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Teachers' Roles in Fostering Environmental Awareness in Early Childhood Education: A Qualitative Study

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ABSTRACT

Background of the study: Escalating ecological challenges caused by unsustainable human activities have intensified the global urgency to cultivate environmental awareness from an early age. Early Childhood Education (ECE) plays a strategic role in shaping pro-environmental values, attitudes, and behaviors. However, empirical studies examining how teachers enact environmental education practices in local early childhood settings, particularly in underrepresented regions of Indonesia, remain limited.

Aims and scope of paper: This study aims to explore the role of teachers in fostering environmental awareness among young children by examining their roles as role models and facilitators, identifying instructional strategies employed in daily learning activities, and analyzing supporting and inhibiting factors influencing the development of environmentally responsible character in early childhood education.

Methods: A qualitative descriptive approach was employed to gain an in-depth understanding of naturalistic practices in an early childhood education setting in Indonesia. Data were collected through direct classroom observations, in-depth interviews with teachers, the school principal, and parents, as well as documentation analysis. Data analysis was conducted iteratively through data reduction, data display, and conclusion drawing/verification to ensure analytical rigor and credibility.

Results: The findings reveal that teachers play a central role as moral exemplars in internalizing environmental values, as evidenced by children's active participation in routine environmental activities. Instructional strategies included concrete and experiential practices such as watering plants, waste sorting, and the use of visual learning media, which significantly enhanced children's engagement and sense of environmental responsibility. Supporting factors included structured habituation and adequate school facilities, while challenges were mainly related to inconsistencies in individualized guidance.

Contribution: This study contributes to the international early childhood education literature by providing empirical evidence that environmental education is most effective when embedded holistically within school culture and grounded in teacher role-modelling practices. The findings underscore the importance of sustained collaboration between teachers and parents to ensure the continuity and long-term impact of pro-environmental behaviors in early childhood.

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INTRODUCTION

Indonesia is currently facing increasingly severe ecological pressures as a result of unsustainable human activities. Large-scale exploitation of natural resources, deforestation, urbanization, and the expansion of industrial and agricultural sectors caused significant environmental degradation, including biodiversity loss, air and water pollution, and declining soil quality. These conditions not only threaten ecosystem balance but also have direct impacts on human health and the sustainability of socio-economic life (IPBES, 2019; UNEP, 2023). In Indonesia, land-use changes and weak environmental management practices have contributed to the rising frequency of ecological disasters such as floods, landslides, and droughts, further exacerbating the risk of environmental damage in the future (Kiss et al., 2022).

Numerous international reports emphasize that environmental crises and climate change require long-term approaches that are not merely technical but also educational and preventive in nature. Environmental education is a key strategy for fostering sustainable environmental awareness, values, and pro-environmental behaviors (UNESCO, 2020). A healthy environment is a fundamental prerequisite for human quality of life; therefore, environmental conservation efforts cannot be postponed. Continued environmental degradation has the potential to worsen social inequalities, threaten food security, and reduce the quality of life of future generations (Al-Saidi, 2019).

In line with this perspective, environmental education in early childhood has become increasingly important, as this developmental stage represents a critical period for the formation of character, attitudes, and foundational habits (Ardoin & Bowers, 2020; Kipping et al., 2025; Lu et al., 2024; Luo & Li, 2024; Neshteruk et al., 2023; Varela et al., 2024; Zhang et al., 2018). Research indicates that children who are introduced to environmental values at an early age are more likely to develop consistent pro-environmental behaviors into adulthood (Davis, 2015; Ernst & Burcak, 2019). Through simple activities such as waste sorting, maintaining cleanliness, and caring for plants, environmental education at the early childhood education (ECE) level has proven in building children's ecological awareness and social responsibility (Liu & Green, 2024). The habituation of environmentally friendly behaviors from an early age also contributes to the development of discipline, empathy, and concern for other living beings.

