

Outdoor Activity as Mindfulness Process for Early Childhood Development

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Abstract. Today we are faced with the challenge of children playing outdoors less and less, which actually provides many benefits for early childhood development. Outdoor activities can provide stimulation not only in physical and social aspects, but also cognitive aspects and other aspects in a child's development. This literature study aims to analyze various previous studies related to the importance of playing outdoors for early childhood development. This article uses a literature review research method with reference sources from previous research. Based on the results of a search for 16 articles related to the importance of outdoor activities as meaningful activities for early childhood, most of them provide reinforcement that outdoor activities such as playing in nature and games that interact with the outside world make a major contribution to the growth and development of early childhood.

Keyword: Early childhood, mindfulness, outdoor activity, development

1 Introduction

A nation's future is shaped by how successfully its children attain optimal growth and development., in addition, the age of children from birth to 6 years is a crucial phase in the growth and development of children [1]. However, on the other hand, early childhood is in the golden age where all children's potentials develop rapidly [2], Children possess strong curiosity and enthusiasm, naturally engaging in exploration and adventure, and they learn by maximizing their remarkable potential. At this golden age, the child's brain grows optimally, as does their physical growth. Children experience extraordinary growth and development [3]. Child development encompasses changes in physical, motor, and language abilities that occur throughout childhood [4]. Therefore, we as adults are important to create a conducive environment for children to stimulate development and maximize their potential in their growth and development [5]. A conducive environment for children is an environment that supports the growth and development of children so that children are able to carry out activities safely and comfortably. One of the activities that can be done by children is outdoor activity. Various studies have shown that outdoor activities provide benefits for child development [6]. Outdoor activities carried out by children can be used as a mindfulness process for early childhood development. Mindfulness is a group of practices that focus on developing self-awareness through the systematic use of concentration [7]. Mindfulness programs have been implemented in various places such as schools, universities, institutions, and companies including for children [8]. The purpose of this mindfulness process is to trigger students' awareness, enable them to

think critically, increase their interest in the learning process and activate their creativity while outdoors [9]. In addition, outdoor activities are expected to stimulate children's imagination and provide opportunities for children to try various ideas without feeling afraid and children will find that designing something new and different can be satisfying [10]. Children who are naturally homo ludens or playful creatures will get maximum benefits through these activities [11]. However, most adults are worried about outdoor activities so that children play more indoors and less explore the surrounding environment [12].

From the explanations above, we know that outdoor activities are important for children's development. In addition, it is hoped that outdoor activities can be used as a mindfulness process for children's development. Therefore, this study aims to trigger readers' awareness that outdoor activities can be used as a mindfulness process for early childhood development.

2 Literature Review

2.1 Outdoor activity for early childhood

The main goal of early childhood education is to improve the overall development of children. Thus, children need a variety of learning environments in order to develop optimally, one of which is outdoor activities that will affect the overall development of children in many aspects [13]. Outdoor learning provides opportunities to learn various subjects and supports the holistic development of children and children will feel happy because they can go on outdoor adventures involving various challenges [14]. Various natural and interesting activities, playing improves cognitive, physical, social, and emotional well-being, and provides the conditions necessary for children to develop and learn. Through play, children can experiment, solve problems, think creatively, cooperate with others, etc., and gain deeper knowledge about themselves and the world [15]. Outdoor activities are a form of experiential learning that allows children to learn to use all their senses through exposure to nature [16]. Outdoor learning environments also provide opportunities for children to express their curiosity, as their desires are stimulated when they are outdoors. In addition, outdoor play gives children the freedom to move freely, so that they can better express their talents [17]. The benefits of outdoor play on child development are reinforced by the results of previous studies, which explain that through outdoor play experiences, it can have a positive impact on children's individual development and behavior. Everyone builds their reality as a result of their experiences and how they interpret those experiences [18].

