

Caracterização do ambiente escolar relacionado a aulas de educação física, recreios, atividades físicas extracurriculares e espaços físicos em Pelotas-RS

Description of the school environment related to physical education classes, recess, extracurricular activities and physical spaces in the city of Pelotas, RS, Brazil

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ABSTRACT

The aim of the present study was to describe the school environment of public and private primary schools from the city of Pelotas, RS, Southern Brazil, according to the availability of Physical Education (PE) classes, breaks, extracurricular activities and physical spaces. A cross-sectional study was conducted, including both public and private schools. In each school, the principal or a PE teacher was interviewed to assess PE classes, recess and extracurricular activities, while a checklist was carried out to evaluate the quality and availability of physical spaces. A total of 71.9% of the 99 schools had PE classes for grades 1 to 4. Extracurricular projects were available in 59.6% of the schools and 71.2% offered free activities to students. The most common activities are dancing and “futsal”. There was a gym in 10.1% of schools (40.0% of private and 4.8% of public schools). Higher availability and quality of outdoor courts, indoor rooms, multimedia rooms and green areas were more consistently found among private schools than public schools. Our findings indicated a low coverage of PE classes in grades 1 to 4, and insufficient availability and quality of physical structures in the public schools, compared to private ones. Many environmental features should be used in order to improve students’ health and well-being.

KEYWORDS

Schools; Physical Activity; Environment and Public Health

RESUMO

O objetivo foi descrever o ambiente escolar relacionado à aula de educação física (EF), disponibilidade e tempo de recreios, oferta de atividades físicas extracurriculares e espaços físicos nas escolas de ensino fundamental (públicas e privadas) de uma cidade no sul do Rio Grande do Sul. Estudo descritivo transversal. Realizou-se entrevista com gestor escolar ou professor de EF para a descrição das aulas de EF, recreio e atividades extracurriculares, assim como uma observação padronizada da existência e qualidade dos espaços físicos disponíveis. Em 71,7% das 99 escolas há EF de 1° a 4° série. Em 59,6% das escolas ocorrem atividades físicas extracurriculares. Em 71,2% dos casos estas atividades não são pagas e a dança é a atividade mais frequente, seguida do futsal. Em apenas 10,1% das escolas foi verificada a existência de ginásios esportivos (40,0% nas privadas e 4,8% nas públicas). Maior disponibilidade e qualidade de quadras externas, salas internas, salas de mídias e áreas verdes foram consistentemente encontradas nas escolas privadas do que escolas públicas. Os achados indicam uma diferente cobertura de aulas de Educação Física nas séries iniciais e precarização das escolas públicas quando comparadas às privadas, em termos de espaços físicos. A ampliação do acesso e qualidade dos espaços escolares relacionados a atividade física é uma contribuição importante para a juventude escolar.

PALAVRAS-CHAVE

Escolas; Atividade física; Schools; Ambiente e saúde pública

INTRODUCTION

Studies that seek to understand behaviors such as physical activity, if once entirely restricted to biological assumptions and individual approaches, now they are attempting to broaden their perspective and integrate several facets of daily life that appear to be decisive to grasp the meaning of such behaviors. In the case of physical activities, it is safe to consider this behavior to be explained according to the interaction among several aspects, where individual peculiarities are pervaded by the context of life where individuals are included. In this perspective, the ecological logic¹ indicates relevant aspects both in the individual dimension and mainly in the context of social life, where one can perceive the relevance of distinct layers in the environment, such as the physical, informational, natural and socio-cultural ones. All aspects are constantly interacting and they are potentially relevant in the determination of behaviors².

When understanding the importance of “environments” in human life and guiding young people, it can be concluded that schools provide a fundamental sense present in the life of children and adolescents³, as do classes and initiatives associated with physical education and human movement. When the importance of the school environment is emphasized, it is crucial to realize that this is not a ready or static concept in the scientific literature and it can certainly vary from a very strict evaluation from a physical perspective to an investigation on school projects and policies, theoretical-practical behavior of teachers and interrelation between other environments such as the familiar one and school communities.

