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An International Survey of Sports Coaches' Knowledge, Understanding, and Definitions of Physical Literacy

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Abstract

Physical literacy (PL) has become a popular term in international policy, advocacy, and practice discourses, and a part of this lies in its claimed role in bringing together traditionally distinct settings – physical education, physical activity, sports coaching (the focus of this paper) – into coherent research and practice agenda. However, questions remain about the coherence and commensurability of the definitions used within the PL field. This study explores the knowledge, understanding, and personal definitions of 521 sports coaches from 37 countries. Using Leximancer semantic software to analyse qualitative data from an international cohort of coaches, we sought to gather a relatively unbiased and trustworthy representation of their perceptions of PL. Relevance ranged from 100% for concepts 'movement,' 'physical,' and 'activity' to 8% and 6% for concepts 'coordination,' 'need,' 'control,' and 'efficiently,' respectively. The dominant accounts of PL in our sample prioritised movement skills and sport, in contrast to influential academic theories that stress multi-factorial constructs. These findings support arguments that definitions of PL are widely divergent and that the imposition of a unified conception of the term may be an unattainable and unnecessary ambition.

Introduction

Physical literacy (PL) has entered many countries' policy, advocacy, and practice discourses. UNESCO's "International Charter of Physical Education, Physical Activity and Sport" (2015a) and "Quality Physical Education (QPE) Guidelines for Policy-Makers" (2015b) both cite PL as a desirable outcome of physical education (PE). Endorsements have also been offered by SHAPE America (2013), the Australian Sports Commission (Keegan et al., 2017), and the International Council of Coaching Excellence (2013). It has "become a major focus of physical education, physical activity and sports promotion worldwide" (Giblin et

al., 2014: p. 1177), with a "breath-taking rapidity of the growth of interest" (Jurbala, 2015: p. 367). Part of PL's topicality lies in its positioning as a vehicle for bringing together traditionally distinct settings – PE, sports coaching, sport development, and health-enhancing physical activity – into a coherent agenda for research and practice (Bailey, 2020).

Despite its popularity, questions remain about the coherence of the definitions used within the PL field (Keegan et al., 2017). Some commentators have expressed concerns that this undermines the potential of PL to act as a metaphor to capture attention and inspire collaborative action for physical activity (Jurbala, 2015). Others have claimed that competing and potentially incommensurable accounts indicate an immature field vying for dominance (Bailey, 2020). Thus, it has become common to distinguish two popular stances: 1) one associated with the ideas of Margaret Whitehead and the International Physical Literacy Association (IPLA) (Whitehead, 2019) and 2) a less-defined cluster of positions linking PL with Fundamental Movement Skills (Balyi et al., 2013). Alternatives can also be added to these accounts, such as self-knowledge related to health (Cairney et al., 2019: p. 85), moral behaviour and meaningful connections (Allan et al., 2017), and sports skills (Higgs et al., 2008).

Research into stakeholder groups' perceptions is surprisingly rare, especially when contrasted with the increasingly voluminous literature on definitions and assessment (Bailey, 2020; Liu & Chen, 2021). Studies identified in this area are summarised in Table 1. Most studies sampled school teachers, though one recruited multiple stakeholder groups, including coaches, teachers, decision-makers, and academics (Belton et al., 2022).

The preponderance of studies has focused on education settings, specifically PE. This is unsurprising, as PE writers have primarily driven the PL agenda (Young et al., 2021). It is interesting to note, however, that most studies that sampled teachers reported low levels of engagement with the concept. Perhaps even more intriguing are the interpretations offered for respondents' poor comprehension. Many of these articles explicitly referred to published frameworks or theories informing normative judgements about respondents' understanding of PL[1]. So, rather than just providing descriptive accounts of respondents' perceptions of PL, these articles drift into making qualitative evaluations of statements by comparing them to pre-determined 'correct' responses. An explicit example of this comes from Robinson and colleagues (2018), who describe some participants' conflation of PL and PE as "hugely disturbing and potentially harmful" and "reductionist" (p. 292). Their justification for this claim appears to be based on the views of a single author (i.e., Margaret Whitehead) and drawing on no empirical data (e.g., Whitehead, 2013). The authors' overt bias becomes even more explicit when they write: "These leaders are largely unable to articulate conceptions of physical literacy that are in line with contemporary perspectives" (p. 289). Likewise, Essiet and colleagues (2022) coded as "partial understanding" (p. 7) responses that failed to express "its lifelong holistic nature and constituting domain/elements," "a clear and comprehensive knowledge of PL and its broader attributes" (p. 12), and other features of Whitehead's "theory." However, the authors definitions, conceptualisations, and operationalisations" (p. 2). Belton and

[1] Goss et al. (2021) investigated views of PL assessment, so their commentary largely falls outside discussions of the nature of PL, per se.