2.2 Mindfulness process for early childhood development

Studies on early childhood development (ECD) indicate that it represents one of the most crucial stages in an individual's life [19] because of the fundamental role of early childhood growth as a basis for human development in adolescence and adulthood [20]. To achieve this, children need to be given meaningful activities to enable them to understand the world around them more effectively [21]. Early childhood development must always be supported to reach its optimal stage. A child's learning environment plays an essential role in their overall growth and development. Must create an environment that optimally fosters various aspects of child growth and development [22].

3 Method

This study uses a Systematic Literature Review (SLR) to gather and examine previous research related to the topic. Through this method, various sources, such as journal articles, conference papers, books, and dissertations were reviewed to build the foundation of the discussion and propose relevant solutions [24]. The review followed several steps adapted from [25]. First, the researchers searched for and collected articles that matched the topic of outdoor activities as a mindfulness approach in early childhood development. Next, the articles were screened by focusing on key ideas, identifying important themes, and removing sources that were not relevant. The selected studies were then organized into tables and short summaries to show the main findings. After that, the literature was discussed and interpreted based on the chosen review method. Finally, conclusions were drawn from the overall findings of the review.

4 Result

In the early stages of collecting articles based on the relevance of the topic raised regarding Outdoor Activity as Mindfulness Process for Early Childhood Development, there were 25 articles. However, after being reduced, only 16 articles were obtained that were in accordance with the topic. This is because the topic of the title taken has not been widely researched. The display of articles that will be discussed is as follows

Table 1. Collecting articles based on the relevance of the topic

No.	Author	Publication Year	Article Title	Journal Publisher	Volume Number	Number of pages
1	M. Syukri Azwar Lubis, Karim, Arman Kanean, Arfiani Yulianti Fiyul, Nur Latifah	2024	Exploring Mindful Teaching Practices: Strategies for Enhancing Early Childhood Education	Global International Journal of Unnovation Research	2, (8)	1914-1922
2.	Syeda Parsa Jarar, Pratiwi Widyasari	2025	Mindfulness Practices and Attention Control in Early Childhood and Primary Education: A Review	Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini	9, (4)	1153-1162

No.	Author	Publication Year	Article Title	Journal Publisher	Volume Number	Number of pages
3	Jasper Schipperijn, Cathrine Damsbo Madsen, Mette Toftager, Danielle Nørager Johansen, Ida Lousen, Thea Toft Amholt, Charlotte Skau Pawlowski	2024	The role of playgrounds in promoting children's health – a scoping review	<i>International Journal of Behavioral Nutrition and Physical Activity</i>	21 (1): 70	1-12
4	Julie Ernst, Kerri McAllister, Pirkko Siklander, Rune Storli	2021	Contributions to Sustainability through Young Children's Nature Play: A Systematic Review	Sustainability	13 (13): 7443	1-36
5	Yaoyao Sun, Renee Lamoreau, Samantha O'Connell, Raquel Horlick and Alessandra N. Bazzano	2021	Yoga and Mindfulness Interventions for Preschool-Aged Children in Educational Settings: A Systematic Review	International Journal of Environmental Research and Public Health	18: 6091	1-25
6	Courtney Beers Dewhirst, Jacqueline Goldman	2018	Launching motivation for mindfulness: introducing mindfulness to early childhood preservice teachers. <i>Early Child Development and Care</i> ,	Early Child Development and Care .Taylor & Francis	190 (8)	1299–1312
7	Prins J, van der Wilt F, van der Veen C and Hovinga D	2022	Nature play in early childhood education: A systematic	Frontiers in Psychology	13:995164.	1-15

