

UNIVERSITY STUDENTS' PERCEPTIONS AND UNDERSTANDING OF PHYSICAL LITERACY: AN EXPLORATORY STUDY IN CYPRUS

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(Original scientific paper)

Efstathios Christodoulides¹, Olia Tsivitanidou², David Grecic³, Manolis Adamakis⁴,
Nigel Green⁵

¹University of Central Lancashire Cyprus, School of Sciences, Sports and Exercise Sciences, Larnaka, Cyprus,

²Inquirium Ltd, Nicosia, Cyprus,

³University of Central Lancashire, Preston, UK,

⁴National & Kapodistrian University of Athens, Athens, Greece

⁵International Physical Literacy Association, Wigan, UK

Abstract

This exploratory study investigates the perceptions and understanding of physical literacy among university students in Cyprus, with a focus on those training to become physical education teachers. Despite the growing global emphasis on physical literacy as essential for promoting lifelong health and well-being, its conceptualisation and application in Cyprus remain underexplored. Using qualitative methods, five focus groups comprising 21 students from Sports and Exercise Science programs were conducted. Thematic analysis revealed that students perceive physical literacy as a multifaceted concept encompassing cognitive aspects, practical implementation, and lifelong engagement with physical activity. Participants highlighted the significant role of educational settings and cultural environments in shaping their understanding of physical literacy. The study also explored students' familiarity with the philosophical underpinnings of physical literacy, such as monism, existentialism, and phenomenology. Results indicated varied levels of understanding, suggesting the need for enhanced educational strategies to integrate these philosophical concepts into university curricula. Additionally, the study examined the perceived differences between physical education and physical literacy, identifying physical literacy as a broader, more theoretical construct that includes cognitive and behavioural dimensions beyond the practical focus of traditional Physical Education subject. These findings underscore the necessity for targeted training and professional development to improve the understanding of physical literacy among prospective Physical Education teachers. The study contributes to the existing literature by highlighting the gaps and opportunities in promoting physical literacy within the context of higher education in Cyprus.

Key words: *Physical literacy, physical education students, focus groups, thematic analysis, education, professional development*

Introduction

Physical literacy, defined as an individual's relationship with physical activity, encompasses the motivation, confidence, physical competence, knowledge, and understanding necessary to value and engage in physical activities throughout life (International Physical Literacy Association, 2017). Physical literacy has emerged as a pivotal concept reshaping PE and its curricular frameworks internationally. Physical literacy emphasises the importance of developing a holistic relationship with physical activity (Whitehead, 2010; IPLA, 2017), and its adoption underpinning the PE curricula can facilitate a more inclusive and effective approach to cultivating a culture of active lifestyles among pupils. The concept has received significant attention in policy and practice discussions globally and is recognised for its potential to promote and enhance lifelong health and well-being (Bailey, 2022; Spengler & Cohen, 2015). Central to the World Health Organization's Global Action Plan for Physical Activity, physical literacy is critical in promoting active lifestyles from early childhood through adulthood (World Health Organization, 2018). Historically, physical literacy has been seen as a means to combat the adverse effects of modernisation and sedentary lifestyles, as highlighted by Margaret Whitehead's advocacy for a holistic approach to physical education (Whitehead, 2010). Whitehead expressed concerns that included: (a) a lack of respect that was given to the

human embodied dimension, (b) the importance of movement development in early childhood education that was not getting the attention it deserved, (c) school-based physical education that was moving towards high-level performance and elitism and (d) the low levels of physical activity around the globe that were exacerbating the growing rates of poor physical and mental health (Young, O'Connor, & Alfrey, 2020; p.8).

Physical literacy's philosophical underpinnings draw from monism, existentialism, and phenomenology, emphasising the integration of mind and body, the importance of embodied experiences, and the uniqueness of individual physical activity journeys (Young, et al., 2020).