Table 1. Summary of previous PL stakeholder perception studies

Source & Location	Method & Sample	Headline findings
Robinson et al. (2018) Canada	Interviews: 12 teachers.	Leaders are largely unable to articulate conceptions of PL that are in line with contemporary perspectives.
Harvey & Pill (2020) Global	Synchronous online Twitter #Chat conversations: 79 PE teachers.	An 'everyday philosophy' of PL emerged. A lack of sophistication was evident in PE teachers' understanding and operationalisation of PL.
Stoddart & Humbert (2020) Canada	Interviews: six teachers.	Regardless of whether they were specialists or generalists, participants exhibited limited understanding of the overall concept of PL.
Nesdoly et al. (2021) Canada	Community-based participatory research: 11 Indigenous educators, coaches, and youth mentors.	5 themes were identified: (a) wisdom sharing (b) being mindful in teachings, (c) youth-centred approaches, (d) culture and spirituality as part of being active for life, and (e) relational support.
Goss et al. (2021) Global	Semi-structured focus groups: 39 6-7-year-olds, 57 children 10-11-year-olds, 23 teachers/teaching assistants, and 21 self-described experts.	All stakeholders viewed the assessment of PL as important, but not a priority in many schools, resulting in a variability in practice. There was no reported assessment of the affective and cognitive domains of PL.
Belton et al. (2022) Northern Ireland, UK	Questionnaire: 1,241 individuals from different stakeholder groups.	Respondents were aware of an existing definition of PL, but this varied by stakeholder group (greatest awareness among higher education; the lowest among coaches). All stakeholders rated the importance of the physical domain of PL higher than the affective or cognitive domains of PL.
Essiet et al. (2022) Australia	Online survey: 174 (mostly specialist) schoolteachers, with follow-up interviews with nine survey participants.	Participants were aware of PL, but often held a narrow understanding. There were no differences in PL understanding by teacher training, age group, or number of years of teaching experience.

colleagues (2022) primarily focus on describing and analysing the patterns of responses within their sample but drift into unjustified judgement when applauding

comments that promote "the importance of a proactive and salutogenic approach to promoting physical literacy and … a 'life-long' physical literacy journey" (p. 11). The same methodological slip can be found in Stoddart & Humbert's (2020) equation of "a lack of knowledge pertaining to physical literacy" (p. 12), in part with an understanding of "how physical literacy and physical education were linked" (p. 12). There is an evident tension here between practitioners and researchers, and it is highly problematic to recognise a concept as contested and then condemn respondents for failing to provide the 'right' one. This raises the spectres of researcher bias and an assumed conceptual ownership.

Only two of the studies in Table 1 manage potential researcher bias appropriately (e.g., Harvey & Pill, 2020; Nesdoly et al., 2021). They do this by following the stated objectives of the studies, namely by investigating respondents' views of PL in their specific contexts. This does not mean these studies avoid evaluative statements; for example, Harvey and Pill (2020) discuss a "lack of sophistication evident in the PE teachers' understanding and operationalisation of PL" (p. 11). They justify this claim by referring to the enthusiastic advocacy of specific, formalised positions rather than more nuanced positions adapted to the participants' distinctive work contexts and life histories. In other words, Harvey and Pill equate a lack of sophistication with an absence of reflective or critical engagement with the various formulations of PL. This seems a much more reasoned and balanced stance as its normativity is not restricted, as it stands, to extra-textual points of reference.

The present study explored sports coaches' knowledge, understanding, and personal definitions of PL. Sports coaches represent one of the main stakeholder groups associated with developments in PL (Belton et al., 2022), and this study is the first to focus only on the views of sports coaches. The avoidance of researcher bias, and specifically some of the biases inherent through content analysis, was instrumental in the preparation of the study's methodology. This led to the decision to utilise Leximancer semantic software (https://www.leximancer.com) to increase the data analysis's rigour, transparency, and trustworthiness (Lemon & Hayes, 2020). Moreover, the choice of Leximancer reflected Sotiriadou and colleagues' (2014) call for critical assessment and qualitative data analysis software selection in line with contextual, specific, and philosophical considerations. This approach was particularly necessary due to the contested nature of PL (Bailey, 2020) and the controversies related to the definition, scope, and assessment described elsewhere in the literature (Young et al., 2022). Although Leximancer has been widely adopted within some disciplines (e.g., business and management), its usage is in its infancy within PE and other sport-related areas. We know only one study that adopted this analysis tool within PL (Hyndman & Pill, 2018), which used the software to analyse the research literature.

