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Why do you not show us the outside of the school? Opportunities and limitation to conduct outdoor activities in physical education

Miguel Hurtado Barroso, Pedro Ángel Latorre Román, Juan Antonio Párraga Montilla and José Carlos Cabrera-Linares

Department of Didactic of Music, Plastic and Corporal Expression, University of Jaén, Jaén, Spain

ABSTRACT

This study sought to determine the preferences, barriers, and resources that active Andalusian Physical Education teachers (Primary and Secondary) have about conducting outdoor education (OE) as well as the main limitations teachers currently encounter in performing outdoor education. Also, to analyse whether the environment, school context, and size of the school facilitate or hinder the inclusion of OE. A total of 413 teachers (age: 42.31 ± 8.62 years) joined in this research. The questionnaire 'Diagnóstico de las actividades físicas en el medio natural en el ámbito escolar' (DAFNE) was used. Our results showed significant differences in relation to primary and Secondary educational stages. Regarding public and private school, the size of the school, as well as the number of inhabitant where the school is situated, significant differences were found. School context, environment, size of the school and educational stage could have an influence to include OE in physical education sessions.

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Outdoor activities; primary and secondary education; teachers; physical education; outdoor education

Introduction

The benefits of physical activity (PA) have been established in the scientific literature (Warburton & Bredin, 2017), however despite these benefits, there is a high prevalence of overweight and obesity worldwide (Garrido-Miguel et al., 2019). One reason for this prevalence could be people's actual lifestyle, which includes a busy timetable and an excessive use of digital screens, as well as an increase in urban places, which implies a reduction in the time that children spend playing in nature (Hughes et al., 2018). Previous research on the time spent in natural spaces either playing or practising outdoor activities (OA) concluded that nature can be an important element in promoting human health and avoiding illness, because it is a relevant factor for well-being (Oh et al., 2017). Playing in the nature can also have a positive effect in the acquisition of social skills and better self-esteem (Koszałka-Silska et al., 2021).

In this sense, OA is also a useful strategy for promoting PA and avoiding sedentary behaviours, since it has a greater positive effect than indoor activities (Thompson et al., 2011). Moreover, OA offer an exceptional opportunity to develop social skills (intra and interpersonal), because the natural environment induces interaction among people. Specifically, outdoor sport has a positive effect on physical health, mental health and well-being; education and lifelong learning; active citizenship; and the reduction of anti-social behaviour (Eigenschenk et al., 2019). Nevertheless, it is not enough to go to nature to obtain these benefits: one must also be respectful with the environment (Maynard & Waters, 2007). Hence, school excursions under

CONTACT José Carlos Cabrera-Linares jccabrer@ujaen.es Department of Didactic of Music, Plastic and Corporal Expression, Faculty of Humanities and Education Sciences, University of Jaén, Jaén 23071, Spain
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teacher supervision are an appropriate place to encourage students to practise OA (Bentsen et al., 2022).

Outdoor Education (OE) in formal educational contexts can be defined as a learning activity carried out in a different environment, such as a natural environment, forest, or parks (i.e. green spaces) (Mnich et al., 2019). In addition, OE is also considered a pedagogical learning model that allows students to develop problem-solving skills, cooperation, and discussion (agree or disagree), all of which are difficult to improve in a traditional educational model since opportunities to interact with their peers are limited (Kangas et al., 2014). In this sense, the practice of OE in the educational field favors the restructuring of masculinized social hierarchies in traditional physical education (PE) based on sports (Sutherland & Legge, 2016). Additionally, OE is positively related to increased perseverance, self-discipline, attention, problem-solving skills, critical thinking, and interest in school (Kuo et al., 2019).

In this regard, previous studies have demonstrated the motivational power of carried out OE in PE sessions (Baena-Extremera & Granero-Gallegos, 2015; Trigo-Oroza et al., 2016). Hence, offering students this type of activities can contribute to improve the classroom climate (Melero & Extremera, 2022). Likewise, PE teachers have raised the possibility that OE can offer a more comprehensive experience that contributes to reduce the effects of an urban-centered and consumerist lifestyle (Atencio et al., 2015). Finally, the integration of OE allows students to apply movement skills in physical activities developed in alternative environments. Thus, it could give them the opportunity to explore a variety of places where they can remain physically active throughout their lives, both in youth as in adulthood (Robinson et al., 2021). Hence, the school environment seems to be an ideal context to promote outdoor activities among young people (Bentsen et al., 2022; Hills et al., 2015)