The concept of physical literacy has been explored within physical education (PE) from several scholars, particularly concerning how educators (i.e., PE teachers) perceive and integrate it into their teaching practices. Previous research has highlighted the critical role of knowledge and understanding as foundational elements of physical literacy (Cale & Harris, 2018). Knowledge of health and physical activity is crucial for promoting the cultivation of physical literacy among students, emphasising the necessity for educators to develop and monitor this cognitive aspect within school contexts (Cale & Harris, 2018; Harvey & Pill, 2019). Studies have consistently pointed out that without a robust knowledge base, it is challenging for individuals to engage in lifelong physical activities (Cale & Harris, 2018; Lundvall, 2015). Yet, PE teachers often exhibit a fragmented understanding of physical literacy, focusing more on physical competence than on the holistic development that the concept encompasses (Harvey & Pill, 2019).

In addition, significant gaps in understanding and misconceptions about physical literacy among PE teachers have been identified, often blending it with basic PE concepts (Robinson, Randall, & Barrett, 2018). Even if teachers appear to acknowledge the importance of physical literacy and have an adequate perception of the concept, their teaching efficacy may vary significantly (Choi et al., 2020). Specifically, while there is a general acknowledgement of the importance of physical literacy, confidence and perceived ability to teach meaningfully and effectively differ widely. This suggests that targeted training programs are essential to enhance both preservice and in-service teachers' understanding and teaching efficacy, ultimately developing and improving the physical literacy of their future students (Choi et al., 2020; Sum et al., 2016). Also, either the limited understanding of physical literacy or the mismatch between teachers' understanding of the concept and their teaching efficacy can lead to ineffective teaching practices that do not fully develop students' physical literacy and hinder the effective integration of physical literacy into PE curricula. The need for more comprehensive approaches in teacher education is apparent (Robinson, et al., 2018), as educators frequently lack the resources and training necessary to implement it effectively, underscoring the need for ongoing professional development (Stoddart & Humbert, 2021).

Overall, the existing literature demonstrates a broad acknowledgement of the importance of physical literacy in PE but reveals significant gaps in teachers' and preservice teachers' understanding and application of the concept. To the extent of our knowledge, the level to which preservice PE teachers (i.e., university students) in Cyprus understand and perceive physical literacy remains largely unexplored. Carl et al. (2023) identified that physical literacy is seldom integrated into PE curricula, policy documents, sports sectors, and practical initiatives, and Cyprus is no exception. Although the Cyprus PE curriculum is in accordance with the core principles of physical literacy, there is no explicit mention of the notion in the relevant documentation and PE practical implementation in schools is largely focused on physical competencies and a sports-oriented approach.

In its 2015 Quality Physical Education (QPE) Guidelines for policymakers, UNESCO emphasised the importance of physical literacy, stating that "participation in PE should support the development of physical literacy" (UNESCO, 2015, p. 20). Furthermore, UNESCO highlighted that "promotion of physical literacy should then remain a key feature of any PE curriculum throughout primary and secondary education" (UNESCO, 2015, p. 24). References to physical literacy within these guidelines establish it as an accepted focus of curricula globally, underlining its critical role in shaping PE agendas across nations. Therefore, PE teachers, specifically new graduates, have a catalyst role to play as agents of change and influencers of policymaking. They hold a key role in integrating aspects of holistic development in their practices, incorporating diverse activities, taking part in advocacy and professional development, influencing decision-makers, strengthening collaboration and network and engaging with the community. However, a gap exists in understanding how university students, particularly those training to become PE teachers, perceive and interpret physical literacy. Thus, this study aimed to address these gaps by examining the perceptions and understanding of the physical literacy concept among university students in Cyprus and

identifying potential challenges and opportunities for integrating physical literacy into educational practices.

Specifically, the following research questions were sought to be addressed:

1. How do university students in Cyprus perceive and understand the concept of physical literacy?
2. How familiar are university students with the philosophical underpinnings of physical literacy, such as monism, existentialism, and phenomenology?
3. How do university students perceive the difference between physical education and physical literacy?