Methodology

Research Questions

The research questions for this study were:

1. How do the participants define and explain PL?
2. In their judgments, how widely known is PL among their colleagues and organisations?
3. How confident are they in understanding PL?

Design

This was an observational study with data collected using an online self-report survey. The rationale for the use of self-report was as follows:

- Access to Internal States: Self-reporting is one of the few methods available to researchers to collect information on subjective experiences, perceptions, feelings, and intentions. This method offers insights into personal emotions and ideas otherwise unavailable to outside observers.
- Cost-Effectiveness: Our technique was low-cost, especially with the goal of facilitating the distribution and collection of survey data across broad geographic areas and populations.
- Easy Administration: Our survey could be administered to a large number of people simultaneously without the need for specialised tools or training, allowing for efficient data collection from a large sample size.
- Flexibility: Self-report tools can be designed and modified to examine a variety of subjects and adapted for different settings, making them versatile tools in research.

An institutional ethics committee approved the study. Informed consent was obtained from all participants before data collection commenced. The survey was anonymous, although participants were invited to indicate if they wished to be informed about the research outcomes by providing their email address; the email address was sometimes indicative of participants' identity but played no part in our analysis.

Participants

Participants were recruited using the following inclusion criteria: 1) adults aged 18 or over; 2) experience of coaching sport, though not time-bound in the number of years of experience; and 3) the ability to understand and communicate in English. Potential participants were not excluded on any specific criteria other than their ability to meet the inclusion criteria.

Sampling and Sample Size

A non-probability convenience sampling approach was adopted, following three strategies: 1) targeted invitations to social media groups for sports coaches; 2) open calls for participants via Twitter; and 3) cascade email requests through the authors' networks.

Procedure

Targeted invitations to social media groups for sports coaches occurred over a four-month period from November 2020 – to February 2021. Some of these groups were known to the authors (e.g., the 'Coaching Science' Facebook group), and others emerged by using the search function on the platform. Open calls for participants were made using Twitter, including a link to the participant information sheet, consent form, and questionnaire. Lastly, invitations to participate and requests for the invitation to be cascaded were made via personal email contact to individuals known to the authors. These individuals were identified and selected based on their role in the learning and development of sports coaches. They were a mixture of coaches and coach developers working in private capacities and for national federations.

As the questionnaire was hosted via an online platform (onlinesurveys.ac.uk), participants could choose a day and time convenient to them to complete it. The landing page presented the participant information sheet that could be visited and revisited whilst individuals contemplated their (non)participation in the study. Once participants had consented to their involvement in the study, they completed a one-time exploratory questionnaire.

The questionnaire was split into three sections. First, geographic (i.e., country where primarily based) and demographic

(i.e., age, primary sport coached, primary age group coached, employment status as a coach) information were collected. Next, participants were asked about the perceived importance of PL to their work, how widely the concept of PL is known amongst their colleagues and organisations, and how confident they were with their understanding of PL. Finally, participants were asked to define or describe PL as if they were describing it to the parent of a player they coached.

Data Analysis

Simple frequency counts and percentage calculations were performed using data collected from the first two sections of the questionnaire. Several Pearson correlation coefficients (r) were conducted to assess relationships between participants' age, sex, primary sport coached, country, and perceptions of the importance of PL to their work, knowledge of PL amongst colleagues and their organisation, and their confidence in understanding PL. The significance for all statistical analyses was fixed at the .01 level.

Leximancer text analysis software was used to automatically analyse the conceptual content of the qualitative data generated through the questionnaire. Leximancer uses word-association information to elicit emergent concepts from these data (Smith & Humphreys, 2006). This approach allows for generating a tailored taxonomy for the data set and creates conceptual and relational analyses of the text that are then presented graphically.

The concept map is a graphical representation of generated concepts clustered into themes represented as colour-coded bubbles to depict concepts that occur together in the text (Buhmann & Kingsbury, 2015). The closer the theme and concepts are together on the concept map, the closer they are conceptually in the analysed text. Colours indicate relevance, with warmer colours (e.g., red, orange, yellow) showing increased relevance to the analysed text when compared to less warm colours on the colour wheel (e.g., green, purple) (see Figure 1).
Leximancer is an almost entirely automated machine-learning tool. It was adopted to eliminate some of the biases inherent in content analysis, increase the rigour, transparency, and trustworthiness of the analysis (Lemon & Hayes, 2020), and strengthen the decision to withhold from taking an *a priori* stance toward PL.