Assuming it is impossible to reach a consensus on what the school environment is^{4,5}, the present study found it relevant to characterize the following dimensions as the main aspects comprising Physical Education (PE) in schools: physical education classes, recess, extra-curricular activities and physical spaces as the main aspects that involve school PE. It should be emphasized that this study does not approach PE classes exclusively and for this reason the criterion of approaching this theme as a “school environment associated with physical education” was adopted, which also allows us to avoid the current reduction of Physical Education to a simple space of physical activity practice

The following are among the aspects that justify this type of assessment in the Brazilian context: the majority of studies are conducted in wealthy countries and cannot be compared to the Brazilian school reality as a result; the diagnosis of school environment aspects can contribute to the instrumentalization and reassessment of school policies⁶; the characterization in cities in the countryside, as described here, can contrast with that found in capital cities and different teaching levels, such as in Recife⁷, which included the use of the instrument originated from the present study. Finally, long debates have been held on school conditions, although restricted to evidence on the school environment, regardless of the theoretical perspective. Only a short time ago there was a national study known as *Pesquisa Nacional de Saúde do Escolar* (PeNSE – National Survey on School Health)⁸, which was school-based although focused on predominantly individual characteristics.

In view of such arguments, the present study aimed to describe all state, city and private primary schools of a city in Southern Rio Grande do Sul state, with the purpose of characterizing the school environment associated with

physical education classes, availability and length of recess, availability of extra-curricular physical activities and availability and quality of physical spaces.

METHODS

A cross-sectional descriptive study was conducted, where primary schools in the urban area of the city of Pelotas, Rio Grande do Sul state, Southern Brazil, were considered to be eligible. This city includes four educational levels: federal, state, city and private levels, although only the last three provide primary school classes (grades 1 through 9). As a result, 103 schools in the urban area include this educational level, according to the City Department of Education, 5th Regional Education Office and city telephone records (“teaching institutions” section). These departments/offices were informed about the objectives of this research project and subsequently approved the school visits. Moreover, research assistants were properly identified and had a letter of presentation for this study, which was approved by the Research Ethics Committee of the School of Medicine of the *Universidade Federal de Pelotas* (UFPel), under official number 42/10.

The research instrument was comprised of three aspects: literature review, contact with an experienced Brazilian researcher from the area of environment/physical activity, and authors’ perceptions of the specific school context. Thus, an innovative instrument was developed, including a questionnaire to be applied to a school principal or physical education teacher and an environmental audit based on the observation of previously defined school spaces. This instrument had already been used in a study conducted in 2012 in state schools of the city of Recife-PE⁷.

During the interview, the following themes were approached: physical education classes, recess, extra-curricular physical activities and physical spaces. The following physical spaces were observed: sports gyms, outdoor spaces with equipment (yards or playgrounds), outdoor sports courts (not sheltered), indoor rooms for physical activities (martial art, gym and dance rooms), multimedia rooms (TV, DVD player, computers) and green areas (outdoor spaces with typical vegetation, used for PE classes or other physical activities). During the process of standard observation, certain physical aspects associated with quality/conservation were assessed in sports gyms, outdoor areas with equipment and outdoor sports courts, such as the presence of markers (visible court lines), flooring (made of the same material on its entire surface), equipment for the practice of sports (goals for soccer and “futsal” – a variation of five-a-side soccer, usually played indoors –, volleyball net poles, basketball hoops) and area of protection (if a certain exit or edge of this area was visible). Table 1 shows the aspects analyzed in the school environment in detail.