Material & methods

Participants

The study involved 21 university students enrolled in the Sports and Exercise Science course at the University of Central Lancashire Cyprus, out of which 11 (52.4%) were females and 10 males (47.6%). The participants were 1st and 2nd year students and were selected based on their enrolment in this course, ensuring a sample with sufficient background knowledge in PE. The focus groups comprised students from various academic years to capture a range of perspectives. Informed consent was obtained from all participants, who were briefed on the study's objectives and procedures.

Procedure

Bioethical approval was obtained by the Cyprus National Bioethics Committee (EEBK EII2023.01.34) prior to commencing the study. Five focus groups were conducted over the course of two months, from February to March 2023. Each session was guided by a semi-structured interview protocol designed to explore different dimensions of physical literacy. The protocol included questions on how students understand and conceptualise physical literacy, its association with learning domains, philosophical concepts underpinning physical literacy, and its association with PE. The focus groups were facilitated by experienced researchers, who ensured adherence to the interview guide for consistency. The discussions were audio-recorded with participants' consent to ensure accuracy in data collection.

Data collection and analysis

The audio recordings from the focus groups were transcribed verbatim, and triangular member-checking procedures for data comparison were followed to ensure methodological rigour, credibility, and transferability. A thematic analysis approach (Patton, 2015) was adopted, involving an open coding process followed by clustering of the emerged codes into broader themes. This approach allowed to systematically identify and interpret patterns within the data. Interview transcripts went through member checking to ensure trustworthiness before being analysed, and all researchers critically reflected their engagement with the analysis and cross-examined the data, providing an opportunity to explore, challenge, and extend interpretations within the data. The coding process involved multiple rounds of review and refinement to ensure accuracy and depth in the analysis. The analysis resulted in the identification of several core themes reflecting the students' perceptions and understanding of physical literacy. These themes were derived from the discussions and reflect the diverse perspectives and experiences of the participants regarding physical literacy.

Results

The results section is organised according to the research questions outlined above. The analysis provides insights into the perceptions and understanding of physical literacy among university students in Cyprus, their familiarity with the philosophical underpinnings of physical literacy, and their perceived understanding of the differences between physical education and physical literacy.

Understanding of the concept (RQ1)

To evaluate how students perceived and understood the concept of physical literacy, they were initially asked 'What comes to your mind when you hear the term physical literacy?'. The emerging themes demonstrate that students understand physical literacy as a multifaceted concept, perceived to involve skill-building, knowledge acquisition, practical implementation, and lifelong engagement with physical activity.

The role of the educational and cultural environment in shaping this understanding also emerges as a key factor in students' perceptions. The heterogeneous nature of the responses indicates a multifaceted understanding of the concept, reflecting its broad applicability to different aspects of life and its connection to both cognitive and physical dimensions of human activity. More specifically, the following themes seem to emerge concerning the perception and understanding of physical literacy among interviewees (see Table 1 for emerging themes; Table 2 for indicative quotes).

Table 1. Core themes identified in students' responses to the question 'What comes to your mind when you hear the term physical literacy?'

| Theme | Description | Number of interviewees |
|-----------------------------|--|--|
| Knowledge and understanding | The cognitive aspect of physical literacy was mentioned by seven interviewees. They highlighted the importance of understanding physical activity, sports, and physical education in the context of physical literacy. | Interviewees 2, 3, 5, 9, 12, 13, and 19 (n=7). |
| Importance in education | Five interviewees associated physical literacy with school and education, suggesting that it encompasses knowledge and skills acquired in a school setting, particularly in the context of PE. | Interviewees 5, 11, 13, 15, and 19 (n=5). |
| Lifelong physical activity | Four interviewees referred to the idea of physical literacy being linked to lifelong physical activity. The respondents emphasised the significance of physical literacy for the motivation and confidence to maintain physical activity throughout life. | Interviewees 2, 3, 11, and 14 (n=4). |
| Practical implementation | Four interviewees brought up the importance of putting knowledge into practice when discussing physical literacy. They highlighted the necessity of not only understanding how to be physically active but also implementing that knowledge in daily life. | Interviewees 5, 9, 17, and 19 (n=4). |
| Skill building | Two students associated physical literacy with acquiring skills that help throughout life, not just during childhood or youth. These skills are perceived to be used in daily life and persist into adulthood. | Interviewees 1 and 5 (n=2). |
| Cultural influence | One student brought up the role of culture in shaping an individual's physical literacy journey, emphasising that different cultural environments could lead to different experiences and understandings of physical literacy. | Interviewee 21 (n=1). |