Content Analysis

Leximancer performed automated content analysis, a standard and widespread qualitative research technique that "seeks to analyse data within a specific context in view of the meaning someone (…) attributes to them" (Krippendorf, 1989, p. 403). In addition to generating themes and concepts, this process also highlights relationships between those themes and concepts (Thomas, 2014).

After importing all open-ended responses, the percentage of name-like concepts was adjusted to 'null' and set the number of concept seeds to 'automatic' (concept seeds are words the programme identifies by their frequency in text, representing the starting point for the definition of concepts). Then, before the programme generated the thesaurus (a list of terms linked to seeds), the concept seeds were edited to merge the words that had the same or very similar meanings (e.g., ability and able; activity, activities and active; child and children; confident and confidence; jump and jumping; movement and movements; sport and sports). No additional user-defined concepts were added to the initial thesaurus.

Results

Expert Information

Six hundred nineteen eligible participants from 38 countries completed the questionnaire between November 2020 and February 2021. Following data cleaning, 521 responses were included in the analyses.

Participant characteristics can be seen in Tables 2 and 3. Participants were mostly male (81.8%), aged between 35 and 44 years old (36.5%); coaching groups aged 11-16 years old (37.4%); primarily coaching soccer (39.5%); working in the United Kingdom (35.5%); and engaged in a voluntary capacity (40.3%).

Table 2. Participant characteristics

Characteristic	*n*	%
Sex		
Male	427	81.8
Female	94	18.00
Prefer not to say	1	0.20
Age		
18-24 years	37	7.1
25-34	81	15.5
35-44	190	36.5
45-54	142	27.3
55-64	61	11.7
65-74	9	1.7
75+	1	0.2
Country		
Australia	21	4.0
Canada	30	5.8
Finland	5	1.0
Ireland	89	17.1
Spain	6	1.2
Switzerland	10	1.9
United Arab Emirates	6	1.2
United Kingdom	185	35.5
United States	38	7.3
Other*	50	9.6
Primary age group coached		
Under 5	6	1.2
6-10 years	136	26.1
11-16	195	37.4
17+ years	184	35.3
Employment Status as a Coach		
Full-time (40 hours per week)	147	28.2
Part-time (fewer than 40 hours per week)	141	27.1
Volunteer (unpaid)	210	40.3
Other	23	4.4

*Countries with fewer than 5 responses were included as 'other'

*The response marked "prefer not to say" for gender was not counted in the analysis

Most respondents (81.3%) identified that PL was very important or extremely important to their work. Respondents reported that PL was slightly or moderately known (68.1%) amongst their colleagues or organisations. Respondents' rating of their confidence and understanding of PL was predominantly in the range of 'moderate' to 'very confident' (68.7%).

Table 3. Primary sports coached by participants

Sports	*n*	%
Adventure sports (kayaking, canoeing, climbing)	4	0.8
American Football	2	0.4
Archery	1	0.2
Athletics	12	2.3
Australian rules football	2	0.4
Badminton	2	0.4
Baseball	1	0.2
Basketball	15	2.9
Beach volleyball	1	0.2
Boxing	2	0.4
Cricket	2	0.4
Curling	1	0.2
Dance	2	0.4
Figure skating	1	0.2
Floorball	3	0.6
Football (soccer)	206	39.5
Gaelic football	33	6.3
Golf	34	6.5
Gymnastics	5	1.0
Handball	3	0.6
Hockey	20	3.8
Hurling	5	1.0
Ice hockey	5	1.0
Lacrosse	2	0.4
Martial arts	24	4.6
Multi-sports	11	2.1
Netball	11	2.1
Olympic Weightlifting	3	0.6
Rowing	7	1.3
Rugby	56	10.7
Sailing	1	0.2
Skiing	1	0.2
Squash	4	0.8
Surfing	1	0.2
Swimming	11	2.1
Tennis	10	1.9
Triathlon	5	1.0
Volleyball	10	1.9
Yoga	2	0.4

Table 4 shows that almost half of the participants (48.9%) indicated that PL was extremely important in their work as coaches, though they reported that PL is only slightly known amongst their colleagues and organisations (34.5%).

