

# Differences of physical literacy perception of kindergarten teachers: Seen from demographic information

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## ABSTRACT

Physical literacy must be instilled in early childhood education, and teachers have a crucial role in this. The aim of this study is to reveal early childhood education teachers' physical literacy perceptions in terms of demographic information. The survey research was conducted with a population of 74 teachers in West Java with convenience sampling. The Perceived Physical literacy Instrument (PPLI) was used as an instrument to measure it. This instrument was distributed through a Google form and filled out voluntarily by the participants. The analysis of the data used is descriptive analysis. The results of this study reveal that teachers with a younger age, teaching experience of 11–20 years, coming from bachelor's degree graduates, and teaching in urban areas have a high perception of physical literacy compared to the demographic status of other teachers. There is a need for special education and training programs for early childhood education teachers in designing learning scenes that are adapted to the concept of physical literacy and are able to harmonize it according to the level of growth and development of children, so that teachers can be formed from an early age. The unrepresentative sample in this study is a limitation that can be used as a recommendation for further research to reveal the perceptions of early childhood education teachers on physical literacy in Indonesia.

**Keywords:** Perceived; physical literacy; early childhood education teacher



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## INTRODUCTION

The face of the Indonesian population pyramid has undergone a transition process since the baby boom era, and now the percentage of children in early childhood (0–6 years) is relatively declining. Currently, there are around 32.96 million early childhood children in Indonesia. They are here to fill 12.19% of Indonesia's population and become part of the alpha generation (Badan Pusat Statistik, 2020). It's their generation that will later change the development and civilization of Indonesia. However, data show that 42.36% of early childhood children with health complaints are sick, while 23.34% are sick (Badan Pusat Statistik, 2020). The data also reveals that, currently, the lifestyles of too many Indonesian teenagers include consuming unhealthy snacks on the one hand and engaging in sedentary activities on the other (UNICEF, 2020). In addition, research from Bakhtiar and Famelia (2020) found that Indonesian preschool children have low motor competence, so

appropriate programs are needed to improve their motor competence. For this reason, efforts to maintain children's health need to be carried out as early as possible in an integrated and sustainable manner to minimize cases of early childhood morbidity so as not to lead to death caused by inactivity later in life (Webster et al., 2019). In addition to curative and rehabilitative measures, preventive efforts are also needed as part of efforts to maintain and improve the quality of early childhood health, one of which is the promotion of an active lifestyle (Sanidad et al., 2019).

The promotion of an active lifestyle can be done through holistic lifelong learning that is acquired and applied in the context of movement and physical activity through physical activity intervention programs as early as possible (Hafner, 2015). In Indonesia, schools have been identified as the primary environment for developing and implementing physical activity interventions in children. An important trend in this idea is the recent addition of wide-scale access to preschools. Indonesian children aged 3-5 years now have access to early childhood education as part of the regular education system, and Indonesia's preschool enrollment rate has increased significantly (Badan Pusat Statistik, 2021). Susenas results show that the percentage of children in early childhood who attend early childhood education reaches 27.68 percent, or, in other words, 1 in 4 children have attended early childhood education. Kindergarten remains the most popular type of early childhood education with a percentage of 71.73%, followed by integrated BKB/Posyandu with a percentage of 19.59% and RA with a percentage of 6.14% (Badan Pusat Statistik, 2021). Another thing that needs to be involved in addition to being involved in preschool education is that children aged 4-6 years also take the time to do other activities, such as physical activity, which can make up 55.5% of their daily activities. All of these activities are intended to stimulate their physical, cognitive, social, and emotional development (Badan Pusat Statistik, 2020).