Lately, OE has gained importance in recent years and has been included in academic curricula in some countries (e.g. the United Kingdom, Australia, New Zealand, the United States and Scandinavia, among others) (Sutherland & Legge, 2016). Teachers have an important role in including OE in their annual programming. However, despite the benefits of OE, teachers may consider rather risky, since OE can also be dangerous, as it is conducted in an unpredictable environment (Eigenschenk et al., 2019). This negative opinion of OE could be due to a lack of knowledge among teachers, since the initial university teacher training programme can be considered as insufficient in some countries (Borsos et al., 2022). Therefore, it is necessary to include OE in the curriculum for teacher training to design a proper OE programme specifically for teachers. This would develop their self-efficacy and confidence in teaching their students the skills and specific concepts related to OE (Hovey et al., 2020).

Specifically, in Spain, the initial training programmes for OE can differ, since teacher's training depends on each autonomous community as well as the elective courses offered by the university (Borsos et al., 2022). Cañadas et al. (2018) analysed the professional profile of 1,184 students pursuing a teaching degree with a major in physical education (including primary education teachers), as well as graduates in PA and sports sciences (i.e. secondary education teachers); they noted that the pedagogical knowledge of students about OE obtained the lowest score for the variable 'Know how to apply the content (techniques) of physical activities in the natural environment.' Furthermore, if the professor wants to increase students' knowledge about OE through higher studies, there is an important limitation, because there is only one official relevant master's programme available—the Master's in Management of Educational Activities in Nature—in Spain. This implies that professors may lack confidence, and a lack of initial training may lead to reduced application of OE in primary education (Primary) (Hallam et al., 2022), also in secondary education (Secondary) (Cañadas et al., 2018).

In Andalusia (the autonomous community where this study was carried out), the physical education curriculum in Primary (school children from 6–12 years old) does not include a specific content block about OA, although these activities are reflected both in the area objectives and in the evaluation criteria. In Secondary (schoolchildren from 12 to 16 years old), OA were cited in the curriculum in content block 5, 'Physical activities in the natural environment' (BOJA, Orden

del 15 de enero de 2021, pp. 861), for which specific activities such as hiking, orientation, climbing and rope (activity that consist to make knots, which are typical of maritime and mountain activities) are mentioned. However, this specific content block has been removed from the curriculum with the application of the new education law (LOMLOE, 2022), although it is mentioned in one of the specific competences (nº 5) that students' initial training must include 'the acquisition of respectful habits with the environment according to the context of the centre and its possibilities, being possible to find a wide range of application contexts. Also, it named activities hiking, climbing, ski, mountain bike or rope' (BOE, Real Decreto 217/2022, pp. 41663). Hence, the inclusion of OA in school context is limited and has tended to focus on orienteering and hiking activities (Torres et al., 2016). A reason for not included OA in the school could be due to that it is considered difficult to carry out, since the teachers cannot control where the children are at every moment during the activity, so there is some fear for the children's safety and how to manage their behaviour (Wesselius et al., 2020). There are also other barriers, such as the lack of time, lack of funding, not enough specific materials, and there is a few places available to carried out this activities being these reasons considered as the main limitations by teachers when they want to carry out OA (Christie et al., 2014)

It should be noticed that, the school context (i.e. urban or rural, number of students . . .) could be one of the factors that can have an influence the inclusion of OE in PE sessions. In this sense, Cotton et al. (1996) revealed that schools with fewer students encouraged the participation of teachers in the creation of educational strategies related with OE, as well as the inclusion of novel activities in the annual programs. The study carried out by Dalmau Torres et al. (2020) concluded that schools with fewer educational lines (In Spain, an educational line refers to the number of students that the school has by academic year. Hence, a line implies that there is a one-class-per-grade school, two lines imply that there are two classes-per-grade school, and so on) implemented more frequently OE. However, no significant differences were found in the type of OE carried out depending on whether the school was placed in a rural or urban environment. In addition, it seems that depending on the type of funding that the school receives (public or private) has an influence on conducting OE, since previous studies have concluded that public school teachers include OE more frequently than private school teachers (Caballero & Del Carmen, 2002; Chubb & Moe, 2011).