Research assistants were undergraduate students from UFPel’s *Escola Superior de Educação Física* (ESEF – School of Physical Education), who were trained to apply the data collection instrument and paid during the field work. The theoretical/practical training course included school approach procedures, clarification of questions about this instrument and individual applications of this instrument. Furthermore, as a practical activity, the ESEF/UFPel premises were visited for the assessment of its physical spaces, aiming to adjust the instrument and train students to make a standard assessment. Data

collection was conducted between November and December 2010. Researchers and research assistants held weekly meetings to update the work, replace materials, clarify questions and assign new schools to be visited. The instruments completed were reviewed to check for inconsistencies and incomplete responses. Data were typed into the EpiData software program and descriptive analyses were conducted in the Stata 12.0 software program. Physical space availability and quality analyses were shown separately by school type (public or private). A brief report about the results was sent to the educational institutions, summarizing the diagnoses found in the present study.

TABLE 1 – Aspects assessed in the school environment. City of Pelotas, RS, Brazil, 2010.

Aspect assessed	Content assessed	Type of assessment
Physical Education classes	Presence and number; who teaches the classes; number of teachers	Questionnaire
Recess	Presence and number of breaks; mean time and occurrence of instructions	Questionnaire
Extra-curricular activities	Presence of sports competitions, physical activities outside of class time, and sports schools. Sports categories and payment requirements were also included.	Questionnaire
Physical spaces	Presence and number of gyms, outdoor sports courts, outdoor areas with equipment, indoor rooms for physical activities, multimedia rooms and green areas. In the three first spaces, the presence of certain physical characteristics of structure quality such as flooring, markers, protection and equipment were assessed.	Standard observation

RESULTS

Of all 103 primary schools identified, 99 were included in the present study (96.1%). A total of four schools did not agree to participate in this study. Of all public schools (N=84), 44 (52.4%) were state and 40 (47.6%) were city schools. When Physical Education classes were considered, 71.7% of all schools provide them as a discipline in the initial grades (grades 1 through 4) and 76.1% of these classes are taught by a physical education teacher. When making an assessment according to school type, only 38.6% of state schools provide Physical Education in the initial grades, whereas all city schools do so. Among private schools, 93.3% provide Physical Education from grades 1 to 4 (data not shown in the Tables).

With regard to extra-curricular activities, 75.8% of schools organized sports competitions, although 34.3% and 33.3% of them organized physical activities on Saturdays or allowed access to school premises outside of class times respectively (data not shown in Tables). A total of 59.6% of schools had the option of extra-curricular physical activities through sports and dance schools, among others. These activities were not paid in 71.2% of cases, although 13 out of 14 schools charged additional fees for such activities when private schools were assessed exclusively. Dancing is the activity most frequently provided as an extra-curricular activity, followed by “futsal”. Table 1 also shows information about recess. The majority (98%) of participants reported the occurrence of breaks at school. Almost 90% of schools offered a break and 86.6% of those that offered it did not have guided activities during such times. A total of 52 schools reserved 15 minutes for such breaks. Finally, it should be emphasized that there are 243.5 students per PE teacher on average, with a minimum and maximum student/teacher ratio of 37.5 and 850, respectively.

TABLE 1 – Description of school environment characteristics. Primary schools in the city of Pelotas, RS, Southern Brazil, 2010 (N=99).

School characteristic	N	%
Type of school		
Public	84	84.9
Private	15	15.1
Physical Education		
PE teachers*		
None	6	6.1
One	28	28.3
Two	21	21.2
Three	17	17.2
Four	14	14.1
Five or more	13	13.1
PE in the first grades		
Yes	71	71.7
Extra-curricular physical activities		
Extra-curricular activities		
Yes	59	59.6
Activities offered		
“Futsal”	37	62.7
Volleyball	18	30.5
Dancing	41	69.5
Basketball	12	20.3
Handball	13	22.0
Martial arts	13	22.0
Recess		
Breaks		
Availability	97	98.0
Number		
One	87	89.7
Two or more	10	10.3
Duration		
15 minutes	52	53.6
20 minutes or more	45	46.4

* Teacher/student ratio = 243.5 (minimum 37.5 and maximum 850).