No.	Author	Publication Year	Article Title	Journal Publisher	Volume Number	Number of pages
			review and meta ethnography of qualitative research			
8	Avril Johnstone , Paul McCrorie , Rita Cordovil , Ingunn Fjertoft , Susanna Iivonen , Boris Jidovtseff , Frederico Lopes , John J. Reilly , Hilary Thomson , Valerie Wells and Anne Martin	2020	Nature-based early childhood education for child health, wellbeing and development: a mixed-methods systematic review protocol	International Journal Environ Res Public Health	19(10):5967	1-6
9	Kylie A. Dankiw, Saravana Kumar, Katherine L. Baldock, Margarita D. Tsiros	2023	Parent and early childhood educator perspectives of unstructured nature play for young children: A qualitative descriptive study	PLoS One	18(6):e0286468	1-24
10	Eun-Young Lee , Ajaypal Bains , Stephen Hunter , Alyssa Ament , Javier Brazo-Sayavera , Valerie Carson , Shawn Hakimi , Wendy Y Huang , Ian Janssen , Mikyung Lee , Heejun Lim , Diego Augusto Santos Silva , Mark S Tremblay	2021	Systematic review of the correlates of outdoor play and time among children aged 3-12 years	International Journal of Behavioral Nutrition and Physical Activity	18:41	1-46

No.	Author	Publication Year	Article Title	Journal Publisher	Volume Number	Number of pages
11	Steph Scott , Tonia Gray , Jenna Charlton , Sharon Millard	2022	The Impact of Time Spent in Natural Outdoor Spaces on Children's Language, Communication and Social Skills: A Systematic Review Protocol	International Journal Environment Reseach Public Health.	19(19):12038	1-14
12	Danielle Craig , Nazia Afrin Trina , Muntazar Monsur , Umme Tasnima Haque , Garrett Farrow , Md Zahid Hasan , Fariha Tasnim , Moyin Sabaina2h Akinbobola	2024	Effective Nature-Based Outdoor Play and Learning Environments for below-3 Children: A Literature-Based Summary	International Journal Environment Reseach Public Health.	21(9):1247	1-22
13	Dorra Jalleli , Sana Jarraya	2025	The Effect of a Short-Term Mindfulness Program on Motor Skills and on Psychological and Social Behavior in Preschool Children: A Randomized Controlled Trial	Perception Motor Skills.	9:12	1-21
14	Elizabeth Kimberly A. Robinson J. Erwin,	2015	The joy of being: making way for young children's	<i>Early Child Development and Care</i>	186(2),	268–286.

No.	Author	Publication Year	Article Title	Journal Publisher	Volume Number	Number of pages
			natural mindfulness			
15	Chandani Bhandari, Sarah N. Douglas	2024	Embedding Mindfulness Into Early Childhood Classroom Routines: A Practical Strategy for Teachers	<i>Childhood Education</i>	100(4)	20–29.
16	Sara Berti, Ada Cigala	2020	Mindfulness for Preschoolers: Effects on Prosocial Behavior, Self-Regulation and Perspective Taking	<i>Early Education and Development</i>	33(1)	38–57

The first article reviewed discusses the growing use of mindfulness-based teaching strategies in early childhood education [26]. It explains how bringing present-moment awareness into classroom activities can benefit both teachers and young learners. Mindfulness helps educators manage stress, regulate emotions, and create a more supportive learning environment. The article also highlights several practical techniques, such as mindful breathing, reflective listening, and integrating simple mindfulness activities into daily routines. These approaches strengthen children’s social–emotional skills and support cognitive development by improving focus, empathy, and resilience. Research findings presented in the article also show better classroom behavior, stronger teacher–child relationships and improved early academic outcomes. In addition, challenges in adopting mindfulness practices, such as time constraints and the need for professional development, are discussed. The article concludes with practical recommendations for educators who wish to integrate mindfulness into their teaching, emphasizing the importance of consistency, community support, and ongoing reflection. By adopting mindfulness teaching practices, educators can create more supportive and effective learning environments, ultimately contributing to children’s holistic development.