Despite the limitations that PE teachers encounter in including OE in their programming, some teachers manage to incorporate them in their PE sessions. Therefore, the aim of this study was to determine the preferences, barriers and resources that active Andalusian PE teachers (Primary and Secondary) have about conducting OE as well as the main limitations teachers currently encounter in performing OE. Also, to analyse if the environment, school context, and size of the school facilitate or hinder the inclusion of OE.

Methods

Participants

A questionnaire was sent to the elementary and high schools in the region of Andalusia (Spain), through a Google Forms link.[1] The questionnaire was available from 5 March to 10 October 2022. A total of 413 teachers (age: 42.31 ± 8.62 years; women: 127; men: 289) participated in this research. All of the participants taught in either a public or private school and were distributed throughout the autonomous community of Andalusia as follows: Almería (16), Cádiz (43) Córdoba (56), Granada (63), Huelva (38), Jaén (53), Málaga (63) and Seville (81). Participants had an average of 15.42 ± 9.55 years of teaching experience, and the academic level of the participants was: 51.8% were PE teachers, 42.6% had a sport sciences degree and 3.4% had a PhD.

Almost two thirds of the participants taught in Primary (61.3%), with the remainder in Secondary (36.8%); they had vocational education training or a certificate of higher education professor (TECO) (1.7%). Schools and high schools were classified according to the number of students (i.e. 1, 2 or 3 lines);

Around one third (33.2%) of the schools had only one line, 32.9% had two lines, and 33.9% had three or more lines. Regarding the number of inhabitants in the areas where the schools were situated, 7.7% were in villages with less than 1,000 inhabitants, 12.8% in towns with a population between 1,001–3,000; 18.9% in towns with 3,001–10,000 inhabitants and 60.5% were located in cities with more than 10,001 inhabitants.

Signed voluntary participation consent was provided before starting the questionnaire; it was included in the first page of the questionnaire with a specific item that had to be ticked before starting the questions. The recommendations for human experimentation approved in the Declaration of Helsinki were followed.

Materials

The 'Diagnostico de las actividades físicas en el medio natural en el ámbito escolar (DAFNE)' questionnaire was used. The DAFNE questionnaire consists of 17 items, which are grouped into eight dimensions. Notice that dimension 'a' is the only one that have 3 questions, whereas the other dimensions have two question each. The questions are answered on a 5-point Likert scale ranging from 'strongly disagree' (1) "to 'strongly agree' (5). The eight dimensions of the questionnaire are: (a) Support of the agents involved in education, which refers to the support that teachers receive from the Public Administration, the school's parental association (AMPA; each school in Spain has one) and the School Council; (b) EF programming, which reports the importance that OE has in the annual teaching programming; (c) resources, which includes the facilities and equipment available to the teaching staff to carry out OE; (d) previous actions, which addresses the level of planning, risk assessment and the possibility to adapt OE to the characteristics of the students; (e) school community, which indicates the involvement of the management of the school centre or of the teachers in carrying out OE; (f) school organization, which refers to the compatibility of OE in relation to the school's schedule, educational project and administrative procedures; (g) the Public Administration, with items referring to permanent training or educational projects proposed by the administration to include OE in educational centres; and (h) the teacher's OE training, which addresses both the teacher's perception of their initial training and their ongoing training related to OE. This questionnaire has been used in previous research (Dalmau Torres et al., 2020) and has a Cronbach's reliability coefficient of 0.869 for the 17 items included. To complete the questionnaire's information, three ad-hoc questions were included. Specifically, question 1 was included to know what activities teachers include in PE sessions. This question was a multiple-choice question with the most common activities conducted in the school was included. Also, an open response (others) was included just in case that the teacher wanted to indicate another activity. To know the limitations that teachers have in terms of student safety, school schedule, responsibility, and lack of training on including OE in PE, we included the limitations exposed by Peñarrubia et al. (2011) (question 2). Finally, a third question was included to know how frequently teachers incorporated OE in their annual programs, if they carried out OE as a complementary/extracurricular activity, also if they hired an external company to carry out OE a question based on Sáez-Padilla (2016) (question 3). In addition, sociodemographic variables were included to know the characteristics of the participants and the school environment where they already are teaching.