Figure 1 shows the availability of attributes for PE classes and physical activity practices in schools according to their funding source (public or private). A total of 4.8% of public schools had sports gyms, whereas this proportion was 40.0% among private schools. With regard to outdoor sports courts, 86.9% of public schools and 100% of private schools had them. Additionally, there were outdoor areas with equipment (yards) in 83.3% and 93.3% of public and private schools respectively.

There was also a great difference between public and private schools when the availability of indoor rooms for PE classes was assessed, as only 15.5% of public schools had such space, compared to 73.3% of private ones. The proportions of schools with multimedia rooms in both public (94.1%) and private schools (100%) were high, whereas the proportions of schools with green areas was relatively low, 22.6% in public and 46.7% in private schools (Figure 1).

Figure 2 shows some attributes of quality of structures, such as the presence of flooring, protection, markers and equipment for gyms, outdoor courts and

outdoor areas with equipment in public and private schools. The only structure with greater availability in public schools is gym flooring (100% vs 83.3%). Markers and equipment were equally assessed in public and private school gyms. The presence of protection was greater in gyms of private schools when compared to public ones (83.3% vs 50%). All proportions of sports courts and outdoor areas of good quality were higher among private schools (Figure 2).

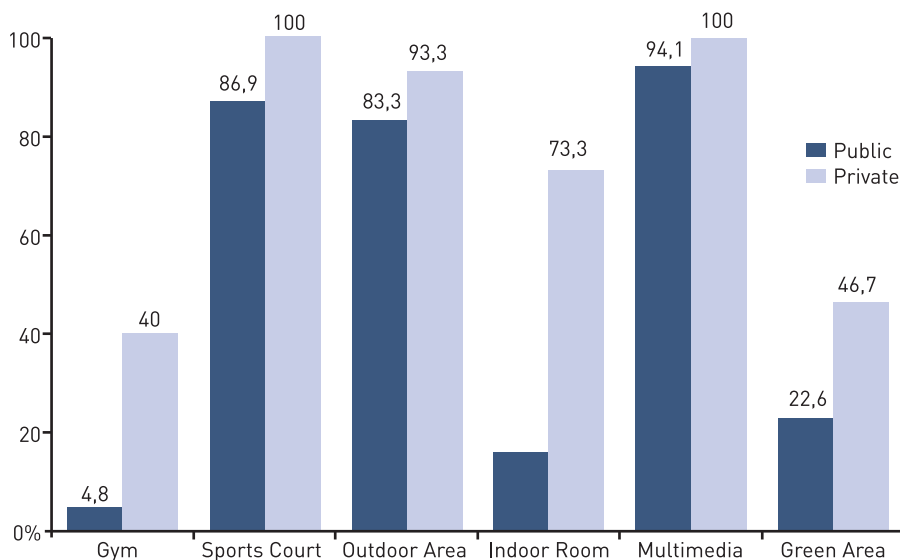


FIGURE 1 – Proportion of public and private schools with attributes associated with physical activity. Primary schools in the city of Pelotas, RS, Southern Brazil, 2010.