The data illustrates that the Indonesian government should start looking at early childhood education centers as part of an early intervention plan to promote physical activity. However, Indonesia currently does not have data on early childhood physical activity and the factors that influence physical activity to guide the development of programs and policies to achieve physical literacy as early as possible (Famelia et al., 2019). The development of the concept of physical literacy has resulted in various research findings that have an impact on policy around the world with implications for professional practice in sports and physical education, as well as the health of a nation (Hyndman & Pill, 2018; Scott et al., 2021). Canada and America have made a policy to support physical literacy and emphasize the importance of physical activity in physical education that develops healthy habits of school age children to be physically active and learn sports that will be maintained throughout their lives (Ontario Ministry of Education, 2019; SHAPE, 2015). Sport Australia released the Australian Physical Literacy Framework (APLF) in 2019 to advance the national agenda on Physical literacy specifically in order to clarify and promote the development of physical literacy in the Australian sport and education sector. This policy also has an impact on the development of the Physical Education curriculum in Australia (Scott et al., 2021). In addition, UNESCO identified physical literacy as one of the main foundations for quality sports and education programs and recommended that policy makers place more emphasis on physical literacy to promote health and well-being (UNESCO, 2015).

Initially the concept of physical literacy was discovered and developed by Whitehead describing it as motivation, confidence, physical competence, knowledge and understanding to value and be responsible for involvement in lifelong physical activity (Whitehead, 2007). Over time, Whitehead argued that the physical literacy's philosophical underpinnings, particularly embodiment, provided strong reasons for promoting the physical literacy in physical education. Whitehead's philosophical foundations remain an important reference point for research and development of physical education curricula in schools k).

Physical literacy promotion can be done at an important period in the formation of basic movement skills, (Hulteen et al., 2017). The active period in carrying out movement activities is generally formed at the age of children aged 3-6 years (Goodway et al., 2021). At this time children generally go to kindergarten (Wu et al., 2021). This period is a critical period in the formation of basic movement skills such as walking, running, jumping, throwing which can encourage the process of developing their basic motor skills, such as speed, strength, coordination, and balance (Goodway et al., 2021), also able to influence subsequent levels of physical activity in adolescence and adulthood (Essiet et al., 2021). This physical literacy promotion can be actualized

through the physical education curriculum in schools, especially in kindergarten because children's motor competence does not appear naturally during the early childhood age range but as a result of collaboration from dynamic subsystems, namely through motion assignments, early childhood as students and the environment. Thus, motor competence, including the fundamental motor skills of individuals, is a product of interactions within and between dynamic and cooperative subsystems (Keegan et al., 2019).

Class teachers in early childhood education have been highlighted as key facilitators to promote the foundation of a healthy and active lifestyle (Wachob, 2018) because they are able to integrate PL concepts into lessons, parenting, and rest periods inside and outside the classroom (Buckler et al., 2021b). Classroom teachers in kindergarten also play an important role in the holistic early childhood development process and are likely to play a role in supporting a positive PL journey in children given their role in promoting physical activity in the early childhood years (Lu & Montague, 2016). Research reveals that children spend most of the day at their school supervised by classroom teachers to carry out academic activities including the development of motor skills (Sato et al., 2020) the teacher should be the main motor for Physical literacy promotion (Doherty et al., 2019; Dynia et al., 2018), but unfortunately research reveals that little is known about the competence of early childhood educators from the perception of Physical literacy that will relate to its application in learning practices for early childhood (Buckler & Bredin, 2021a).

The previous studies reveal that teachers expertise on content knowledge, appropriately developed introductory activities and movement task structures should be unique to early childhood Physical literacy promotion, although there is limited literature supporting the importance of teachers Physical literacy perceptions reporting that preservice teachers' physical literacy perceptions are directly related to higher teaching efficiency Choi et al. (2021), to enforce effective teaching behavior (Veall, 2015).