Statistical analysis

To analyse the data, SPSS software v. 26.0 for Windows (SPSS Inc., Chicago, IL, USA) was used. The Cronbach's alpha coefficient was used to determine the reliability and internal consistency of the questionnaire. Descriptive data for the participants and the questionnaire variables are reported in terms of means and standard deviations (SD). One factor ANOVA was conducted to compare the means, which was also divided by the educational stage in which the teacher taught, according to the number of students in the school and the population of the community where the school was located. Activities carried out in class and the limitations that teachers identified preventing the

inclusion of OE in their sessions were presented by means of frequencies and percentages. Pearson correlations were carried out to establish correlation among variables. The significance level was set to $p < 0.05$.

Results

Figure 1 shows the OA that the teachers include in their PE session expressed in percentages, according to the Spanish education legislation. The most practised OA in Primary and Secondary are orienteering and hiking. It is noteworthy that the percentage of teachers who included OA was higher in Secondary than in Primary, except for cycling. In addition to these OA modalities, 20.6% of Primary teachers and 26.3% of Secondary teachers carried out 'other' OA activities that are not included in the Spanish education curriculum.

Regarding eight dimensions of DAFNE questionnaire, Table 1 shows the participants' answers separated by education stage. Primary teachers obtained a higher punctuation in mostly of the dimensions than Secondary teacher except PE programming dimension. Notice that, significant differences were found in 'support of the agents involved in education' ($p = 0.037$), 'resources' ($p = 0.013$), 'school community' ($p < 0.001$), as well as 'school organization' and 'Public Administration' ($p = 0.013$) dimensions.

Looking at school financing (public or private), public schools obtained higher scores than private school in mostly of the dimension analysed except to 'PE programming,''Public Administration,' and 'teacher's OE formation.' Nevertheless, the 'resources' dimension was the only dimension that showed significant differences ($p = 0.033$) (Table 2).

Moreover, significant differences among schools were also found for school size depending on the number of students by academic year (i.e. the number of lines; Table 3). Specifically, the dimensions 'support of the agents involved in education' ($p = 0.049$), 'school community,' 'school organization' and 'Public Administration' ($p < 0.001$), respectively showed significant differences in schools with one line compared to those with three or more lines (Table 3).

Table 4 lists the results of the DAFNE questionnaire in relation to the number of inhabitants in the communities where schools are located. Schools situated in a village with less than 1.000 inhabitants showed significant differences in the 'resources' dimension from those in bigger

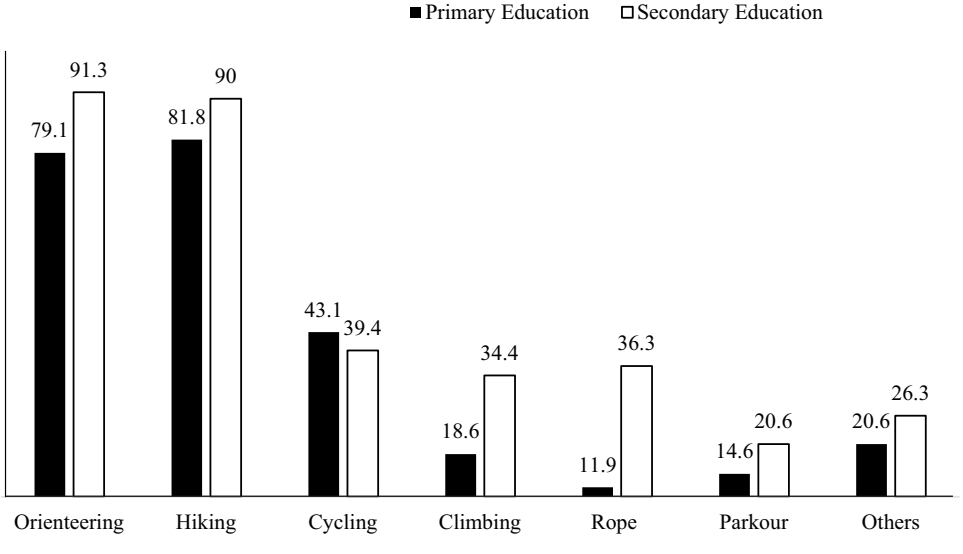

Figure 1. Outdoor activities that the professor includes in their session expressed in percentages.

Table 1. Eight dimensions of DAFNE questionnaire according to educational stage.

