











## Integrating outdoor and adventure education in school physical education. Insights from European physical educators

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### ABSTRACT

Outdoor Adventure Education (OAE) has been increasingly recognized for its potential to foster adolescents' social, emotional, and physical development within physical education (PE). In many European contexts, OAE has only recently begun to receive greater attention as schools and policymakers explore its integration into formal PE curricula as an approach towards sustainable educational development. This qualitative study explores how PE teachers and teacher educators from six European countries conceptualize the meaning, perceived benefits, challenges, and potential integration of OAE into school PE curricula. Data were collected through written interviews and analyzed using thematic analysis in alignment with the United Nations Sustainable Development Goals (SDGs) framework. Three interrelated themes were produced from the analysis: (a) OAE as a catalyst for youth holistic development, (b) Systemic and structural barriers, and (c) Cultural and contextual diversities. Findings reveal that while educators in Europe recognize OAE's pedagogical value, its implementation is often hindered by systemic constraints, lack of resources, and insufficient policy support. Erasmus+ and similar European initiatives can act as catalysts towards advancing innovation in PE, sharing best practices, and promoting OAE as part of the broader efforts focusing on education for sustainable development.

## 1. Introduction

Outdoor and Adventure Education (OAE) has a long and evolving history within school Physical Education (PE), where it has been valued as a means of fostering learning that extends beyond physical performance to encompass social, emotional, and cognitive

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growth (Mann et al., 2022). Early forms of outdoor and experiential learning in schools can be traced back to the progressive education movement, which emphasized holistic development and the role of direct experience in learning (Dewey, 1938). Over time, however, OAE developed its own identity as a distinct field of practice and research, especially in contexts such as the UK, Scandinavia, and Australasia, where outdoor education has been formally integrated into curricula or implemented through residential programs and field-based learning (Kokkonen et al., 2025). In many countries across Europe, OAE has remained more marginal, often dependent on local traditions and teacher initiatives rather than formally embedded within PE or national policy frameworks (Mann et al., 2022). This diverse development has created significant variation in terms of how OAE is conceptualized, valued, and implemented within schools in relation to socio-cultural attitudes, geographic conditions, or systemic limitations.

In contemporary PE scholarship, OAE is framed as a pedagogical approach that integrates experiential, adventure-based, and outdoor learning principles to promote embodied, reflective, and cooperative forms of engagement (Williams & Wainwright, 2015, 2019). While terms such as outdoor education, adventure education, or outdoor learning are used interchangeably across national contexts, there is a broad consensus that OAE involves structured learning experiences beyond the classroom, whether in schools, local communities, or natural environments, where students are encouraged to set personal challenges, collaborate with peers, and manage risk in meaningful ways (Nicol & Waite, 2020). This explains why professional associations (e.g., SHAPE, America) and researchers (Mann et al., 2022) consistently advocate for embedding OAE in PE curricula, highlighting its alignment with the attributes of quality PE instruction and particular its relevance for adolescents and young learners.

Until today, studies that have explored OAE in relation to PE programs and curriculum design have shown positive outcomes in adolescent students' peer relationships and emotional regulation (Down et al., 2024; Lee & Zhang, 2019), social skills and competencies (Koszaika-Silska et al., 2019), sense of achievement and well-being (Gibbons et al., 2018), self-growth and belonging (Williams & Wainwright, 2015), as well as their ability to recover from stress or misfortune (Teraoka & Kirk, 2021; Teraoka et al., 2021). In relevance to adolescent social, emotional, and physical development, the above outcomes seem especially important not only for able and high motivated students, but also for learners from disadvantaged backgrounds or limited exposure to opportunities for self-growth and achievement (Slee & Allan, 2019).

Fostering a holistic learning environment that promotes meaningful learning, personal growth and sense of achievement in youth and adolescence is an outcome related to the United Nations Sustainable Development Goals (SDGs) (UNESCO, 2020), especially those aligned with education (e.g., SDG 3 – Good Health & Well-being, SDG 4 – Quality Education, SDG 13 – Climate Action). A common characteristic of these SDGs is that equitable, health enhancing and sustainable teaching and learning approaches need to underpin the design of quality PE programs for young people. The main argument is that programs of this kind can foster brain growth, creativity and collaboration in adolescence and thus empower young people to respond effectively to the challenges of modern ways of living, both at a personal level and at the level of social interactions (Collado-Soler et al., 2023).

Despite the above-mentioned gains, the integration of OAE programs and frameworks within school curricula remains rather slow, as it requires significant adaptations in teaching practices, along with organizational planning and policy regulations, that are designed to support PE teachers (Duncombe & Armour, 2004). For this reason and given OAE's potential to advance holistic learning in youth, in alignment with the United Nations' SDGs, it is important that both PE teachers' and PE teacher educators' perspectives are represented in educational policy discussions around the legitimization of OAE as a valuable component of PE. Such insights are crucial not only for identifying the benefits, and barriers of OAE integration within school programs, but also for shedding light on educational strategies or localized cultural practices and geographical specificities that could inform professional development pathways towards meaningful and sustainable integration of OAE within schools PE.