Table 4. Participant responses to Physical Literacy-specific questions (n=521)

Responses	*n*	%
Importance of PL to participants' work		
Not at all important	12	2.3
Slightly important	17	3.3
Moderately important	68	13.1
Very important	169	32.4
Extremely Important	255	48.9
How widely known PL is amongst respondents' colleagues and organisation		
Not known at all	54	10.4
Slightly known	180	34.5
Moderately known	175	33.6
Very well known	84	16.1
Extremely well known	28	5.4
Respondents' confidence in understanding PL		
Not at all confident	17	3.3
Slightly confident	70	13.4
Moderately confident	198	38.0
Very confident	160	30.7
Extremely confident	76	14.6

Amongst the participants, several significant relationships were identified between socio-demographic characteristics and PL, as shown in Table 5. For instance, how widely PL is known amongst participants' colleagues and their organisation, $r(519) = .13$, $p < .01$; and participants' confidence in their understanding of PL, $r(519) = .28$, $p < .01$. There were also negatively correlated relationships between participants' employment as a coach and the importance of PL to their work, $r(519) = -.24$, $p < .01$; how widely PL is known amongst participants' colleagues and their organisation, $r(519) = -.29$, $p < .01$; and participants' confidence in their understanding of PL, $r(519) = .18$, $p < .01$.

Table 5. Relationships between socio-demographic information and physical literacy in practice

Socio-demographic	Importance of PL to your work	How widely known PL is amongst colleagues and organisation	Confidence in understanding PL
Age	.07	.06	.07
Sex	.04	.05	.06
Country	.41**	.13**	.28**
Primary sport coached	-.03	-.03	-.05
Employment status as a coach	-.24**	-.29**	-.18**

***p < 0.01*

Content Analysis Findings

Although the overall sample of the study was larger, content analysis was performed on the answers of 307 coaches who explicitly responded to the request: "Please define/describe Physical Literacy as if you were explaining it to a parent of a child you coach". Leximancer yielded 24 concepts and 11 themes. The relevance of the concepts for the overall analysed text is expressed through percentages, whereas the number of hits indicates the number of times this concept was found in the text. Relevance ranged from 100% for concepts ‘movement,' 'physical,' and ‘activity’ to 8% and 6% for concepts ‘coordination,’ ‘need,’ ‘control,’ and ‘efficiently,’ respectively. A complete list of concepts generated is available in Table 6.

Table 6. List of generated concepts

Concept	Count	Relevance (%)	Concept	Count	Relevance (%)
movement	252	100	body	34	13
physical	252	100	competence	31	12
activity	251	100	perform	31	12
ability	172	68	different	31	12
skills	130	52	understanding	30	12
sport	90	36	knowledge	26	10
child	82	33	balance	24	10
literacy	80	32	range	22	9
jumping	55	22	coordination	21	8
life	50	20	need	20	8
motivation	45	18	control	20	8
basic	39	15	efficiently	16	6

The themes were named after the most relevant concept within the theme. The most relevant theme was 'physical' (252 hits), encompassing concepts of 'physical,' 'skills,' and 'sport,' followed by 'movement' (252 hits) with concepts of 'movement,' 'activity,' and 'ability.' Next, themes 'child' (114 hits), 'literacy' (80 hits), 'motivation' (75 hits), 'jumping' (71 hits), 'life' (50 hits), 'range' (41 hits), 'body' (34 hits), 'control' (34 hits), 'coordination' (21 hits) were identified in the data. The illustration of all 11 themes and corresponding concepts, as well as their interactions, is presented in Figure 1. Furthermore, Table 7 includes illustrative examples of respondents' replies.