Table 2. Indicative quotes from students' responses to the question 'What comes to your mind when you hear the term physical literacy?'

| Theme | Indicative quotes | Interviewee code |
|-----------------------------|--|---------------------|
| Knowledge and understanding | "I am thinking about the children and youth, to know about how to develop the knowledge, skills and attitudes. The need to enable them to participate in activities." | Interviewee 3, FG1 |
| Importance in education | "I think all the knowledge about learning in school, about physical education." | Interviewee 15, FG4 |
| Lifelong physical activity | "It was a term in Greek 'δια βίου άσκηση' (lifelong physical activity). This was a term that we were listening in our teenage years and the university years." | Interviewee 11, FG3 |
| Practical implementation | "So, physical literacy, in my opinion, is fundamental knowledge about... how to be active in life in different ways, how to engage in different sporting activities. But maybe this is not also only the knowledge, but also the fact that he put this knowledge into practise. So, like if you know how to be active but you are not active, I don't think it means that you're physically literate. So, like there are two components, the knowledge about being active and the fact of being active through your daily life." | Interviewee 19, FG5 |

| | | |
|--------------------|---|---------------------|
| Skill building | “Something about building skills that will help you in your daily life as a kid and an adult.” | Interviewee 1, FG1 |
| Cultural influence | “Yeah, I want to add that it depends as well on the culture where you grow up, I mean... each culture is way too different from the others. I mean you know Cyprus how we grown up.... And how the literacy goes on.... And I mean you can see the difference by travelling to other countries. You can see the difference between kids.... What I see because I used to travel a lot with my handball team. So, I’ve seen too many different let’s say. So, I believe that’s why difference will come the culture” | Interviewee 21, FG5 |

Students were further asked: ‘What learning domains do you think are associated with the concept of physical literacy?’. During the focus groups, the interviewees referred to several learning domains, which, according to their opinion, are associated with the concept of physical literacy. The mentioned domains highlight the holistic nature of physical literacy, which includes not only the physical competencies to be active but also the knowledge, motivation, and emotional factors that support a physically active lifestyle. Specifically, the following learning domains were mentioned by students to be associated with the concept of physical literacy, according to the gathered responses from different participants in the discussion (see Table 3).

Table 3. Core themes identified in students’ responses to the question ‘What learning domains do you think are associated to the concept of physical literacy?’

| Theme | Description | Number of interviewees |
|----------------------|---|---|
| Psychological domain | Aspects of mental and emotional well-being that can be impacted by physical activity. | Interviewees 2, 4, 8, 13, 16, 18, 21, 24, 25 (n=9). |
| Cognitive domain | Associated with knowledge and understanding of certain concepts. For instance, understanding the benefits of physical activity and the knowledge to maintain it throughout life. | Interviewees 2, 4, 7, 11, 14, 17, 21, 23 (n=8). |
| Psychomotor domain | The development of physical skills, like the basic ability to run, throw a ball, or perform other fundamental physical activities. It includes developing the physical confidence to carry out these tasks. | Interviewees 3, 6, 10, 15, 18, 20, 24 (n=7). |
| Affective domain | Related to emotions, attitudes, appreciation, and values. For instance, discipline and consistency in physical activity could be considered part of this domain. This domain also includes social responsibility and personal responsibility. | Interviewees 1, 5, 9, 12, 19, 22 (n=6). |
| Social domain | Participants mentioned that teamwork and social interactions are important components of physical literacy. | Interviewees 3, 7, 10, 14, 17, 23 (n=6). |
| Behavioural domain | Some responses suggested that behaviours, such as adherence to physical activity and perhaps discipline, are part of physical literacy. | Interviewees 1, 6, 11, 15, 20 (n=9). |