Given the above considerations, the aim of this study was to explore how PE teachers and teacher educators conceptualize, experience, and evaluate the potential of integrating OAE within PE curricula. Specifically, the study sought to examine variations in educators' perspectives across different European countries, while also examining the ways in which these variations might be influenced by socio-cultural and organizational factors and norms. The main research questions guiding the study were:

- How do PE educators across different countries and contexts perceive OAE in relation to PE for adolescents and youth?
- How do cultural, geographic, and systemic factors influence PE educators' perceptions?
- What are the implications of educators' perceptions for the design and implementation of OAE programs?

For addressing the above questions, the article is divided in three sections. In the first section, the core components of OAE are presented, in relation to the advancement of SDGs within PE programs designed for adolescents and youth. The main idea is to position OAE within the broader framework of education for sustainable development and argue for its pedagogical relevance in supporting holistic development for 21st century students. In the second section, the qualitative methodology of the study is presented, as a research design that was considered suitable for capturing the nuanced, contextualized understandings of educators across six diverse PE contexts. In the final section, the key findings of the study are presented in relation to recommendations for policymakers, teacher educators, and practitioners seeking to enhance the quality and relevance of PE programs in schools across European contexts and settings.

## 2. Outdoor adventure education for sustainable development in physical education

OAE constitutes a genuinely holistic approach to learning because it prioritizes experiential, adventure-based, and place-responsive pedagogies that move beyond the narrow focus of performance-driven PE models. Rooted in Kolb's experiential learning theory (Kolb, 1984), OAE places students at the center of learning by immersing them in authentic, real-world scenarios and problem-solving tasks

that cultivate their social, emotional, and relational capacities (Gray & Bailey, 2022; Quay, 2016; Yemini et al., 2023). In contrast to traditional PE approaches, OAE foregrounds embodied and interactive forms of learning (Remmen & Iversen, 2022; Williams & Wainwright, 2019), providing students with repeated opportunities to communicate, collaborate, and take responsibility in safe yet challenging environments. At the same time, it ensures that movement and physical activity is meaningfully tied to engagement with natural environments, allowing students to explore their body capacities within natural contexts (Gray, 2018).

When implemented in school contexts, OAE allows adolescents and youth to interact with natural environments, fostering physically active lifestyles that support health and well-being (SDG 3). At the same time, it cultivates social and emotional competencies (e.g., teamwork, problem-solving), which are essential for lifelong learning and active citizenship (SDG 4), while promoting ecological awareness and environmental responsibility (Beames et al., 2023). These outcomes not only support holistic youth development but also align closely with the goals of Education for Sustainable Development (ESD), particularly ecological stewardship and climate action (SDG 13) (Collado & Corraliza, 2015; UNESCO, 2020; Van Poeck & Östman, 2025). In this way, OAE provides a context for fostering learning, in relation to the needs of 21st-century young learners and the objectives of ESD (Beames et al., 2023; Schroth, 2023; Stolz and Thorburn, 2019; UNESCO, 2020).

Although awareness of OAE's benefits has increased, systemic barriers, such as rigid curriculum structures, limited opportunities for teacher professional learning, and inadequate resources or infrastructure, continue to impede its widespread adoption within PE (Penney et al., 2017). From an educational policy perspective, overcoming these challenges requires multiple level changes and initiatives (i.e., professional development programs for PE teachers, Erasmus+ projects, cross-national collaborations), which not only enhance teacher capacity to work with OAE within PE, but also create a platform for promoting students' holistic development as suggested by the SDGs of the UNESCO agenda.

### 3. Method

#### 3.1. Context and research design

The study was implemented as part of the broader scope of the Erasmus+ KA2 project,<sup>1</sup> which aimed to bridge OAE with PE, with a particular focus on promoting youth social and emotional learning. Conducted over a period of 30 months, the project involved collaboration between five higher education institutions<sup>2</sup> and a European PE association, encompassing a range of research-informed and collaborative design activities. These activities were scheduled to develop an OAE curriculum framework for PE, including teaching resources, evaluation tools, certification programs, and open educational resources, all emphasizing on the promotion of adolescent students' social and emotional learning.

All outputs that were delivered during the consecutive phases of the Erasmus program emerged from a layered, iterative research and collaboration process, in which participants engaged in consecutive cycles of co-design, planning, evaluation, reflection, and revision. This multi-layered approach (Creswell & Poth, 2016) integrated repeated cycles of data collection, production and analysis, to generate rich, context-specific insights (Yin, 2018). By employing iterative cycles, the project allowed for continuous refinement of both the curriculum framework and its associated resources, while capturing diverse perspectives from educators and stakeholders across different cultural, institutional, and geographic contexts. This qualitative research design was purposefully chosen since it could provide a depth of understanding across varied educational systems while remaining responsive to contextualized meaning-making, and participatory knowledge generation (Braun & Clarke, 2006, 2019; Flick, 2024).