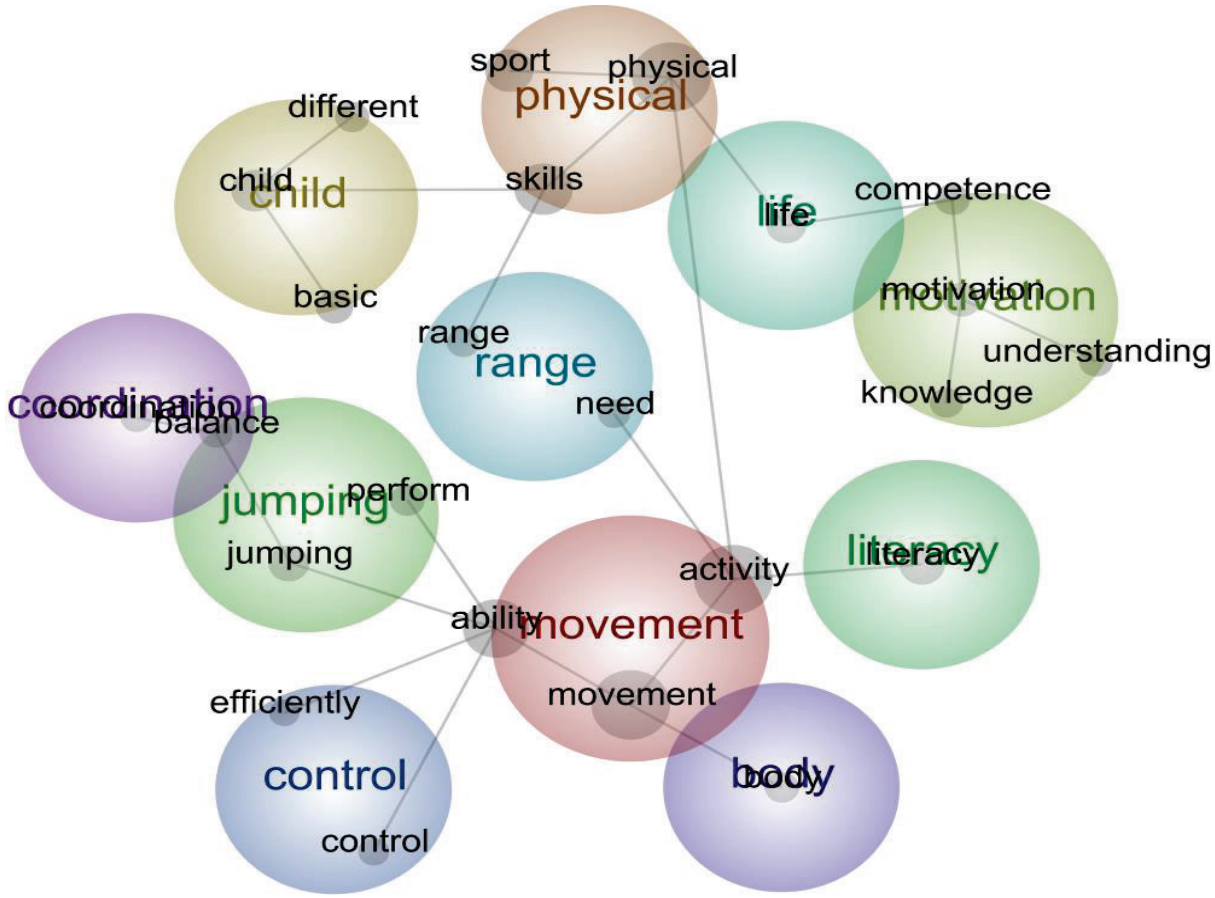

Figure 1. Concept map of coaches' responses

Table 7. Generated themes and examples of responses

Theme	Hits	Associated concepts	Illustrative quotation(s)
physical	252	physical, skills, sport	"To ensure you are confident in physical activity and motivated to carry on any type of physical activity for the rest of your life."
movement	252	movement, activity, ability	"It is the building blocks of how we move…understanding and recognising the inherent capabilities and primary drive we all have to move with freedom."
child	114	child, basic, different	"It is not a GAA [Gaelic Athletic Association] thing, a soccer thing or a rugby thing. It is about developing the skills to allow children to participate in physical activity for life."
literacy	80	literacy	"Physical literacy is: Your child's confidence in his/her own capabilities and how to develop them. Their understanding (of) their own physical capabilities and boundaries."
motivation	75	motivation, competence, understanding, knowledge	"PL is to be able to move with competence, confidence and have the motivation to develop and value an active lifestyle today and for all the days that come."
jumping	71	jumping, perform, balance	"A child's physical movements that can be developed over time to aid skill adaptation: involving - running, jumping, hopping, turning, falling, climbing, balancing."
life	50	life	"To be able to fully develop your body's movements, have a feeling that you are in control and that your body does not limit you when you exercise or in your daily life has many positive effects on the quality of your life. Confidence, self-esteem and self-worth rise which increases your performance and joy in life."
range	41	range, need	"The ability to demonstrate a wide range of movements. Making easier to learn new movements."
body	34	body	"The basic fundamentals of the body physiology, the working of the muscle groups, recovery and nutrition."
control	34	control, efficiently	"To execute the movement you want / need to do at the right time, in the right direction, with the right kind of force. ...or... To be able to execute and control all the movements required to solve the puzzle in front of you."
coordination	21	coordination	"E.g. when: catching striking running jumping throwing bowling stopping diving sliding It includes elements of agility, balance and coordination. It also relates to strength, speed and general fitness."

Discussion

This study was devised to contribute to the literature on stakeholders' perceptions of PL, focusing on the views of sports coaches. The study is timely and warranted, considering the increasing policy profile of PL in relation to sport, PE, and physical activity. The existing literature reveals very little about how coaches perceive and operationalise PL. Therefore, an international survey was devised and conducted with a mixture of closed and open-ended questions to gather various data to explore the importance coaches attribute to PL.