	Total ($n = 413$)		Primary ($n = 253$)		Secondary ($n = 160$)		
	Mean	SD	Mean	SD	Mean	SD	p- value
Support of the agents involved in education	4.08	0.71	4.15	0.69	3.98	0.73	0.037
PE programming	4.43	0.78	4.41	0.77	4.46	0.79	0.486
Resources	3.01	1.10	3.04	1.10	2.96	1.12	0.013
Previous actions	4.42	0.64	4.46	0.64	4.35	0.65	0.247
Scholar community	3.59	0.90	3.75	0.83	3.34	0.95	<0.001
School organization	3.37	0.99	3.47	0.97	3.21	1.01	0.022
Public Administration	2.76	0.86	2.86	0.86	2.61	0.85	0.013
Teacher's OE formation	3.06	0.85	3.09	0.79	3.00	0.82	0.464

OE: Outdoor education; PE: Physical Education; SD: Standard deviation.

Table 2. Distribution according to the dimensions based on the ownership of the centre (public or private).

	Total ($n = 413$)		Public ($n = 354$)		Private ($n = 59$)		
	Mean	SD	Mean	SD	Mean	SD	p- value
Support of the agents involved in education	4.08	0.71	4.09	0.72	4.04	0.68	0.627
PE programming	4.43	0.78	4.42	0.80	4.47	0.59	0.681
Resources	3.01	1.10	3.06	1.10	2.72	1.15	0.033
Previous actions	4.42	0.64	4.42	0.65	4.38	0.55	0.686
Scholar community	3.59	0.90	3.59	0.91	3.57	0.81	0.868
School organization	3.37	0.99	3.38	0.99	3.29	0.97	0.519
Public Administration	2.76	0.86	2.73	0.86	2.95	0.86	0.064
Teacher's OE formation	3.06	0.85	3.04	0.85	3.16	0.83	0.295

OE: Outdoor education; PE: Physical education; SD: Standard deviation.

Table 3. Dimensions of DAFNE questionnaire regarding to the number of students.

	1 line a $n = 137$	2 lines b $n = 136$	3 or more lines c $n = 140$		
	Mean (SD)	Mean (SD)	Mean (SD)	p- value	Post Hoc
Support of the agents involved in education	4.19 (0.66)	4.10 (0.70)	3.96 (0.75)	0.049	a > c*
PE programming	3.50 (0.71)	4.44 (0.73)	4.35 (0.87)	0.255	
Resources	3.12 (1.07)	3.07 (1.12)	2.84 (1.12)	0.081	
Previous actions	4.46 (0.68)	4.48 (0.55)	4.32 (0.67)	0.077	
Scholar community	3.85 (0.82)	3.66 (0.80)	3.26 (0.97)	0.001	a > c**; b > c**
School organization	3.67 (0.87)	3.35 (1.01)	3.10 (1.01)	0.001	a > b*; a > c**
Public Administration	2.93 (0.82)	2.83 (0.85)	2.53 (0.86)	0.001	a > c**; b > c*
Teacher's OE formation	3,15 (0.86)	3.05 (0.79)	2.97 (0.88)	0.217	

1, 2, 3 lines refers to the number of students that the school has by academic year; OE: Outdoors Education; PE: Physical Education; SD: Standard deviation; *. $p < 0.05$; **$p < 0.001$; Different letters (i.e. a, b, c) implies significant differences among groups.

cities ($p < 0.001$). School organization dimensions obtained higher scores in schools located in a village with less than 3,000 inhabitants, less than 1.000 ($p = 0.001$) and in those with 1.001–3.000 inhabitants ($p = 0.004$). Significant differences were found in for the dimensions in 'Public Administration' because schools in communities with less than 1.000 inhabitants obtained higher mean values than those in communities with 3.001–10.000 ($p = 0.005$) or more than 10,000 ($p = 0.034$) inhabitants.

Pearson correlations among the dimensions analysed in the DAFNE questionnaire are listed in Table 5. The limitations and the number of activities that the teacher conducted in their school are also included. Significant differences were found in most of the variables analysed. Notice that 'resources' and 'teacher's OE formation' showed a significant correlation with all dimensions of

Table 4. Results of the dimensions analysed based on the number of inhabitants of the town.