#### 3.2. Theoretical and epistemological orientation

This study adopted a qualitative research design grounded in an interpretive and constructivist paradigm, which aligns with the study's focus on understanding PE educators' perspectives on OAE across different European contexts (Creswell & Poth, 2016; Merriam & Tisdell, 2016). Like other studies in our field (Felis-Anaya et al., 2017), we recognized that participants' experiences of OAE are multiple and contextually situated. Thus, we adopted a constructionist theoretical and epistemological approach, emphasizing that knowledge is co-constructed between participants and researchers within specific socio-cultural and institutional contexts (van Schaik et al., 2019). Such an orientation underpinned the use of thematic analysis as a method appropriate of capturing both individual experiences and shared meanings, while integrating researchers' reflexivity and contextual knowledge (V. Braun & Clarke, 2019).

#### 3.3. Participants

Participants were 16 PE educators (male=6, female=10) from six European countries, working either as academic staff ( $N = 12$ ) or as schoolteachers ( $N = 4$ ) for more than ten years in different PE positions and duties, each representing a different cultural, educational, and professional context. Participants were recruited through convenience sampling, as they were directly involved in the Erasmus+ KA2 project and had relevant professional experience in courses and modules related to generalist primary teacher education, PETE, PE curriculum studies and health-related fitness, adventure tourism and nature, as well as youth work and community programs. Convenience sampling is widely accepted in qualitative research when participants are selected based on their direct

<sup>1</sup> Anonymized for blind review

<sup>2</sup> Anonymized for blind review

relevance to the research questions (Patton, 2014). The sample was deliberately heterogeneous in terms of cultural, educational, and professional backgrounds to capture diverse perspectives on OAE. Written informed consent was obtained prior to participation, and ethical approval for the study was obtained from the lead institution's ethics committee, ensuring compliance with best research practices (Committee decision number 1715/18–11–2024).

### 3.4. Data collection

Data production for this study was conducted using written interviews. The semi structured format of the interview was designed to allow participants to reflect on their experiences and articulate their views with clarity and nuance based on their contextual influences. Given that English was not a common language for all, the writing space of the interviews could give time to all participants to familiarize with the interview prompts and elaborate on their answers while giving examples from their practice. The interview protocol was designed based on literature on OAE, PE, and social-emotional learning in adolescence and youth. The protocol included questions on (a) participants' skills and experience relevant to OAE, (b) conceptualization of OAE within PE settings, (c) benefits and challenges of integrating OAE into school PE, and (d) suggestions for effective program implementation. The interview protocol was piloted with two PE educators not included in the final sample, and minor adjustments were made for clarity. Participants completed the interviews independently, but researchers were available to give clarifications. This approach to data collection allowed for rich, context-sensitive data while reducing researcher bias (Creswell & Poth, 2016).

### 3.5. Data analysis

Given that all authors in this study have been actively involved as researchers and practitioners within the Erasmus program, it was important that the process of data analysis aligns with their reflexivity on issues relevant to both OAE and PE. Based on our theoretical and epistemological orientation, we analyzed participants' answers as authentic accounts of their context specific experiences and views, while also acknowledging the influence of socio-geographical, professional and cultural factors in shaping those experiences. Such a dual perspective would represent participants' views as knowledge and experience situated within and across different European contexts, allowing for a more holistic elaboration of the research questions. Data were analyzed using Braun and Clarke's (2006, 2019) reflexive thematic analysis framework. This framework was considered appropriate for this study since it recognizes the active role of the researcher in the process of identifying patterns of meaning within the data, while emphasizing reflexivity throughout the process of data analysis. The analysis process involved familiarization with the data, initial coding, searching for themes, reviewing and refining themes, defining and naming themes to capture the essence of participants' experiences and perceptions, and producing literature-informed interpretations. Our analysis followed a hybrid inductive-deductive approach to ensure that the themes that were being produced were both theoretically informed by OAE concepts and SDGs (especially regarding adolescent and youth social and emotional learning within PE contexts) and aligned with the project's broader objectives and framework. Elements such as underlying values, institutional norms, and cross-cultural interpretations were also taken into account during data analysis to ensure richer understandings and conceptualizations across different European contexts.

This hybrid inductive-deductive approach ensured that the analysis was both theoretically informed and open to emergent patterns, while considering cross-cultural and contextual differences (Braun & Clarke, 2006). To enhance trustworthiness, reflexive discussions were conducted among the research team, triangulating perspectives, and documenting analytical decisions in a reflective journal.