Familiarity with philosophical underpinnings (RQ2)

The participants displayed a range of familiarity with the philosophical concepts of Monism, Existentialism, and Phenomenology that underpin the concept of physical literacy. Six participants expressed unfamiliarity with these concepts. On the other hand, seven participants showed a partial understanding of the concepts and related them to their basic linguistic roots or broad ideas they had come across. A small number of respondents attempted to link these philosophical concepts to the context of physical literacy. Lastly, a few participants expressed an interest in learning more about these concepts, indicating a willingness to expand their understanding. This wide array of responses reflects diverse levels of philosophical understanding among the participants and hints at the complexity of the philosophical

underpinnings of physical literacy (see Table 4). An indicative quote illustrating the second theme comes from Interviewee 1 in FG1, who explained:

"I will try to use my Greek language here. Existentialism, maybe it's about how we exist in everyday life, what we do, the habits we use, maybe. And phenomenology is uh... how different aspects of our life play a role in our way of living."

Table 4. Core themes identified in students' responses to the question 'Are you aware of the philosophical concepts of Monism, Existentialism and Phenomenology that underpin the concept? If so, do you know what they are?'

| Theme | Description | Number of interviewees |
|---------------------------------|---|---|
| Unfamiliarity with concepts | Many participants expressed that they were unfamiliar with the philosophical concepts of Monism, Existentialism, and Phenomenology. | Interviewees 2, 4, 6, 13, 14, 15, and 17 (n=6). |
| Partial understanding | Some participants had partial or limited understanding of the concepts, often associating them with their linguistic roots or with general ideas they had encountered before. Interviewee 1 (Existentialism and Phenomenology) Interviewee 5 (Existentialism and Phenomenology) Interviewee 7 (Phenomenology) Interviewee 6 (Existentialism) Interviewee 11 (Monism and Phenomenology) Interviewee 12 (Monism) Interviewee 19 (Existentialism) | Interviewees 1, 5, 6, 7, 11, 12 and 19 (n=7). |
| Connection to physical literacy | Few participants attempted to connect these philosophical concepts to the context of physical literacy. Interviewee 7 (Phenomenology) Interviewee 11 (Phenomenology) Interviewee 19 (Existentialism) | Interviewees 7, 11 and 19 (n=3). |
| Seeking for definition | Some participants showed interest in learning about these philosophical concepts. | Interviewees 5, 6, 20 and 21. |

Physical education and physical literacy (RQ3)

PE and physical literacy, though closely related, have distinct characteristics. During the focus group interviews, participants were explicitly asked: 'How is physical education different from physical literacy?'. PE, as expressed by the interviewees, is considered more of a school subject focusing on the practical implementation of physical activities. It involves teaching students how to engage in physical activities, sports, and games and develops the understanding of why one should be physically active. It can also include educating about specific sports rules and tactics. An indicative quote illustrating this distinction comes from Interviewee 2 in FG1, who mentioned:

"I would think that probably the physical literacy is more, not theory, but it's more into understanding the whole thing or trying to learn stuff from it, where the physical education is more into actual practical physical activity when you're doing it. That you get the physical education from both sides, you get the... the theory about any sports you're doing, and you do the practical while the physical literacy receives just gaining all the things that we went through from the mains, from cognitive or whatever or that kind of stuff that you learn from them. It's not that practical."

On the other hand, physical literacy was described as an overarching concept that goes beyond just practical physical activities. It involves building an understanding of physical activity, forwarding lifelong habits, and integrating cognitive and behavioural aspects into physical activities. It also emphasises the development of a range of skills that support active participation in a variety of sports and physical activities. Additionally, it is perceived as more theoretical, focusing on the rules, strategies, confidence, and motivation behind sports and activities. Physical literacy can also impact the mental aspect of a person. Interviewees further highlighted the point that PE can be a means to cultivate physical literacy. In other

words, the skills, understanding, and attitudes developed in PE can contribute to the overall physical literacy of an individual. It was also suggested that physical literacy takes a more holistic approach to child development compared to PE (see Table 4).