The findings of Leximancer analysis reflect many of the themes of earlier studies

of perceptions of PL (e.g., Belton et al., 2022; Essiet et al., 2022) and theoretical accounts (e.g., Jurbala, 2015; Whitehead, 2019). Differences become more apparent when the strength of associations of importance and relevance are considered (which, after all, is an important element of the rationale for using Leximancer in the first place). Then, it becomes apparent that the participants in this study tend to adopt an account of PL that prioritises movement skills and sport. This stance is not just at odds with the 'official' position of the IPLA (IPLA, 2017); it has been explicitly rejected by several of its leaders (Almond, 2013; Whitehead, 2019). It might be argued that this difference is one of context, reflecting the practical demands of coaches in the real world rather than the scholarly realm of academics, as Higgs (2010) claimed. However, this overlooks fundamentally different conceptions of PL (Bailey, 2020).

Specifically, Leximancer found the most relevant theme to be 'physical,' followed by 'movement.' This is indicative that coaches understand PL to be primarily and most explicitly about physical characteristics (in this respect, the present study reiterates the findings of Hyndman & Pill, 2018). Although the theme 'physical' can be attributed to the subject of the inquiry and the word 'physical' in the PL syntagm, 'physical' encompasses the concepts 'skills' and 'sport,' which is far from the word 'literacy' as a suffix. The concept of 'sport' was also attributed to importance. The concept of 'skills' connected to the concept of 'child,' presumably reflecting the samples' primary point of interest as over 67% of the coaches in the sample worked with children. 'Skills' was also connected to the concept 'range,' possibly pointing to the importance of learners mastering a broad range of skills. This was further strengthened by the concept of 'different,' suggesting the importance of a variety of movements (rather than focusing on a limited range of skills). The concept of 'physical' was then linked to the concept of 'life,' implying a role for PL in supporting the quality of everyday life.

The theme 'movement' encompassed the concepts 'activity,' 'ability,' and 'movement,' again indicating the importance of the physical dimension in PL. This was further strengthened by the connection of 'movement' with 'body.' Coaches expressed, for example, that physiology, muscle groups, recovery, and nutrition were important for the concept. The concept of 'ability' was linked with the themes 'control' and 'jumping'. Particularly, it is linked with concepts of 'control' and 'efficiently'. This seems to be an expression of the relevance coaches gave to controlled and efficient movements and is in proximity to what can be called 'fundamental movement skills,' of which jumping was the most prominent. Closely related to jumping were coordination and balance as underlying abilities of fundamental movement skills.

The fifth theme ranked by relevance was motivation, encompassing the concepts 'of motivation,' 'competence,' 'understanding,' and 'knowledge.' They were grouped and pointed to the relevance of motivational and cognitive aspects of PL. This is particularly relevant to 'life', the proximal theme that emphasises the long-term benefits of PL for daily life.

Even though these coaches perceive PL as important to their work, they think PL is not well-known within their organisational environments. This may indicate a slow or non-existent translation of international policies that use the concept of PL (e.g., International Charter of Sport, Physical Education, and Physical Activity) to grassroots and other contexts. An alternative explanation might be that PL, regardless of its perceived importance, is a concept that still needs to be operationalised in a way that has a pragmatic relevance for sports clubs. Thus,

even though coaches are aware of the concept, PL might need to be more relevant within their clubs as a subject of meaningful conversation.

It is becoming increasingly apparent that imposing a unified conception of PL may be a hopeless ambition. PL is "a promiscuous concept" (Bailey, 2020, p. 13), applied in many settings with different aims, approaches, and audiences. It has been used as attractive new packaging for ideas that have been around for a long time, such as basic movement skills or PE, and as a label for alternative ways of understanding the body and movement in human development. Moreover, just as its acceptance has been casual, so has its usage, resulting in PL fracturing into different camps. The recent contribution by Young et al. (2022) is particularly valuable in this regard. Their analysis of the PL literature found that "we are not dealing with different perspectives of PL bending or being bent towards a unified concept, but rather a multiverse ... of physical literacies" (p. 14). The authors highlight three *physical literacies*: 1) PL as health-promoting physical activity, 2) PL as motor competence, and 3) PL as phenomenological embodiment. The third PL is asserted by the IPLA; the second relates closest to views expounded by the coaches in this study. Claims by Higgs (2010) and others (Edwards et al., 2018; Green et al., 2018), notwithstanding, such distinctions are significant as "(e)ach of these is framed by different problems, objectives, actors and obligations" (Young et al., 2022, p. 14).