The second article written entitled Mindfulness Practices and Attention Control in Early Childhood and Primary Education: A Review reveals that Mindfulness-based interventions (MBIs) have gained recognition for improving attention control in early childhood education, helping students maintain focus, filter out distractions, and regulate cognitive effort. While previous research highlights short-term benefits, gaps remain regarding long-term effectiveness, real-world implementation, and comparative efficacy to other attention-enhancing strategies

[27]. This review synthesizes findings on the impact of mindfulness on sustained, selective, and executive attention, bridging the gap between controlled experiments and classroom applications. A narrative review approach was used, analyzing peer-reviewed studies published between 2013 and 2024 from Medline, Google Scholar, ERIC, PsycINFO, and Scopus. Studies were selected based on pre-determined criteria; prioritizing research conducted in early education settings. Findings suggest that mindfulness strengthens neural pathways associated with executive function, leading to improved focus, impulse control, and cognitive flexibility. Programs such as the Mindful School Curriculum and the Kindness Curriculum have shown positive impacts, but barriers such as teacher training gaps, limited class time, and intervention variability hinder widespread adoption. The review emphasizes the need for longitudinal studies, cross-cultural comparisons, and integration of digital mindfulness tools. While mindfulness offers promise as an educational strategy, more research is needed to assess its scalability and long-term impact on attention control and learning outcomes. Ernst, J.et.all in his research showed that nature play supports the achievement of educational benchmarks for sustainability which include applied knowledge, dispositions, skills, and applications. Various relevant results related to nature play indicate that teachers should not abandon nature play in their efforts towards sustainability [28].

Schipperijn, J., et.al conducted a literature review related to the use of playgrounds for children, the results showed that of the 247 studies reviewed, almost 80% concluded that playing in schoolyards increased physical activity [29]. Planting schoolyards has a positive impact, especially on the social and mental health of children. Several of these studies reinforce the need to create a development model that not only emphasizes modeling outdoor activities but is also supported by a basis of full awareness or mindfulness which refers to the sensory development components of early childhood, so that the activities carried out are not only meaningful but also have an impact on the growth and development of early childhood. Research conducted by Prins J, van der Wilt F, van der Veen C and Hovinga D that If teachers know how to mediate children's interactions with nature-based environments, these interactions will have developmental value, considering the value of nature-based environments for play, in accordance with Article 31 of the UN Convention on the Rights of the Child (United Nations, 1989), we can even consider nature play as a basic need and right of children [30].

Dankiw K.A. and colleagues carried out a study to better understand how parents and early childhood educators (ECEs) perceive and engage with nature-based play, addressing the limited insights available on this topic [31]. The researchers used a qualitative descriptive design and gathered data through semi-structured interviews with 18 ECEs and 13 parents from four early childhood centers across metropolitan Adelaide, South Australia. From the interview analysis, five overarching themes emerged. These included generally positive attitudes toward nature play, the various factors that shape children's involvement, differing interpretations of what nature play entails, considerations for designing outdoor environments, and the place of risky play within these settings. Participants highlighted several advantages, such as fostering children's emotional regulation, strengthening their connection to the natural world, encouraging sustainability awareness, and helping them recognize their own capabilities. However, the study also revealed several obstacles. Educators pointed to institutional limitations—such as restricted resources, compliance demands, and timing constraints—while parents reported challenges like limited time, worries about children getting dirty, and a lack of nearby natural spaces. Weather-related concerns were also frequently mentioned. Taken together, these insights indicate that both parents and educators may benefit from additional

guidance and resources to better support children's participation in nature play at school and at home.

Lee EY, Bains A, Hunter S, and Ament A. [32] found that both the home setting and the role of parents strongly shape how often and what types of outdoor play children engage in. They also noted that broader ecological conditions—such as seasonal changes or whether families live in rural or urban areas—can influence children's outdoor playtime, highlighting the need for clearer guidelines on recommended outdoor play duration. In another study, Craig D., Trina N. A., and Monsur M. [33] offered valuable insights for designing nature-focused outdoor spaces for children under three years old in childcare settings. They emphasized that early and meaningful interaction with natural environments supports spontaneous, informal learning, which is especially important during the first three years of life—a critical period that lays the foundation for later development, behavior, and health. Research by Scott S., Gray T., Charlton J., and Millard S. [34] further demonstrated that outdoor engagement can strengthen children's communication and language abilities. Because nature-based activities have well-documented benefits for physical health, mental well-being, and psychological growth, the authors argue that more research is needed to understand how natural environments specifically contribute to young children's language, social interaction, and communication development.