	<1000 a $n = 32$	1001–3000 b $n = 53$	3001–10000 c $n = 78$	>10001 d $n = 250$		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	P-value	Post-Hoc
Support of the agents involved in education	4.33 (0.61)	3.96 (0.79)	4.00 (0.69)	4.10 (0.70)	0.095	
PE programming	4.79 (0.47)	4.39 (1.07)	4.33 (0.75)	4.42 (0.73)	0.042	a > c*
Resources	3.78 (1.02)	3.16 (1.10)	2.87 (1.03)	2.93 (1.11)	<0.001	a > c***; a > d***
Previous actions	4.67 (0.53)	4.36 (0.79)	4.48 (0.52)	4.38 (0.65)	0.079	
Scholar community	3.93 (0.88)	3.52 (0.95)	3.50 (0.89)	3.59 (0.89)	0.131	
School organization	3.85 (0.87)	3.67 (1.05)	3.08 (1.06)	3.33 (0.93)	<0.001	a > c***; a > d*, b > c**
Public Administration	3.20 (0.92)	2.78 (0.81)	2.60 (0.84)	2.75 (0.85)	0.011	a > c**; a > d*
Teacher's OE formation	3.31 (0.75)	3.18 (0.86)	2.98 (0.90)	3.02 (0.84)	0.169	

PE: Physical Education; OE: Outdoor Education; SD: Standard deviation; *$p < 0.05$; **$p < 0.01$; *** $p < 0.001$; Different letters (i.e. a, b, c, d) implies significant differences among groups.

Table 5. Pearson's correlations among DAFNE dimensions, the limitations, and the number of activities carried out by the teachers.

	Support	PE Programming	Resources	Previous actions	Scholar communities	School organisation	P.A.	Teacher OE formation	Limitations	Nº of activites
Support	1	0.416**	0.327**	0.287**	0.440**	0.416**	0.142**	0.174**	−0.140**	0.030
PE Programming	0.416**	1	0.330**	0.522**	0.231**	0.276**	0.133**	0.244**	−0.113*	0.269**
Resources	0.327**	0.330**	1	0.277**	0.404**	0.538**	0.326**	0.336**	−0.225**	0.198**
Previous actions	0.287**	0.522**	0.277**	1	0.219**	0.240**	0.093	0.194**	−0.073	0.186**
Scholar Communities	0.440**	0.231**	0.404**	0.219**	1	0.620**	0.331**	0.258**	−0.134**	0.011
School organisation	0.416**	0.276**	0.538**	0.240**	0.620**	1	0.428**	0.375**	−0.232**	0.092
P.A.	0.142**	0.133**	0.326**	0.093	0.331**	0.428**	1	0.350**	−0.115*	0.074
Teacher's OE formation	0.174**	0.244**	0.336**	0.194**	0.258**	0.375**	0.350**	1	−0.177**	0.149**
Limitations	−0.140**	−0.113*	−0.225**	−0.073	−0.134**	−0.232**	−0.115*	−0.177**	1	−0.112*
Nº of activities	0.030	0.269**	0.198**	0.186**	0.011	0.092	0.074	0.149**	−0.112*	1

* $p < 0.05$; ** $p < 0.001$; P.A.: Public Administration; OE: Outdoor Education.

Table 6. Pearson's correlation between teaching experience, number of year teaching in the same scholar centre and number of activities conducted.

	Nº years of experience	Nº year in the scholar centre	Nº of activities	Limitations	Centro TECO
Nº Years of experience	1	0.736**	−0.054	−0.152**	−0.069
Nº year in the scholar centre	0.736**	1	0.019	−0.170**	−0.106*
Nº of activities	−0.054	0.019	1	−0.112*	0.130**
Limitations	−0.152**	−0.170**	−0.112*	1	−0.032
TECO	−0.069	−0.106*	0.130**	−0.032	1

*Significant correlation $p < 0,05$; **Significant correlation $p < 0,01$; Nº: number; TECO: Education training or certificate of higher Education centre.

Table 7. Limitations encountered by teachers to carried out OE separated by educational stage.

	Total ($n = 413$)		Primary ($n = 253$)		Secondary ($n = 160$)		
	Mean	SD	Mean	SD	Mean	SD	p-value
Student' security	2.30	1.10	2.36	1.107	2.36	1.16	0.694
Teacher's responsibility	2.42	1.27	2.37	1.25	2.50	1.29	0.089
Teacher's OE formation	2.10	1.08	2.10	1.03	2.12	1.15	0.984
PE schedule	2.22	1.20	2.19	1.20	2.25	1.19	0.445

SD: Standard deviation; OE: Outdoor education; PE: Physical education.