In accordance with the results of previous studies, this study aims to fill the gap in this research by presenting possible differences in perceptions of physical literacy among kindergarten teachers looking at the demographics of early childhood teachers who are responsible for being able to promote physical literacy through their teaching (Hulteen et al., 2017; Pot et al., 2018; Starrett et al., 2021) with a sample of teachers in West Java which has never been done before in Indonesia. As for what has been done, research related to physical literacy in Indonesia is just little (Friskawati & Stephani, 2021) and just about regarding integration into physical education learning (Suherman et al., 2018; Bulqini et al., 2021; Irmansyah et al., 2021) and measuring physical literacy (Priadana et al., 2021; Suntoda et al., 2021). Therefore, this study aims to fill the gap in research on physical literacy in Indonesia, especially regarding the perception of early childhood education teachers on physical literacy. The results of this study also suggest conducting in-service Physical literacy training, which may prove important in complementing teachers Physical literacy perceptions with longer teaching experience.

## METHOD

### Participant

A total of 74 islamic kindergarten teachers in West Java who turned out to be all female teachers who participated in this study, stated that they had voluntarily participated in this study to fill out the online questionnaire. The entire sample is purely classroom teachers in early childhood education and not physical education teachers teaching in children's parks. Of these 74 teachers, 54 teachers teach in urban areas and 20 teachers teach in rural areas. Sampling used a convenient sampling method in accordance with the criteria for samples that were easily accessible and willing to be involved in this research (Creswell & Creswell, 2018).

### Research Instrument and Procedure

Measurement of OT perception in this study uses the Perceived Physical Literacy Instrument (PPLI) which has been developed by Sum et al. (2016). This instrument has been validated as a survey research instrument in various age groups and teacher populations in kindergartens Yildizer and Munusturlar (2021) and undergraduate physical education teacher (Ma et al., 2020). This PPLI accordance with the scope of the three subscales as the main attributes of PL proposed by Whitehead (2010) namely motivation, self-confidence and physical competence (example statement: I am physically fit, according to age), interaction with the

environment (example statement: I have strong social skills), as well as knowledge and understanding (example statement: I realize the benefits of sport related to health). Participants filled out this questionnaire with a Likert scale of 1-5 (1 = strongly disagree and 5 = strongly agree). The exploratory factor analysis (EFA) item of this instrument has a range of values between 0.69 to 0.87, and Cronbach's alpha ranges from 0.73 to 0.76. So, this instrument has shown a good suitability and can be relied upon to be a valid instrument for measuring Physical literacy perceptions by teachers (Kim et al., 2016).

PPLI is not only used as an instrument in this survey research. Another instrument used in this study is related to demographic information. The entire instrument has been prepared in online form which is distributed via google and form via email to each participant who voluntarily participates. Participants who fill out this instrument in online form are provided with a prior consent form which is stated in the form before they fill out the questions contained in the PPLI.

## Data Analysis

Descriptive statistics (mean, frequency, percentage) were calculated for each variable such as perception of Physical literacy and demographic variables including gender, age, teaching experience, and degree of education and region. This total was calculated using the help of SPSS for Windows (version 21; IBM Corp.).

## RESULTS AND DISCUSSION

### Result

The data from the calculation of the distribution of the PPLI instrument that looks at the demography of teachers are calculated descriptively through SPSS version 21. Table I shows the results of the overall calculation of the description according to demographics. From these data, it can be interpreted that all of the data taken 100% come from the same gender source, namely the female early childhood education teacher. None of the male early childhood education teachers participated in this study. Demographic description in terms of teacher age. Early childhood education regarding the perception of Physical literacy shows that the largest (4.52) is in the age range of 19-30 years with sd (0.67). Meanwhile, those in the age range of 31-42 only has sd (4.11) and the lowest is in the age range >54 which only has sd (4.00).