Sun, Y.; Lamoreau, R.; O'Connell, S. et al. [35], conducted a literature review related to how Sun, Y., Lamoreau, R., O'Connell, S., and colleagues [35] reviewed studies examining how school-based yoga and mindfulness programs support young children's social-emotional development. Their review indicates that these activities may enhance not only social and emotional skills but also regulatory abilities such as behavioral self-control and executive functioning. The authors suggest that mindfulness practices benefit both children and educators, as they are aligned with developmental needs and help create more effective learning environments. Similarly, Beers Dewhirst C. and Goldman J. [36] found that mindfulness strategies used by early childhood educators can improve teacher well-being. Enhanced well-being, in turn, contributes to more prosocial classroom dynamics and positive learning outcomes for children. Berti S. and Cigala A. [37] further explored the effects of a mindfulness-based intervention on preschool children's social-emotional learning. In their pre-post pilot study involving 21 children assigned to either an experimental or control group, those who participated in the intervention showed notable gains in prosocial behavior, inhibitory self-regulation, and both emotional and cognitive aspects of perspective-taking. Bhandari, C., & Douglas, S. N. in their research on the application of mindfulness concluded that the presence of full attention in early childhood learning environments fosters self-awareness, emotional regulation, and cognitive focus, thereby creating a conducive atmosphere for social-emotional development and academic readiness [38].

Erwin E. J. and Robinson K. A. [39] carried out a systematic review on the use of mindfulness practices in early childhood education. Their analysis showed that interest in mindfulness for young children is increasing worldwide, although the ways these practices are understood and applied appear to vary across cultural contexts. Similarly, Jalleli D. and Jarraya S. reported that mindfulness-based programs have been linked to improvements in several developmental domains, such as social behavior, resilience, and motor skills. However, they noted that evidence involving preschool-aged children remains limited [40]. To address this gap, they conducted a study investigating the impact of a one-week mindfulness program on four- to five-year-olds. Their findings indicated that even a short intervention can positively influence

children's motor abilities and social behaviors, although no significant changes were observed in resilience.

5 Discussion

In the Early Childhood phase, children are in the process of developing various aspects of development, including physical, cognitive, social, and emotional. This phase is considered a very important period because at this time children have very high learning abilities. They have the ability to absorb information quickly and develop basic skills that will help them in their later lives, this age is often known as the Golden Age [4]. Various efforts are made to optimize the development of all aspects in this Golden Age phase, one of which is by providing stimulation through various activities both carried out naturally by the environment or carried out in a structured manner. Based on the results of studies from several previous studies, a picture was obtained of how outdoor activities can be meaningful activities for early childhood. In addition to children being able to interact with objects around them, they can also develop creativity, for example by playing freely. The opportunity to explore the natural environment can develop sensory integration and build meaningful experiences because it involves the senses so that an experience is created through children's perceptions of various objects, situations and activities that are natural, not artificial.

6 Conclusion

Various stimulation activities needed by early childhood are essentially playing, where this playing activity is a means of developing sensory-motor-cognitive-emotional in early childhood. Playing activities can be done using media or without media, and can be done in various situations, closed rooms such as classrooms or outdoors such as in the yard or in nature. Playing activities in nature can not only stimulate the physical development of early childhood but also related to conceptual and interactive or social abilities, and this will be very potential if PAUD teachers and parents have the understanding and ability to develop playing activities in nature for early childhood as the main activity because it can build meaningful activities for children.

Acknowledgments. The authors declare that no financial interests or benefits are associated with the execution or outcomes of this study.

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