indicate a small effect, values near .3 indicate a medium effect, and values above .5 indicate a large effect). $P < .05$ was considered statistically significant. Data analyses were performed using the Statistical Package for Social Science software (IBM SPSS Statistics for Windows, version 26.0. Armonk, NY).

Results

Descriptive statistics

32 headmasters from the province of Naples with an experience of about 10 ± 6.6 years (min = 4 years, max = 32) answered the questionnaire. Data on the state of the art related to PE teaching and suitable spaces are shown in Table 1.

Table 1. State of the art data on PE teaching and suitable spaces

Question	Option	N	%
What type of school do you direct?	Teaching Circle	8	25.0
	Comprehensive Institute	22	68.8
	All-inclusive Institute	2	6.3
Before your managerial appointment in what grade of school did you teach?	Primary school	11	34.4
	Secondary school	21	65.6
Does your school have a gym?	No	3	9.4
	Yes but it is not currently accessible	2	6.3
	Yes. for the exclusive use of the primary school	12	37.5
	Yes but shared between different grade levels	15	46.9

Does your school have large spaces like foyers courtyards. and the like in which PE classes could take place?	No	14	43.8
	Yes	18	56.3
Does your school currently have or intend to stipulate agreements to use gyms outside the school?	No	26	81.3
	Yes	6	18.8
Until now. how many curriculum hours per week were spent on PE discipline?	1 / 27 hours per week	12	37.5
	1-2 / 27 hours per week	1	3.1
	1 / 28 hours per week	1	3.1
	2 / 30 hours per week	1	3.1
	2 / 27 hours per week	12	37.5
	2 / 40 hours per week	4	12.5
	1 hour per week	1	3.1

Regarding the perceptions on PE teaching by headmasters, a detailed description is shown in Table 2.

Table 2. Perceptions about PE teaching and issues that might arise as a result of L.234/2021

Question	Option	N	%
Do you feel that PE in your school is taught congruently, i.e. proportionate to the weekly amount of hours?	No	16	50.0
	Yes	16	50.0
Do you feel that PE is taught congruently by the generalist teacher (in terms of quality of teaching given)?	1	3	9.4
	2	13	40.6
	3	14	43.8
	4	1	3.1
	5	1	3.1
Do you think that teaching PE requires specific education?	No	1	3.1
	Yes	31	96.9
Do you think a 20-25 hour education and refresher course may be sufficient to train a generalist teacher to teach PE specifically?	No, the generalist teacher is already sufficiently educated	1	3.1
	No, the specialist teacher is needed	23	71.9
	No, more hours are needed	5	15.6
	Yes	3	9.4
Do you think it is correct that PE teaching should be taught by a specialist teacher?	No	1	3.1
	Yes	31	96.9
Do you agree with the provision of L.234/2021 art.1 that introduces the specialist teacher progressively in the IV (a.s.2022-23) and IV (a.s.2023-24) primary school classes only?	No	19	59.4
	Yes	13	40.6

Do you think that the introduction of the specialist teacher may create problems in scheduling with other generalist teachers?	1	11	34.4
	2	3	9.4
	3	8	25.0
	4	5	15.6
	5	5	15.6
Do you think that the compulsory nature of the 2 hours of PE in addition to the weekly hours will create problems in terms of organization?	1	6	18.8
	2	3	9.4
	3	8	25.0
	4	7	21.9
	5	8	25.0
Do you think that the compulsory nature of 2 hours of PE included in the 40-hour per week curriculum will create problems in terms of organization?	1	16	50.0
	2	8	25.0
	3	6	18.8
	4	2	6.3
Do you think it is appropriate that the PE classes taught by the specialist teacher be conducted	In addition to the current curricular schedule and compulsory	15	46.9
	In extracurricular hours and optional	2	6.3
	In the current curricular schedule	15	46.9

Data on the implementation of projects to promote PE in primary school are shown in Table 3.

Table 3. Enrichment of educational offerings for the promotion of PE.

Question	Option	N	%
Has your school independently enriched its educational offerings with projects falling under the area of motor and/or sports activities?	No	4	12.5
	Yes	28	87.5
Has your school participated in projects such as Class Sports, Active School Kids, PON, in which a exercise and sport sciences tutor/expert was provided?	No	1	3.1
	Yes	31	96.9
If you participated, do you find the experience satisfactory?	No	1	3.1
	Yes	30	93.8
	I did not take part in these initiatives	1	3.1

If you found the experience satisfactory, in which area of the following did you appreciate the effects?	Unsatisfactory	2	6.3
	Didactic	13	40.6
	Increased confidence of generalist teachers to teach PE as a result of tutor's best practices	15	46.9
	Relationship with parents	2	6.3

Chi-Square Associations

Chi Square analysis identified two statistically significant relationships. It seems that those who believe that it is necessary special education to teach PE, also believe that PE teaching should be taught by the specialist teacher. On the contrary, those who do not believe specific education is necessary are against the specialist teacher to teach PE ($P = .03$; $V = 1$). Furthermore, it seems that those who believe that specific education is necessary to teach PE, believe that the classes taught by the specialist teacher should be conducted either in the current curricular schedule or in addition and compulsory. On the contrary, those who do not believe that specific education is necessary, do not consider importance the discipline of PE, as they believe that PE classes should be conducted in extracurricular hours and even optional ($P = .00$; $V = .6$).