**Table 1**  
Inductive and deductive codes produced during data analysis.

Theme	Code	Origin	Illustrative Example
<b>OAE as a catalyst for youth holistic development</b>	Social-emotional development	Inductive	"It creates inclusive learning environments where all students can participate"
	Affective growth	Inductive	"It promotes emotional resilience, self-awareness, contributing to students' positive development"
	Active engagement	Deductive	"Students are encouraged to find personal relevance in physical activity"
<b>Systemic and structural barriers</b>	Self-directed learning	Deductive	"The challenges they face help build self-confidence and perseverance"
	Curriculum constraints	Inductive	"Organizing outdoor activities often requires additional time, outside of a regular school schedule"
	Resource limitations	Inductive	"It requires equipment, clothes and time spent travelling"
	Teacher professional development needs	Deductive	"Some PE teachers have not received adequate training"
<b>Cultural and contextual diversities</b>	Institutional and cultural resistance	Inductive	"Some parents may be resistant to non-traditional forms of physical education"
	Socio-geographic influences	Inductive	"My city, as an urban center, presents unique challenges"
	Cultural norms	Inductive	"There is a huge tradition of travelling to nature"
	Context-specific adaptations	Deductive	"Teachers use principles of OAE more spontaneously than with a specific target"
	Cross-national insights	Inductive	"Before participating in the Erasmus+ project, I had no previous experience with Outdoor Adventure Education, either personally or professionally"

## 4. Results

Based on the results of data analysis, three main themes were produced, capturing participants' perspectives on OAE and its potential to inform instructional design and educational policy in PE for youth across various European educational and cultural settings. The first theme, entitled *OAE as a catalyst for youth holistic development*, captures participants' perspectives of OAE as a pedagogical paradigm for achieving educational goals related to young people's holistic development. The second theme, entitled *Systemic and structural barriers*, reflects the challenges that educators need to address when attempting to implement OAE within PE settings. Finally, the last theme, entitled *Cultural and contextual diversities*, emphasizes the variation inherent in conceptualization of OAE in relation to local experiences, socio-geographic spaces, and cultural understandings. A coding table showing inductive and deductive codes, and their alignment with the final themes, is provided in [Table 1](#).

The three themes are presented in the following paragraphs in combination with excerpts from the interviews and the broader agenda of integrating OAE in support of SDG-aligned education across Europe.

### 4.1. OAE as a catalyst for youth holistic development

Within their interview responses, participants repeatedly mentioned that OAE has the potential to promote holistic and experiential learning in youth, something which they thought could extend the scope of PE curricula, which - as they mentioned- seem to focus primarily on competitive sports and physical fitness. According to their perspective, the accumulation of a plethora of learning outcomes in adolescence and youth is important for meaningful learning that can extend beyond school hours. As they said:

*"...It supports not only physical development, but also social and emotional growth... Students learn teamwork, communication, decision-making, and responsibility in real-life situations..."* (participant A)

For all participants, real-life problem-solving, and decision-making were considered essential life skills, that can be organically nurtured through students' participation in outdoor activities. As they mentioned, the unpredictable and challenging context of OAE gives adolescent students multiple opportunities for managing stress and uncertainty, while collaborating with their peers in problem-solving situations:

*"It promotes emotional resilience, self-awareness, and a stronger connection to nature, contributing to students' positive development..."* (participant B)

*"By engaging with nature and real-life challenges, students are encouraged to find personal relevance in physical activity..."* (participant C)

For all participants, the inclusive learning pedagogical practices of OAE activities offer young students an opportunity to participate in lesson activities that are less hierarchical and competitive. As they mentioned, this is rather important for adolescent students, especially those who feel rather demotivated or marginalized within PE contexts:

*"It creates inclusive learning environments where all students—regardless of athletic ability—can participate meaningfully..."* (participant D)

*"Teachers can improve motivation and engagement, particularly for those who may not thrive in conventional competitive sports settings..."* (participant E)

Participants also recognized that OAE provides multiple opportunities for enhancing students' social and emotional skills, in ways that until today are underrepresented in traditional PE curricula. It was a perspective held by all that character development and interpersonal awareness is promoted within OAE activities, especially within group-based tasks that encourage students to practice empathy, trust and respect as they try to complete outdoor challenges with an adventure component.

*"Through cooperative activities, children learn to listen, respect, and support one another... The challenges they face in nature help build self-confidence, teach them how to manage fear or failure, and develop perseverance..."* (participant D)

As they said, such forms of learning are important for promoting holistic development in youth and sense of belonging:

*"Participating in activities... encourages them to build resilience, adaptability, and reflective thinking—skills that are fundamental to their overall development..."* (participant E)

What was interesting to observe was the fact that participants themselves stated that they also acquired knowledge and skills through their participation in the program, something that further enhanced their view that OAE promotes the holistic learning benefits they envision for their students:

*"It challenged me to think differently about the way I approach physical education, especially in terms of integrating reflective practices, experiential methods, and adventure elements..."* (participant F)

For all participants such growth was not abstract or theoretical, but instead it was the outcome of the participatory process of designing, piloting, and evaluating educational resources carried out within the Erasmus program:

*“I gained valuable knowledge about the integration of OAE into formal education through my participation in this program... I also developed practical skills in outdoor leadership, safety management, and adapting activities for diverse learners”* (participant M)

This was a rather encouraging finding, since it was directly aligned with the project’s aim to encourage educators to adopt an alternative vision of PE, one that does not only build on content delivery but also fosters working environment that facilitate inclusion and holistic, student-centered learning.