The role of educational institutions and communities is crucial in cultivating collective environmental awareness. Schools serve as strategic spaces for integrating environmental education through curricula, school culture, and experiential learning practices (Dixon et al., 2025; Gebrekidan, 2024). Teachers, in this context, play a central role as both facilitators and role models, as young children primarily learn through observation and daily routines (Bandura, 1977; Chan & Liao, 2025). Meanwhile, the involvement of communities and parents reinforces the internalization of environmental values through consistent practices at home and within social environments. The findings indicate that school- and community-based environmental education plays a significant role in improving environmental knowledge, attitudes, and pro-environmental behaviors, especially in waste reduction and management practices (Lightowlers et al., 2025).

Although international research on environmental education in early childhood has expanded considerably, empirical studies documenting teachers' concrete practices within local Indonesian contexts—especially in underexplored regions—remain limited. TK Dharma Wanita Labang was selected as the research site due to its institutional commitment to fostering environmentally responsible behaviors through routine activities such as maintaining classroom cleanliness, disposing of waste properly, and caring for plants as part of daily learning processes. Furthermore, this institution has received limited scholarly attention in relation to environmental education at the early childhood level, positioning this study to address a gap in the local literature.

Building on this context, the study aims to understand how teachers foster environmental awareness among young children, by examining their roles as mentors and role models, identifying environmental learning strategies, and analyzing factors that support or hinder the implementation of environmental education in school. Accordingly, this study is expected to

make a globally relevant empirical contribution to the development of environmental education in early childhood settings, especially in developing country contexts.

METHOD

Research Design

This study employed a single-site qualitative descriptive case study design to explore in depth the role of teachers in fostering environmental awareness among young children at TK Dharma Wanita Labang, Indonesia. A qualitative case study was selected because it enables a holistic and contextualized understanding of educational practices within their real-life setting (Creswell & Creswell, 2018; Yin, 2018). This design is particularly suitable for examining complex social phenomena, such as teacher–child interactions and value internalization, that are inseparable from their natural context (Stake, 2010). No experimental intervention was introduced, as the study aimed to document naturally occurring practices as they unfolded in daily classroom routines.

Research Setting and Participants

The study was conducted at TK Dharma Wanita Labang, an early childhood education institution that consistently integrates environmental awareness into its daily learning activities. Participants included classroom teachers as the primary subjects, children as the recipients of environmental habituation, and the school principal and parents as supporting informants. Teachers were identified as the main participants due to their strategic role in shaping children's environmental attitudes and behaviors through role models and systematic habituation (Bandura, 1977). The inclusion of multiple informants allowed for a comprehensive and multi-perspective understanding of environmental education practices within the institution.

Data Collection Techniques

Data were collected using multiple qualitative methods to enhance analytical depth and credibility, including direct classroom observations, in-depth semi-structured interviews, and document analysis (Creswell & Poth, 2025). Classroom observations focused on routine environmental practices such as waste disposal, classroom cleanliness, and plant care activities. In-depth interviews were conducted with teachers, the school principal, and parents to explore instructional strategies, institutional support, and challenges encountered in implementing environmental education. Document analysis included lesson plans, school policy documents, and photographic records of environmental activities to corroborate data obtained from observations and interviews (Bowen, 2009).

Data Analysis

Data analysis was conducted iteratively and concurrently with data collection, following the stages of data reduction, data display, and conclusion drawing (Miles et al., 2020). During data reduction, relevant data were coded and organized into thematic categories aligned with the research objectives. Data displays facilitated pattern identification and analytical interpretation, while conclusions were continuously refined through comparison across data sources to ensure analytical rigor and consistency (Check & Schutt, 2012).

Ethical Considerations

Ethical principles were rigorously observed throughout the research process. Prior to data collection, formal permission was obtained from the school principal. Written informed consent was secured from participating teachers and parents, as the study involved child participants. Parents provided consent on behalf of their children, while verbal assent was obtained from the children using age-appropriate explanations, in line with ethical guidelines for research involving minors (Alderson & Morrow, 2020). All participants were informed about the purpose of the study, voluntary participation, confidentiality, and the right to withdraw at any time without

penalty. Anonymity was maintained by using pseudonyms and excluding identifying information from all research reports.