**Table 1. Calculation of Demographic Result**

Variabel	Categories	PL Perceive		
		f	%	$\bar{x}$ sd
Gender	Female	74	100	3.26±0.67
	Male	-	-	-
Age	19 – 30	25	33.7	4,52±0.49
	31 – 42	27	36.4	4,11±0.47
	43 – 54	19	25.6	4,02±0.38
	> 54	3	4.05	4,00±0.78
Teaching Experience (Year)	1 – 10	51	68.9	4,35±0.96
	11 – 20	15	20.2	4,43±0.54
	21 – 30	7	9.45	4,19±1.03
	>30	1	1.35	4,15±0.54
Degree of Education	Bachelor	36	48.6	4,99±0.72
	Master	5	6.75	4,16±0.75
	Etc.	33	44.5	4,48±0.47
Region	Urban	20	26.6	4,11±0.91
	Rural	54	72.00	3,86±0.66

The results of the perception of physical literacy on early childhood education teachers are seen from the teaching experience of teachers (teaching experience) as measured by how long to teach showed that the highest teaching experience was in the 11-20 year period with an sd (4.35) while those who teach with a time span of 1-10 only have sd (4.35), while the lowest grades are sd (4.15). The perception of PL is seen from the background of the graduates of early childhood teachers was also measured, the sd score (4.99) was greatest for Bachelor graduates, while Master graduates only had sd (4.16). For the region, the perception of Physical



literacy teachers for early childhood education is divided into two, namely urban and rural blood. The sd value (4.11) on the perception of physical literacy in urban areas is greater than in rural areas which only has an sd value (3.86).

The discussion is written to interpret and describe the significance of your findings in light of what was already known about the issues being investigated, and to explain any new understanding or insights about the problem after you have taken the findings into consideration. It should connect to the introduction by way of the research questions or hypotheses you posed and the literature you reviewed, but it does not simply repeat or rearrange the introduction. This section should always explain how your study has moved the reader's understanding of the research problem forward from where you left them at the end of the introduction.

The results of this study reveal that there are differences in the perception of physical literacy on each demographic indicator as seen from age, teaching experience, graduates and the area where teachers teach early childhood education. When the perception and knowledge of physical literacy early childhood education teachers view that physical literacy is good for children's growth and development holistically. Therefore, they develop the ability to build their ability to apply their knowledge to pour it into the learning scene through physical activities that are in accordance with the character of children aged early (Cox et al., 2017; Starrett et al., 2021). Physical literacy perception contains about how individuals engage and assess physical activity in terms of their self-confidence, self-expression and communication with others, as well as knowledge and understanding that will relate to pouring into learning (Li et al., 2021) especially in learning for early childhood with different handling.

At an early age, children have an extraordinary ability to absorb everything around them. Early childhood education is a form of response to research on the golden age at that age (Bélanger et al., 2016). This is in accordance with the definition of early childhood education based on UU No. 20 of 2003 which states that kindergarten is a coaching effort aimed at children from birth to the age of six which is carried out through the provision of educational stimuli to help physical and spiritual growth and development so that children have readiness to enter further education.

The difference in physical literacy perception seen at a younger age is more understanding about Physical literacy concepts. Contrary to the assumption that the most experienced teachers are older, they are the ones who understand everything about learning. On the contrary, the results of this study show that the high perceived value of physical literacy is found in teachers who are young in age. This could be because the younger a teacher is, the more they have access to extensive learning resources that are adapted to the times, (Wickens et al., 2020). In addition, research shows that the millennial generation is increasingly aware of understanding health for themselves and others (Olesov et al., 2020). To transfer various knowledge and perceptions that include physical literacy to students, teachers need to have some good qualities so that they are able to provide a pedagogical model with a distinctive identity in addition to theoretical understanding. The teacher's expertise in content knowledge, appropriately developed introductory activities, and task structure should be unique to physical literacy (Margaret et al., 2018). In this case, early childhood education teachers instill the concept of physical literacy into early childhood education program.