#### 4.1.1. Systemic and structural barriers

In their responses to the interview questions, participants identified a range of interconnected barriers concerning the implementation of OAE in their PE settings. Among the most often reported barriers were factors related to the lack of resources and policy support. As they noted, OAE programs require thorough planning and extended timeframes for preparation, implementation and evaluations, and this makes their integration within existing PE structures rather difficult in terms of time and resource organization:

*“Coordinating field trips to natural environments with the school day... typically require more time than is available for a PE class.”* (participant G)

*“A major obstacle is the limited time and the strict structure of the school programs.”* (participant D)

*“Organization obstacles – need to change the clothes and the time spent travelling to the target place.”* (participant B)

As they said, in many European contexts, access to nearby natural or outdoor settings cannot be safeguarded without getting permissions from school districts or families and allocating school logistics especially for this purpose. As one educator noted:

*“Organizing outdoor activities often requires additional time, equipment, permissions, and safety planning, which can be difficult within the constraints of a regular school schedule and budget.”* (participant C)

Apart from logistics and resource allocation, however, most participants admitted that mainly factors related to cultural and institutional resistance were those which hindered the integration of OAE within school PE programs. Both teachers and students, as well as school personnel and families are more accustomed to the traditional performance driven paradigm of school PE and cannot easily recognize the educational value of OAE, especially in cases that teachers and students are hesitant or unprepared to experiment:

*“Some may be unfamiliar with or resistant to non-traditional forms of physical education, especially when the focus shifts away from measurable performance.”* (participant C)

Parental engagement was also mentioned as pivotal towards this direction, emphasizing the need of supportive out-of-school infrastructures when OAE is adopted:

*“The positive communication in the school about changes and benefits of OAE (especially with parents and pupils) ... more participation of the parents... tools, instruments, clothes for different weather.”* (participant B)

In accordance with these arguments, the need for training and professional development of PE teachers was mentioned as both a challenge and a barrier, especially in those countries where there were no clear curriculum guidelines or policy measures concerning the implementation of OAE:

*“Some PE teachers have not received adequate training in OAE methodologies... This lack of expertise can lead to discomfort, apprehension, and a reluctance to venture beyond traditional activities.”* (participant H)

It was indicative that such barriers were more difficult to address in urban PE settings, where access to both infrastructure and outdoor environments is limited:

*“In a school like mine which is an urban school... the lack of adequate infrastructure and equipment, as well as limited access to natural environments is a major barrier.”* (participant F)

To overcome the above barriers participants often stressed the need for both educators and policy makers to advocate for educational policy changes (i.e., adaptation of school curriculum, professional learning opportunities concerning the educational value of embodied and experiential learning pedagogies), so that outdated attitudes and/or institutionalized norms are effectively delt with:

*“There is no need to change policy – curriculums are opened, but more problems are with old and traditional setting of people involved in education.”* (participant I)

*“Stakeholder engagement—including parents, school leadership, and policymakers—are essential to foster a broader acceptance of outdoor learning and to shift perceptions beyond traditional sports-oriented models.”* (participant A)

A central message, however, from almost all participants concerned the need for professional development opportunities in both pre-service and in-service teacher education, focusing on the provision of theoretical knowledge and practical skills regarding the use and implementation of in experiential learning methods, adventure-based pedagogies, and risk management activities.

*“Lack of systematic education for PE teachers (comprehensive teacher training).”* (participant B)

Looking ahead and envisioning future opportunities, participants admitted that despite the disruptions caused in school PE

programs due to the pandemic, teachers remain eager to advocate for outdoor pedagogies and instructional models as opportunities for advancing teaching and learning in PE:

*“Schools began to consider and value outdoor spaces as educational spaces... we should take advantage of this moment to strengthen OAE in PE curricula.”* (participant G)

As they said, such a stance aligns with the broader educational shift towards sustainable education, promoting holistic learning and lifelong development:

*“OAE offers meaningful, real-world experiences that help students connect with themselves, others, and the natural environment.”* (participant J)

*“OAE has the potential to become a central pillar of PE, promoting physical, emotional, and social development in a way that reflects the evolving needs of students in the 21st century.”* (participant C)