DAFNE questionnaire ($p < 0.001$). A similar result was also found with the variables 'limitations' and 'number of the activities' ($p < 0.001$).

Looking at teaching experience, the number of years that the instructor had been teaching in the same school showed an inverse correlation with the 'limitations' variable that the instructors identified for conducting OE (−0.152, and − 0.170, respectively). It should be noted that instructors who taught in vocational education training or certificate of higher education (TECO) carried out a greater number of OA activities (Table 6).

Table 7 shows the limitations identified for including OE during PE sessions. Significant differences were not found according to education stage (i.e. Primary and Secondary). Teacher responsibility ($p = 0.089$) and the annual schedule of PE sessions ($p = 0.445$) (i.e. lack of time to conduct OE) obtained the greater values. Furthermore, 63.3% of the teachers agreed with carrying out OE as a complementary or extracurricular activity instead of including it in their annual programming.

Discussion

The aim of this study was to determine the barriers and resources that active Andalusian (Primary and Secondary) Physical Education teachers have about conducting OE as well as the main limitations teachers currently encounter in performing OE. The results of the current study show that Secondary teachers find more limitations to incorporate OE than Primary teachers. Furthermore, the main limitation that Primary and Secondary teachers have for carrying out OE is the lack of resources provided by the public administration. Also, the lack of student' security and the responsibility of the teacher are considered as a limitation to conduct OE.

Regarding the DAFNE questionnaire, our results confirmed an increase in the scores for all variables analysed compared with the study carried out by Dalmau Torres et al. (2020). Although these authors used the same questionnaire it is noteworthy that the dimension that received the worst values in our study was public administrations, which is in line with the findings of Dalmau Torres et al. (2020). In addition, most of the teachers in the current study also affirmed that they included OE in their annual programming. These findings are contrary to the study carried out by Peñarrubia et al. (2011), who found in response to their survey that teachers preferred to conduct OE as an extracurricular activity instead of during PE sessions. Is important to mention that outsourcing

the teaching of OE to external companies' risks losing their educational value, because the monitors (in most cases) do not have the pedagogical or evaluative knowledge that teacher have about their students. Thus, the monitor also does not know the students, which prevents them from adapting the teaching process to the individual needs of each student (Remington & Legge, 2017).

Concerning to the activities conducted by the teachers during their OE sessions, hiking and orienteering were the most mentioned. These results agree with those proposed by Sáez-Padilla (2016), who conducted a questionnaire with Secondary teachers and concluded that hiking and orienteering were the most used OE. This agreement between studies could be due to the fact that OE are frequently carried out in green places close the school which are easy to access (i.e. city parks, school grounds, or woodlands) (Ayotte-Beaudet et al., 2023), so it seems clear that accessibility is an important factor determining the kind of OE performed.

In relation to the 'resources' that teachers have to carried out OE, this variable obtained the lower score in DAFNE's questionnaire. This finding is in line with a previous quantitative and qualitative study which concluded that the lack of funding was one of the main barriers to performing OE (Waite, 2010). However, the findings in this research differ from those of Rickinson et al. (2012), who conducted a review of OE and concluded that an increment of funding is not the solution to conducting OE, since schools with low budgets performed excellent OE. Keeping in mind the context in which the school is located has been suggested as important in solving the shortage of funds; urban centres could use dirt roads, create indoor climbing walls (bouldering) or use parks near the school, while rural centres could consider using local forests and trails (Williams & Wainwright, 2016).

The teacher's trainee programme (i.e. initial training) in OE can be considered an important role in the inclusion of OE in annual programming, since teachers who have more knowledge about OE are more capable of conducting OE increasing their self-efficacy (Hovey et al., 2020). The teachers surveyed in this research (Primary and Secondary) consider that they received an adequate OE training. Nevertheless, this finding disagrees with the study carried out by Dalmau Torres et al. (2020), who used the DAFNE questionnaire and concluded that the teachers' initial OE training was insufficient. Our findings also contradict those of a previous study that analysed the teachers' initial OE training in five different countries through a eleven-question survey on OE since the authors concluded that initial trainee was not sufficient to carry out OE (Borsos et al., 2022). A possible explanation for the difference in the results could be due to the fact that the initial training programme depends on the country and the academic offerings related to OE at each university (optional and compulsory courses) (Sáez-Padilla et al., 2017).