The teaching experience of Early childhood education teachers is also a demographic benchmark in the study. As a result, teachers who have a long teaching experience of 11-20 years have the highest physical literacy perception scores. Consistent with the assumption that the most experienced teachers are older, it can be concluded that the older early childhood education teachers are aware of the importance of physical literacy because of their age, and they have sufficient experience to deliver this content. In addition, the research shows that health literacy increases with age, related to the complexity of health problems at an older age (Wachob, 2018). Result form Cornish et al. (2020) revealed that health-related quality of life declines with age, and beliefs in social, physical, and emotional functioning and health connectivity increase. So that they are able to understand that the importance of maintaining health must be planted from an early age in early childhood education. The experience level of the teacher is also highlighted as an important factor for designing physical literacy classroom practice, which consists of time allocated for motor skills, appropriate exercises that focus on motor skill development, content development for the maximum number of exercises, clear explanation of

Physical literacy concepts, and various assignments for students with different skill levels (Silverman & Mercier, 2015).

While the results are related to the place of teaching for early childhood education teachers, the results reveal that teachers who teach in urban areas have higher physical literacy perceptions than teachers who are in rural areas. Information obtained by early childhood teachers in urban areas is faster, for example information about the existence of a new knowledge will be conveyed more quickly than in rural areas (Byrd, 2017). The concept of physical literacy has now begun to enter into the National Sports Law which was recently revised by the government by stating that it is important that Physical literacy is fostered from early childhood education. This information will at least spread quickly among physical education teachers who will disseminate information massively to early childhood education teachers in urban areas because of easy access to technology such as the use of social media (Mulyana, 2014), there may be delays in delivering information to early childhood education teachers in rural areas (Hutter, 2016).

Training actions implemented by professional teachers including Early childhood education teachers who are qualified to improve physical literacy in the learning process designed for the development of learning process strategies should start from pre-service and in-service (Edwards et al., 2017). Knowledge of physical literacy for early childhood education teachers should be nurtured from pre-service for self-expression and communication with others growing through teacher education programs, they develop the ability to build their knowledge in applying this scientific knowledge to teach physical activity for early childhood education (Tsuda et al., 2019). As discussed from Tannehill et al. (2021), pre-service teachers who receive specialized training can understand and apply the acquisition of motor skills and competencies, which are linked to physiological and biomechanical perspectives to support early childhood physical literacy. Authentic experiences provide opportunities for pre-service teachers to interact with students and try to apply their knowledge of sport science in sports so that students can have experiences in a variety of physically challenging environments that are adapted to the character of early childhood (Durden-Myers & Keegan, 2019). Therefore, the recommendation from the results of this study is that there is a need for special education and training programs for early childhood education teachers in designing learning scenes that are adapted to the PL concept and are able to harmonize it according to the level of growth and development of children, so that Physical literacy can be formed from an early age.

There are some limitations in this study, especially the relatively small sample size of only Islamic Kindergarten Schools which cannot be considered representative of the sample of Kindergarten teachers as a whole. Second, investigating teacher perceptions with the mixed method method produces more effective knowledge to develop improved education plans and training for prospective early childhood education teachers (Yıldizer & Munusturlar, 2021). Therefore, there is a need for further research with a larger sample and further data collection methods such as multidimensional applications that can measure Physical literacy perception and understanding in terms of daily behavior, motivation, self-confidence, knowledge and physical competence through semi-structured interviews. which will be able to provide new insights into the research question and potentially reduce methodological bias.

## CONCLUSION

The perception of physical literacy in early childhood teachers is different in terms of demographics. Early childhood teachers with younger ages, 11-20 years of teaching experience, coming from Bachelor's degrees, and teaching in urban areas have a high perception of physical literacy compared to the demographic status of other teachers. This difference is most likely related to the acceleration of information on the novelty of science including physical literacy as well as differences in teacher education and training programs provided to each group, especially in urban and rural teaching areas, in particular related to the extent to which teacher training programs are encouraged to adopt an appreciation of Physical literacy and implement practices that foster physical literacy for students. Therefore, it is important to transfer the importance of physical literacy in teaching in early childhood education to the teachers who will be responsible for delivering it in schools. Improving the perception of classroom teachers physical literacy is also an important aspect to improve the quality of children's growth and development holistically.

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## CONFLICT OF INTEREST

There are no conflict of interest in this research. The authors declare that the result of this study was not affected by any parties or sponsors.

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