#### 4.1.2. Cultural and contextual diversity in understanding and practicing OAE

Regarding the context specific conceptualizations and framings of OAE, it was indicative that participants' perspectives remained highly relevant to their professional backgrounds and national/institutional influences. Some of them reported a blend of personal and professional experience:

*“Since 2000, I have been teaching outdoor activities in the bachelor's degree in Primary Education, specializing in Physical Education.”* (participant K)

*“For 10 years, I was a camp leader of adventure sports camps where outdoor adventure learning was a central feature. Furthermore, I am a passionate outdoor sportsman with extensive expertise in rock and alpine climbing, skiing, snowboarding and tour skiing, sailing, MTB and scuba diving, among others. I hold instructor qualifications in climbing, skiing and snowboarding and am a certified pool rescuer”* (participant H)

*I have >15 years teaching different subjects relating to OAE for a degree in Primary education. Also, I teach at a postgraduate course at the university”* (participant L)

Some other participants reported that their experiences in the use of OAE models and activities were either accumulated either through individual pursuits or within the present Erasmus project

*“I have had contact with the OAE in my personal but not in my professional life... I have done different activities, mainly hiking and mountain biking, and other activities such as snorkeling, rowing, etc.”* (participant G)

*In my personal life, I am an enthusiastic supporter of outdoor activities such as cycling and hiking. Although outdoor education is not my primary academic specialization at the university, I have participated in several outdoor courses as an instructor. I have always been intuitively aware of the strong connection between social-emotional learning and both outdoor and indoor physical activities* (participant C)

*“...Before participating in the Erasmus+ project, I had no previous experience with Outdoor Adventure Education, either personally or professionally. My first encounter with the model was through this project, which gave me the opportunity to explore it both theoretically and experientially...”* (participant D)

Despite their professional differences, on the other hand, all participants contextualized OAE as a multidimensional pedagogical approach that may promote understandings and experiences related to the educational value of outdoor learning. As they suggested, it is important to implement and use OAE not as an add-on to existing PE programs, but instead as an experiential learning model that can thoroughly support every educational process.:

*“I strongly believe that outdoor activities should be integrated throughout the academic year... not just as a special event.”* (participant N)

As they reported, one of the major strengths of any OAE model or activity is that it can move PE outside traditional settings or curriculum structures and challenge students' potential in alternative ways:

*“It brings challenge, unpredictability and real-life problem-solving... skills that are difficult to foster in traditional gym settings.”* (participant C)

*“It emphasizes direct experience in natural environments... challenges students physically, emotionally, and cognitively.”* (participant L)

*“Outdoor adventure education means shifting the PE classes out of the sports hall, using the potential of nature to provide learnings that are nature-related, experiential, authentic...”* (participant F)

However, it was a common agreement by all participants that the deep-rooted norms of each culture along with the geographic realities of each context posed extra barriers concerning the horizontal implementation of OAE principles, frameworks and European programs.

*“The Greek educational system has traditionally emphasized classroom-based, theoretical instruction, with limited use of experiential or outdoor approaches.”* (participant M)

*“There is a huge tradition of travelling to nature... almost every school organizes outdoor courses (‘school in the nature’) ... teachers use principles of OAE more spontaneously than with a specific target.”* (participant C)

As they emphasized, culturally or geographically dependent challenges that restrict the implementation of OAE models can be regulated only with adequate planning and institutional support

*“My city, as an urban center, presents unique challenges... however, some accessible parks, hills, and coastal zones can be utilized creatively for OAE.”* (participant O)

Several participants commented on the need for the establishment of international networks and EU-level programs like the project, as initiatives that could further support transformation and curriculum reform in PE:

*“By sharing good practices, providing training opportunities, and encouraging international cooperation, they can help integrate OAE more systematically into educational systems.”* (participant N)

*“These programs create the foundation for possible advancement in OAE across European Physical Education programs.”* (participant L)

*“With growing collaboration and exchange of best practices between countries, these efforts have the potential to establish OAE as a core component of PE in Europe.”* (participant P)

It was a common conviction though that the integration of OAE programs in school PE settings, although a foundational route towards sustainable 21st-century education, remains a challenge that can be resolved only through the adequate management of contextual influences and educational readiness.

## 5. Discussion

This study sought to explore PE educators' perspectives on the potential of integrating OAE within school-based PE curricula. One of the main findings of this study was the acknowledgement of the pedagogical potential of OAE, especially in relation to youth holistic development. Despite the different conceptualizations and cultural understanding that participants brought in this study, they all agreed that OAE can promote adolescent and youth social and emotional learning and thus enable the attainment of key educational priorities outlined in the United Nations SDGs. What this study adds, however, is a cross-cultural perspective, showing how PE teachers and teacher educators across diverse European contexts and educational setting perceive the benefits of OAE for youth development through the lens of local curricula, societal expectations and policy frameworks, an angle that has been underrepresented in existing OAE research (Kokkonen et al., 2025; Perlinger, 2025). This line of research is particularly important for education - and PE in particular - as it shows that educational interventions cannot be assumed to be universally applicable if they do not remain societally sustainable and culturally relevant (Dania & Farias, 2024).