Table 4. Core themes identified in students' responses to the question '*How is physical education different from physical literacy?*'

| Theme | Description | Number of interviewees |
|--|---|---|
| PE as a practical school subject | This theme includes the belief that physical education is about learning specific sports, performing physical activities, or improving physical skills. Also, physical education is a subject taught in school, much like other academic subjects | Interviewees: 2, 3, 4, 9, 12, 14, 17, 21 (n=8). |
| Physical literacy as a theoretical understanding | This theme encapsulates the view that physical literacy is about understanding the theory behind physical activities, including understanding rules, strategies, and the reasoning behind being physically active. | Interviewees: 1, 2, 4, 6, 9, 13, 17, 21 (n=8). |
| Physical literacy as a holistic approach | This theme incorporates the perspective that physical literacy is a more holistic, all-encompassing approach to physical activity, including mental and cognitive aspects, as well as skills development. | Interviewees: 1, 4, 11, 13, 21 (n=5). |
| PE leading to physical literacy | One student mentioned that PE can be a steppingstone to achieving physical literacy. | Interviewee: 10 (n=1). |
| Physical literacy as lifelong learning | This theme underscores the perspective that physical literacy is a lifelong relationship with physical activity, which is <u>shaped by one's environment and personal growth.</u> | Interviewee: 21 (n=1). |

Discussion

The findings indicate that the participants in this study perceived physical literacy as a multifaceted concept involving cognitive aspects, practical implementation, and lifelong engagement with physical activity. These findings align with previous studies emphasising the comprehensive nature of physical literacy, which integrates knowledge, skills, and attitudes necessary for lifelong participation in physical activity (Cale & Harris, 2018; Whitehead, 2010). The cognitive dimension, highlighted by the importance of understanding physical activity, sports, and PE, is critical for raising an informed and motivated approach to physical activity (Bailey, 2022). The role of the educational environment in shaping students' perceptions underscores the need for effective PE curricula that emphasise physical literacy.

The findings further suggest that students recognise the value of physical literacy in educational settings but may require more structured support and resources to fully integrate these concepts into their practice (Harvey & Pill, 2019; Robinson et al., 2018). The diverse understandings of physical literacy among students also point to the necessity of clear and consistent definitions and frameworks within educational programs (Young, et al., 2020). Moreover, the varied levels of familiarity with philosophical concepts such as monism, existentialism, and phenomenology among students highlight an area for potential development and/or improvement of current higher education curricula in related fields. These philosophical underpinnings, which emphasise the integration of mind and body, the importance of embodied experiences, and the uniqueness of individual physical activity journeys, are crucial for a holistic understanding of physical literacy (Whitehead, 2010).

With regard to the relationship between PE and physical literacy, the participants in this study viewed PE as a structured school subject focused on the practical implementation of physical activities. This includes teaching students how to engage in various sports and games, improving physical skills, and understanding the rules and tactics of specific sports. The emphasis on practical skills and the structured nature of PE as a school subject is well-supported in the literature, which often characterises PE as foundational for developing basic physical competence and promoting initial engagement in physical activities. In contrast, physical literacy was described by the participants as a more encompassing and theoretical concept that goes beyond the practical activities taught in PE to include cognitive and behavioural aspects, nurturing a deep understanding and lifelong engagement in physical activity. This

aligns with Margaret Whitehead's (2010) definition of physical literacy, which emphasises the integration of physical, cognitive, and emotional dimensions to create a holistic approach to physical development.

Conclusions

The implications of this study extend beyond individual teaching practices to broader educational policies and curricula. Specifically, the findings of this study highlight the areas where future PE teachers may need additional support and training, which can further inform curriculum developers and policymakers about the necessary adjustments to promote a more comprehensive and effective approach to physical literacy in education. Developing clear and consistent definitions and frameworks for physical literacy within educational curricula appears to be essential. This will help ensure that all students have a shared understanding of physical literacy and its importance. Ultimately, enhancing a deeper understanding of physical literacy among preservice PE teachers can contribute to a more active and health-conscious society.

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