Conclusion and Recommendations

This study has several limitations. Perhaps the most obvious relates to gathering data via an online survey, albeit forced by the context of a global pandemic. Although this is now a common practice in quantitative and qualitative research methodologies (Braun et al., 2021), there remains the likelihood that the sample was over-selected for individuals with an interest in PL. As such, coaches interested in or have been exposed to discussions of PL may have been more inclined to participate. Likewise, those familiar with social media and online activities may have been more inclined to participate in the study. Since this is – in effect – a scoping study, this is a valuable finding but does not invalidate the findings.

The research team succeeded in engaging respondents from 37 countries. However, most countries' response rates were relatively low (28 with fewer than five responses). Previous authors have pointed to the influence of geography (via national bodies) and advocated accounts of PL, so this uneven distribution of responses may have skewed results. The range of countries in the sample is encouraging. Still, it is important to acknowledge the bias toward Western, English-speaking countries, presumably because the social media posts were delivered in English. Whilst there is little we can do to address this issue now, we intend to extend the scope of research by including non-English language sources in future studies.

For similar reasons, the large numbers of football (soccer) coaches and, to a lesser extent, rugby, golf, and Gaelic football among the sample should be considered a limitation. Although it may be seen as a restriction, the substantial presence of football (soccer) coaches in the sample adds significantly to the study's value in a number of important ways. First of all, because football is a widely popular sport worldwide with various coaching styles and a broad influence, insights gained from its coaches are extremely pertinent and generally applicable. This large dataset offers a solid foundation for comprehending coaching dynamics that may exist in other sports but may not be as prominent. A range of coaching cultures and approaches are also introduced

with the addition of coaches from sports, including rugby, golf, and Gaelic football, albeit to a lesser degree. Due to this diversity, a comparative analysis is made possible, which aids in identifying features that are common to and unique from many sports disciplines. Instead of seeing the majority of football coaches as a limitation, it should be seen as a foundation upon which to build a more nuanced understanding of sports coaching in general. This approach not only leverages the depth of data from football coaching but also enriches it with insights from other sports, offering a comprehensive view of the coaching landscape.

Another potential risk of online research is that it is impossible to rule out the likelihood that some respondents carry out research to help them answer specific questions. The design of the central question in the survey, namely, to define or describe PL as if describing it to a parent of a player who was coached, was chosen to reduce the likelihood that 'correct' or explicit definitions in the literature would simply be reproduced and (hopefully) increase the tendency towards personal or implicit theories of PL (Woolfolk-Hoy & Murphy, 2001). Nevertheless, it is impossible to exclude the possibility that respondents did their research before answering the questionnaire. Of course, this is not a limitation restricted to online surveys, as any non-supervised data-gathering tool suffers from the same concern.

Several studies have been published that examine professionals' views of the nature of PL. However, this is the first to focus on the perspectives of sports coaches and also the first to utilise a text analysis methodology to explore these perspectives. As discussed earlier in this article, there has been a disappointing tendency in some previous studies (of teachers) to impose normative standards onto respondents' views. The selection of the Leximancer program for data analysis was specifically motivated by a desire to examine stated views in an unbiased and non-judgemental way. Subsequent research into practitioners' perceptions of PL should, we suggest, steer clear of arbitrating the quality or accuracy of respondents' views through the lens of the researchers' theoretical assumptions. Such practices undermine the authority of the analysis and conclusions drawn. Leximancer is a valuable tool in this regard.

Words matter, but not as much as the things and activities they seek to represent. What practitioners think about PL affects their practices and, consequently, the opportunities they do or do not provide learners. So, it is essential to discover what people in the field believe about PL and how they view its importance in specific settings. This is the first self-report study of the views of sports coaches about PL, and it draws on the insights of practitioners from around the world. Overall, these coaches seem to have adopted what could be called the 'PL-as-fundamental-movement-skills' stance, indicating a close-knit between the aims, scope, and content of PL and the development of basic motor skills (Bailey, 2020; Young, 2022). This seems to be a widely held equation among practitioners (Essiet et al., 2022; Harvey & Pill, 2020), and perhaps it deserves more serious consideration than it tends to receive from academic theorists (e.g., Robinson et al., 2018; Belton et al., 2020).

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Disclosure statement

The authors report no potential competing interests. The data are not publicly available because they contain information that could compromise the privacy of research participants. They did not consent to sharing their data with anyone outside the research team.

Data availability

The data supporting this study's findings are available from the UNIVERSITY REPOSITORY (https://uclandata.uclan.ac.uk/) upon reasonable request.

Ethics approval

This study was approved by an institutional research ethics committee (Ref: HEALTH/0125).

Consent to participate

All respondents provided informed consent before participating in the survey.

Consent for publication

All respondents consented to using data (anonymous) for research purposes and publications.

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