Recognizing the need for culturally grounded programs, strengthens initiatives that align the scope of OAE with PE curricula, since the pedagogical benefits of outdoor or adventure learning can only be fully realized when embedded within the priorities and lived realities of each context. In agreement with relevant literature documenting the benefits of OAE for youth health and quality living (Allan et al., 2024; Down et al., 2024) this study also confirmed the pedagogical benefits of aligning OAE with PE curricula, especially regarding meaningful connections with nature, peers, and self. This finding is also supported by relevant studies in PE and general education literature, showing that participation in OAE can enhance young people's social competence and interpersonal awareness, traits that are widely recognized as elements of sustainable education and learning that nurtures connections with nature (Gómez-Olmedo et al., 2020; Pacis & VanWynsberghe, 2020; Rieckmann, 2018).

Participants in this study emphasized that OAE can extend the scope of PE beyond technocratic and one-size-fits all notions of learning, since it fosters cooperation, life skill development, and meaningful engagement in alternative forms of physical activity. What was rather important in participants' views was the claim that OAE can support less motivated, engaged or physically active students, especially in relation to their concerns about peer influence or body image (Aartun et al., 2020; Barker et al., 2022). Similar findings are reported in studies that highlight the pedagogical value of OAE in its own right (Lindqvist et al., 2014; Parry et al., 2021), rather than treating it merely as an enrichment to PE curricula. We believe this highlights the potential of OAE programs to foster adolescents' social-emotional development while aligning with the competencies expected of 21st-century learners (Gündüz, 2023; Vold, 2023; Beames et al., 2023). At the same time, it offers a nuanced account of how OAE can both complement and challenge existing PE approaches, without assuming uniform outcomes across educational contexts or learner populations.

As expected, participants in this study emphasized that specialized training and professional development opportunities are needed so that PE teachers can deepen their understanding of OAE principles and design activities that not only promote students' physical, social, and emotional skills but also embed learning within the lived realities of their local contexts (Gray, 2019). This finding echoes the results of similar studies which show that teachers develop a more holistic view of pedagogy when using experiential learning models and pedagogies (Waite et al., 2015). Such insights align with the dimensions of structuration theory (Giddens, 1984), which conceptualize educational practices as the outcome of the dynamic interactions occurring between individual agency and social structures. Applied to the present study, context-specific structures or cultural norms (e.g., access to natural environment, socio-cultural traditions, community attitudes toward risk, national curriculum priorities) may act both as enablers and barriers for

OAE integration within PE. Further, in countries with longstanding tradition in outdoor education or recreation (e.g., the Nordic states), teachers can more easily adopt OAE practices within national curricula. Conversely, in more urbanized settings or academically rigid parts of Europe, OAE implementation may remain marginal or hindered due to poor infrastructures or educational policy limitations.

Given that the structure and resources of each educational system remain contingent upon educational policy and socio-cultural norms (Foucault, 1980), it is expected that the integration of new interventions, like OAE in the present case, will require continuous negotiation of meaning, and adaptation to local specificities. Indeed, participants in this study agreed that OAE remains marginalized in the PE curricula of many European countries due to institutional barriers, logistical constraints, and cultural resistance. Relevant studies emphasize the complex organizational commitments that need to be undertaken when schools seek to invest in curriculum reforms and pedagogical innovations (Nicol & Higgins, 2024; Quay et al., 2020). Given the reductions in school PE hours and funds, along with the scarcity of specially trained staff to support such initiatives, the above-mentioned challenges seem to restrict the potential of OAE to transform the scope and philosophy of PE (Hurtado Barroso et al., 2024). That is one of the reasons why cross-national Erasmus exchanges can serve as enabling mechanisms to help overcome structural barriers and systemic limitations through the production of shared resources, staff and student mobility, and peer learning opportunities (Dania & Impedovo, 2025; Dania et al., 2024).

From a pedagogical perspective, conservative PE practices or technocratic norms need to be resisted since they shape the perceptions that teachers, students and parents hold about the scope and value of PE (Penney et al., 2017). As this study showed, conservative cultures may be reinforced by parents and school community members, who may undervalue OAE, or raise concerns about issues of safety or academic legitimacy. This may be particularly evident in urban school contexts, where educators often struggle to secure parental approval and access to natural settings (O'Farrell & Liu, 2020). Such findings illustrate the need of interventions that can facilitate changes in policy, community engagement, and educational culture based on strategic planning, policy alignment, and community partnerships (Beames et al., 2023; Mann et al., 2022; Roberts, 2020). Thus, we advocate for Erasmus projects or programs that do not merely produce cross-cultural deliverables to confirm the pedagogical benefits of OAE but instead create partnerships that extend the debate to issues of governance, policy legitimization, and international collaboration.