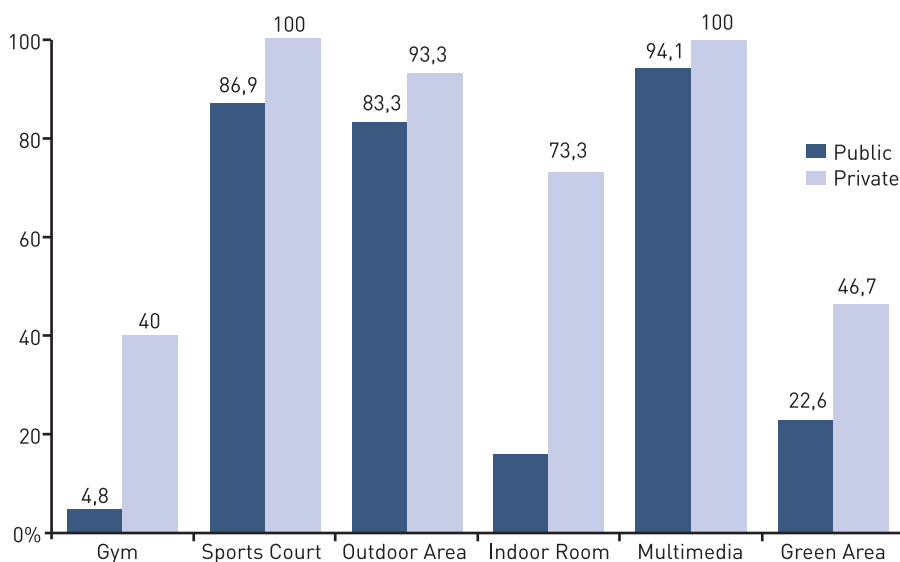


FIGURE 2 – Comparison of structure quality attributes (flooring, equipment, protection and markers) between public and private schools. Primary schools in the city of Pelotas, RS, Southern Brazil, 2010.

DISCUSSION

The present descriptive study provided much information about the school environment in terms of physical activity practice. By visiting 99 primary schools of all types, comparisons could be made between public and private schools. It should be emphasized that physical education classes in the first grades (grades

1 through 4) is not universal yet and that there is a high percentage of students, mainly in state public schools, who are not having PE classes. What the majority of schools have in common is the fact that they have extra-curricular activities associated with movement, although most of these activities require extra fees. There is greater availability and quality of areas designed for physical activities and PE classes in private schools, when compared to public ones, and extremely relevant inequalities stand out for environments suitable for both natural physical activity practice and as support for quality PE.

A descriptive study that took advantage of the instrument used here was conducted in 103 state schools in the city of Recife-PE, Northeastern Brazil, known as regular and reference schools. In general, schools had insufficient conditions to provide areas aimed at physical activities and PE classes, although without great differences between school types⁷. In the state of Pernambuco, comparisons could not be made between public and private teaching institutions. It should be emphasized that such comparisons are important to reveal unjust differences that can translate into different physical experiences according to the economic level of children and adolescents, which can certainly lead to differences in school experiences, perhaps including effects that cannot be easily measured.

The assessment of the school environment is complex and it can include multiple spaces that certainly vary according to the teaching level: pre-schools, day care centers and child education systems, primary school and high school. Undoubtedly, our interest in “obesogenic environments”⁹ brings us closer to this type of study, where schools can be assessed in terms of actions aimed at physical education and diet, with assumptions that cause them to be in the context of risks for obesity. However, this is not the objective of the present study and it is not part of the conceptual framework that led to it. When evaluating the school environment, it is necessary to establish not only the strict objective assessment of physical spaces, but also the dialogue between principals and teachers, the knowledge about local school policies, the participation or not of parents and the community, and the interaction with the local health network; in other words, there is a series of factors that interact for the establishment of physical spaces or physical education classes.

In Brazil, studies on school Physical Education follow either a radical approach or a biological or human/social one. The study conducted by Antunes et al¹⁰ looked into the scientific production on pedagogy for school physical education, where the teaching/learning process, characteristics of classes and qualification of teachers were themes included in the publications from 1999 to 2003. Authors concluded that school Physical Education still requires greater academic production and that the perspective of pedagogy was restricted to its characterization exclusively. In this context, the present study and publications on the school environment broaden this perspective as they are not limited to Physical Education classes, increasing the assessment of other educational contexts and spaces. On the other hand, it is important not to reduce Physical Education classes in schools to only a way to practice physical activities or to understand them as synonyms. According to Oliveira¹¹, to think about Physical Education inside schools without considering its cultural determinants means to render it pointless. Thus, we chose to assess both the activities/spaces suitable for physical activity practice and spaces such as multimedia rooms,

which are important for the exchange of school knowledge that goes beyond the rationality originated from and restricted to practice exclusively.