Discussion

The results of the present study showed that the perceptions on the need of a specific education to teach PE by headmasters influenced both the importance of PE and the way it should be included in the school curriculum. It seemed that those who believed that for teaching PE is required a specific education, also believe that PE teaching should be taught by a specialist teacher. Conversely, those who did not believe that specific education was necessary to teach this discipline, were against the specialist teacher in primary school. In addition, it seemed that those who believed that a specific education is necessary to teach PE believed that the classes taught by the specialist teacher should be conducted either in the current curricular schedule or in addition and mandatory. On the contrary, those who did not believe the need of a specific education to teach PE, did not consider importance the subject, as they believed PE classes should be conducted in extracurricular hours and even optional. Hence the importance of investigating the perceptions of educational leaders as they can influence the way PE classes are offered and consequently the importance or otherwise of PE teaching in primary school.

Participants were mainly primary school headmasters working in a comprehensive school (60.8%). Before their leadership position, about 65.5% taught in a secondary school. Most schools had a gym but was shared among different school orders (46.9%), implying that was not always available for primary school students. Nevertheless, headmasters did not intend to stipulate agreements to use gyms outside the school (81.3%). As for the presence of other spaces suitable for conducting physical activities, on one hand (56.3%) they were available, while the rest were absent. The current didactic-organizational system of the primary school refers to an hourly articulation that engages pupils for a weekly number of hours that can vary from 24 to 27 hours and, in relation to the total staff assigned to the school, can also extend up to 30 hours (with optional activities) and

40 hours (full-time).²⁰ As stated by the headmasters of Naples and province, in the primary school the hours dedicated to PE were 1 or 2 hours out of 27 hours per week. From this response most schools have a 27-hour curriculum. Regarding school headmasters' perceptions on the teaching of PE, one half (50%) believed that PE was taught congruently, i.e., proportionate to the weekly hours, while the other half (50%) responded negatively. The majority believed that PE was poorly (40.6%) or neutrally (43.8%) taught adequately by the generalist teacher on qualitative level. Thus, school headmasters were aware that the generalist teacher was not able to teach PE adequately. Almost all headmasters (96.9%) believed that it was necessary a specific education to teach PE, so PE should be taught by a specialist teacher. About 71.9% believed that 20-25 hours of education was not enough to prepare the generalist teacher to teach PE. About 59% disagreed with the gradual introduction of the specialist teacher in the V (a.s.2022-23) and IV (a.s.2023-24) classes, and probably, according to the previous responses, this could be because they would like the specialist teacher in all primary school classes. One half of the school headmasters (46.9%) believed that PE classes should be included in the current curricular schedule (which for the most is 27 hours per week including 2 hours of PE), while another half (46.9%) in addition to the current curricular schedule and compulsory (thus 27 hours + 2 for PE). On this point, regarding the perceptions of the school headmasters towards the educational offer and the 2 hours of PE, we can see how the majority believed that 2 hours in addition to the weekly number of hours, could create problems. In addition, they believe that making the 2 compulsory hours of PE in the 40-hour per week curriculum offering, should not create any problems. In summary, regarding schools that had a 40-hour educational offering, the introduction of the 2 hours of PE was not a problem, unlike those that offer 27 hours per week. Most schools independently enriched their educational offerings with projects that promoted PE or sports (87.5%). In fact, 96.9% previously participated in projects such as Class Sports, Active Kids School, PON that included the presence of the sports tutor. About 93.8% were satisfied, and the beneficial effects were found both at the level of teaching (40.6%) and with respect to the generalist teacher who felt more fluent in giving PE lessons (46.9%).

The limitations of the study are the type of sampling implemented, resulting in low generalisability of the results and the self-report measurement, vulnerable social desirability effects. However, this study aims to encourage other researchers to investigate headmasters' perceptions of the introduction of the PE specialist teacher in primary schools and the importance of PE as a curricular subject, as these may influence the way PE is taught. In the case of negative perceptions, educational interventions should be promoted to make headmasters realise the usefulness of the PE specialist teacher.

Practical Applications

The perceptions of headmasters can influence the way PE is taught in schools, a discipline that is essential to ensure the proper mental and physical development of children and to counteract problems related to inactivity.²⁴ Teacher satisfaction improves when there is full support from school headmasters.²⁵ Future studies should expand the survey, to try to understand the perceptions of educational leaders toward the teaching of PE, and possibly propose educational interventions to try to change their perceptions, making them realize the importance of this discipline for the overall development of children, which does not happen without quality education, i.e., properly taught.

Conclusions

Most of school headmasters favoured the introduction of the specialist teacher and the compulsory teaching of PE in primary school, as it was considered fundamental. However, all others were aware that teaching PE required specific education, possessed by the specialist teacher, and wished for its introduction in all primary school classes. Most likely, adherence to projects that included a sports mentor and positive experience increased the headmasters' perception of the importance of teaching PE, while also highlighting the difficulties on the part of the generalist teacher in conducting such lessons.

Ethical Committee approval

The use of these data did not require approval from an accredited ethics committee, as they are not covered by data protection principles, i.e., they are non-identifiable, anonymous data collected through an anonymous questionnaire. In addition, based on Regulation (EU) 2016/679 of the European Parliament and of the Council on 27 April 2016 on the protection of individuals concerning the processing of personal data and on the free movement of such data (which entered into force on 25 May 2016 and has been compulsory since 25 May 2018), data protection principles do not need to be applied to anonymous information (i.e., information related to an identifiable natural person, nor to data of a subject that is not, or is no longer, identifiable). Consequently, the Regulation does not affect the processing of our information. Even for statistical or research purposes, its use does not require the approval of an accredited ethics committee.

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Author-s contribution in according to ICMJE

Tiziana D'Isanto, PhD student, made substantial contributions to the conception and design of the work; the acquisition, analysis and interpretation of data for the work; drafting and revising the work critically and the final approval for the version to be published. She agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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