The above suggestions mirror relevant literature recommending on the need for systemic transformations, policy endorsements and cultural shifts in PE so that barriers related to curriculum reforms are overcome (Bucea-Manea-Tonis et al., 2024; Ewert & Sibthorp, 2014; Royet et al., 2024). As a key enabler of successful PE reforms, PE teacher preparation could focus both on the theoretical grounding of OAE and on the practical strategies that educators need to know so that they can successfully lead adventure activities outdoor (Winje & Løndal, 2021). Especially in countries where OAE is not formally recognized as a curriculum model or an instructional approach within school curricula, institutional support is needed (e.g., partnerships between schools, and outdoor organizations) to legitimize it as part of PE. As participants in this study suggested, a recursive relationship between frameworks, resources, and human agency is needed so that OAE can be integrated within formal curricula and/or practices. Further as PE teachers' engagement with OAE seems to be closely tied to their experiences of occupational socialization (including athletic training, and formal qualifications) (Dania & Farias, 2024), it seems that there is an increased need for teacher support across institutional structures, cultural norms, and opportunities for professional learning. The above suggestions contribute further to understandings on how teacher preparation, professional development, and localized policy interventions can strategically mediate structural barriers, offering practical pathways to legitimize OAE within PE in alignment with holistic education values and SDGs (Richmond et al., 2017; Sutherland & Legge, 2016; Williams & Wainwright, 2015).

## 6. Conclusion

This study explored PE teachers' and teacher educators' perspectives on the value of OAE and its integration within PE curricula. Drawing on participants' insights, OAE was recognized as a pedagogically valuable approach, one that can re-orient the scope of PE beyond performance-driven curricula and paradigms. Participants emphasized the potential of OAE to support youth holistic development, fostering competencies related to life-skill development. These findings align with the priorities posed by the United Nations, especially in the fields of Good Health and Well-Being (Goal 3), Quality Education (Goal 4), and Climate Action (Goal 13) (UNESCO, 2017). Even though cultural, socio-geographical, and systemic constraints may pose limits to the initiatives to integrate OAE within national educational systems, participants were positive and willing to commit to such an effort, provided they had support by their institution, and similar opportunities for networking and exchange of expertise.

Looking ahead, this study points to several important avenues for further research. First, there is a need for more comparative and cross-cultural investigations that examine how OAE is conceptualized and implemented across different national and institutional settings. Such studies could illuminate the ways in which structural conditions, educational frameworks, and community attitudes either enable or constrain the integration of OAE in PE. Further, future research could build on a combination of theoretical framings or conceptual frameworks to explore how educators navigate tension between institutional norms and their own professional agency, and how these negotiations shape both educators' subjectivity and the transformative potential of OAE. This would allow the field to move beyond descriptive or comparative accounts and towards explanatory models that capture the dynamic interplay of structure and agency in educational change. Third, longitudinal research is warranted to explore the long-term impact of embedding OAE in school PE curricula on students' holistic development, particularly in relation to sustainable development goals and outcomes (e.g., environmental stewardship, social responsibility).

The findings of this study also carry implications for the future provision and design of Erasmus+ projects and other European funded programs, as these are central to forming transnational networks, sharing best practice, and advancing innovation in PE. When

framed under the broader goals of the Education for Sustainable Development agenda, OAE can offer the context for the transformation that is needed in PE, allowing young people to effectively navigate the complex issues of the 21st century. Through this lens, we are confident that this study contributes to educational discourse by demonstrating how transnational projects can strengthen PE pedagogical practice, inform educational policy, and provide adolescent students with authentic, culturally responsive, and meaningful learning experiences.

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## Declaration of generative AI and AI-assisted technologies in the manuscript preparation process

During the preparation of this work the authors used ChatGPT in order to refine grammar and word choice. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

## CRedit authorship contribution statement

**Aspasia Dania:** Writing – original draft, Writing – review & editing, Methodology, Data curation, Conceptualization. **Charalambos Anagnostopoulos:** Writing – original draft. **Kallirroi Ntalachani:** Writing – original draft. **Kalliopi Georgaroudi:** Writing – original draft. **Eirini Kosyva:** Writing – original draft. **Alina Lemling:** Writing – original draft, Conceptualization. **Manolis Adamakis:** Writing – original draft. **Wouter Cools:** Writing – original draft. **Pablo Caballero:** Writing – original draft. **María José Lasaga Rodríguez:** Writing – original draft. **Agueda Latorre Romero:** Writing – original draft. **Gonzalo Ramirez Macias:** Writing – original draft. **Biljana Popeska:** Writing – original draft. **Lucas Janemalm:** Writing – original draft. **Alena Skotáková:** Writing – original draft. **Sylva Hřebíčková:** Writing – review & editing. **Petr Vlček:** Writing – original draft.

## Declaration of competing interest

None

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