Studies that focused on the observation of school Physical Education classes, aiming to identify physical activity patterns, such as the one conducted in the public school network of the city of Curitiba¹² and the other in elementary and high schools of the city of Pelotas¹³, concluded that students from the former city spend 8.7% of class time performing vigorous physical activities and that students from the latter spend 32.7% of class time on moderate to vigorous physical activities. As observed, the assessment of the school context of Physical Education or physical activities can be approached in different ways and such distinctions are also present in Physical Education as a whole, where, according to a recent review, the contents associated with biological concepts¹⁴ predominate in current research in this area.

When thinking about the school environment, in effect, a diversity of aspects can be observed^{15,16}, some of which were analyzed in the present study. The variables of the school environment are relevant according to the characteristics of the educational system and other strategies associated with physical activity. Thus, a strict assessment with the use of decontextualized instruments obtained from the international literature, which do not reflect the experience of the school system approached, is not appropriate. The use of instruments that have already been implemented should follow this logic, as knowledge about the school environment can contribute to the experimentation of future interventions, which are only useful if based on an appropriate diagnosis.

Several results found here are a possible diagnostic tool for decision-making, if they are of interest to the parts involved in the city's educational system. A brief report was presented to all those responsible for the education sector. It is known that isolated initiatives hinder the change of such context. For instance, the construction of sports gyms is not the sole responsibility of school principals. There are several political and resource agreements that hinder or enable this and other approaches. Schools can start a dialogue with universities and public administration offices of cities and states. However, again, these changes are neither simple nor objective. Other results indicate historically complex theoretical discussions about Physical Education, such as the universalization of classes in the first grades. As previously described, especially on the state level, there are no classes during at this stage of learning. In addition to political change, there are also theoretical-conceptual disagreements that have not enabled physical education to be consolidated as a school discipline from grades 1 through 4.

Regarding the limitations of the present study, it should be emphasized that reproducibility tests were not applied to the instrument proposed by the authors themselves. Thus, although this instrument had already been used in a study conducted in schools in the city of Recife-PE⁷, adaptations to different school contexts may be required. The present study did not standardize respondents, so that the professional who was more easily accessible during school visits (school principal or Physical Education teacher) was interviewed. It is suggested that this decision should be associated with the research problem in question. Physical Education teachers and principals can have different positions towards the same instrument. Another limitation found was that the classification of physical structures as markers, flooring and exits could not be

clearly made. We sought the best standardization, but the circumstances of each school hindered assessments in this sense.

Furthermore, it should be emphasized that the scientific development of a concept of school environment will enable this type of study to become more objective, because, based on the method adopted, this instrument has some direct questions while others are more subjective, some questions are easy to be characterized, while others are related to interviewers' opinions or discernment. While the study was being conducted, several complaints were made by principals/teachers, such as: "...these results have to be sent to the department of education", "...you have to draw the attention of the government", "...this is the best we can do" (as recorded in the field work report). Due to the closed-question method, these reports were not collected or interpreted methodologically and they led to two undeniable actions: to send the study results to the respective educational institutions and to recognize the need for a qualitative research approach, especially among school principals.

Private schools were found to have better infrastructure, thus emphasizing the inequalities in availability and quality of attributes associated to physical education and physical activity practice, isolated parameters that add to the problems found in the public education sector. We understand that physical education classes can be an enriching and healthy space, including varied themes and contents, where movement can be established according to how relevant and meaningful the classes are for students. Schools have the responsibility of recognizing such peculiarities and the area of physical education can broaden its approaches to and studies on the school environment, not restricting it to an exclusive increase in physical activity practice and recognizing this environment as one of the most relevant within the reach of young Brazilians.

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