Another important finding in the current study is related to the size of the community where the school is situated. The results showed that school centres which are situated in a village with less than 1,000 inhabitants obtained higher scores for all of the variables analysed. Specifically, resources and school organization showed significant differences compared to schools situated in towns and villages (i.e. >3000 inhabitants); consequently, centres situated in villages tended to perform OE more frequently. An explication for these results (based on the authors' knowledge of the rural environment in Andalusia) could be related to the places where the schools are situated: usually, schools located in villages are closer to the natural environment, which makes it easier for the teacher to organize and go outdoors to perform OE.

In relation to the limitations that the teacher encounter to carried out OE, the results of the current study showed that teacher's responsibility, and the students' security are considered the main limitation. These results are in agreement with previous research that investigated which are the main barriers that teacher find when they want to include OE in their PE sessions (Peñarrubia et al., 2011).

Strengths and limitations

This study has some limitations that should be mentioned: (1) The methodological approaches that each teacher used to include OE in their class was not considered, and different results could have

been found depending on the methodology (i.e. conducting OE through didactic units, or through outside experiences such as hiking in the forest on one day). (2) It also was not possible to know the initial training of the teachers, the university where they completed their training or the academic itinerary they followed. (3) Finally, it could be important to know the teachers' own sports preferences, since teachers tend to prioritize those OA that they know. Nevertheless, a strength of the current study is that a wide range of active teachers were surveyed, which allowed us to determine the preferences and opinions of Andalusian teachers about including OE in the scholar curriculum.

Conclusions

To conclude, teachers' initial OE training was considered sufficient to carry out OE in their schools, so there was a greater increment of teachers who included OE in their annual programming in schools in Andalusia than found in previous research in this field. Secondary teachers included OE more frequently than Primary teachers in their annual programming. In addition, the environment, size of the school, the school context, and educational stage could facilitate or hinder the inclusion of OE in PE sessions. Regarding activities, hiking and orienteering were the activities most practised by teachers in both educational stages. The lack of support from the Public Administration, the lack of resources, as well as the lack of security and responsibility of the teachers are the main barriers that teachers encounter to include OE in their PE sessions.

Note

1. https://docs.google.com/forms/d/e/1FAIpQLSezwnvvawwhcOvB_kVaqJmyJkcudfJiS3mvxtNgKrVgsTFzBQ/viewform

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Notes on contributors

Miguel Hurtado Barroso: I graduated in Physical Activity and Sports Sciences with a specialization in Physical Activities in the Natural Environment. Currently, I work as a Secondary School Physical Education teacher for the Junta de Andalucía, and I am doing the doctoral program at the University of Jaén.

Pedro Ángel Latorre Román: Physical Education Professor at Institute and University. Professor at the University of Jaén. He currently teaches "motor skills and health" (Degree of Early Childhood Education). He published more than 160 articles indexed in JCR journals, most aimed at improving health through Physical Activity intervention programs in different population groups. Outstanding line of research in Human Locomotion. Author of several books and numerous book chapters. He participated in numerous International Congresses and supervised 22 doctoral theses. Three research six-year terms and 5 teaching five-year terms. Numerous research transfer contracts.

Juan Antonio Párraga Montilla: Professor of Physical Education for thirty-five years, in Institutes (Professor) and universities (Full Professor). I currently teach "Physical Activity and Health" in Primary Education and Early Childhood Education. I have held different relevant positions in university management and coordinated Doctorate programs. I have supervised 21 doctoral theses (5 international mention) and published more than 130 articles, most indexed in JCR journals. Numerous contributions in conferences, training courses and conferences focused on the evaluation and improvement of physical abilities in different contexts and age groups, from an educational, health and high performance perspective.

José Carlos Cabrera Linares: My professional training is oriented towards teaching through physical activity. I graduated as a primary education teacher (specializing in Physical Education) and later completed a degree in sports sciences. Currently, my professional development is at the University of Jaén, since I am a teacher in the area of Physical Education. Specifically, my teaching is focused on the courses named "Physical Activity and Health", as well as "Sports, Health, and Quality of Life". My scientific production is focused on the analysis of movement in different age groups, as well as improving the quality of life through Physical Activity in children.

ORCID

Juan Antonio Párraga Montilla http://orcid.org/0000-0002-0250-0717
José Carlos Cabrera-Linares http://orcid.org/0000-0002-1059-5154

Declaration of conflicting interests

The authors report there are no competing interests to declare.

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