Trustworthiness of the Study

To ensure trustworthiness, several strategies were employed following the framework proposed by Lincoln and Guba (Lincoln et al., 1985). Credibility was enhanced through prolonged engagement and persistent observation in the research setting. Triangulation was achieved by integrating multiple data sources (teachers, principal, parents) and multiple methods (observations, interviews, and documentation). Member checking was conducted by sharing preliminary findings with participating teachers to confirm the accuracy and interpretation of the data. These strategies strengthened the rigor, dependability, and confirmability of the qualitative findings (Nowell et al., 2017).

RESULTS AND DISCUSSION

Teachers' Role in Shaping Environmental Awareness in Early Childhood

The findings of this study indicate that teachers at TK Dharma Wanita Labang play a central and formative role in fostering environmental awareness among young children. This role was enacted through deliberate habituation processes that began with the cultivation of core personal values—such as hygiene, responsibility, and care for shared spaces—before progressing to broader ecological practices. Teachers consistently demonstrated environmentally responsible behavior, including proper waste disposal, maintaining classroom cleanliness, and active participation in plant care activities alongside children.

This persistent role models positioned teachers as salient behavioral exemplars, enabling children to observe, imitate, and internalize pro-environmental values in authentic, meaningful contexts. From a theoretical standpoint, these outcomes align with social learning theory, which posits that children acquire patterns of behavior through observing significant adults in their environment (Bandura, 1977). In early childhood educational settings, teachers frequently serve as children's most proximal adult role models outside the family, and thus, their behavior becomes a primary source of norms and expectations (Sobel, 1996).

The present results underscore that environmental values are not abstractly "taught," but lived and demonstrated as part of the daily routine. This supports prior findings that emphasize the importance of experiential learning in early childhood environmental education (Davis, 2015). Rather than relying solely on verbal instruction, children in this study acquired pro-environmental dispositions through embodied practices—activities that are visible, repeated, and integrated into everyday classroom life. These real-world practices foster internalization more effectively than didactic instruction alone, particularly among young children whose cognitive frameworks are grounded in concrete experiences (Gauvain, 2020; Vygotskij & Cole, 1981).

Experiential Strategies and Integrated Activities

Teachers at TK Dharma Wanita Labang applied a range of age-appropriate instructional strategies centered on experiential learning. Routine practices included plant watering, waste sorting, classroom cleaning, and material organization after activities. These strategies allowed children to participate in meaningful environmental tasks embedded within their daily schedule, reinforcing ecological responsibility through repetition and involvement.

In addition, teachers used storytelling and visual media to scaffold conceptual understanding of environmental themes. Stories with environmental messages introduced concepts such as cleanliness, responsible waste management, and caring for living things. Visual supports—such as posters depicting hand-washing routines and waste segregation steps—further reinforced these concepts, aligning with earlier research demonstrating that visual and narrative supports can enhance young learners' environmental comprehension (Davis, 2015).

Children responded positively when actively involved in hands-on tasks, displaying increased engagement, curiosity, and self-initiated participation. Empirical evidence in

environmental education suggests that action-oriented experiences—where learners directly interact with the natural or built environment—are more effective in shaping behaviors than passive learning modalities (Chawla & Cushing, 2007). The results of this study are consistent with these insights, showing that children demonstrated not only improved ecological knowledge but also observable behavioral changes, such as initiating waste disposal routines and helping peers adopt hygienic practices.

School Environment and Institutional Support

The successful implementation of environmental education in this setting was supported by a conducive learning environment and institutional backing. The physical environment—comprising designated waste bins, plant zones, and orderly, clean classrooms—facilitated consistent engagement in environmental practices. Institutional support from the school principal and active involvement of parents further bridged environmental learning across contexts, enabling behaviors learned at school to be reinforced at home.

Supportive infrastructure and administrative endorsement are known to be pivotal for sustained environmental education implementation (UNESCO, 2020). When school cultures normalize environmentally positive behaviors, children are more likely to adopt and maintain them (Liu & Green, 2024). Additionally, active parent participation suggests that environmental education transcended the classroom, gaining reinforcement within the ecological microsystem of the child's daily life—a notion articulated in Bronfenbrenner's ecological systems theory, which highlights the influence of multiple contexts on child development (Sato, 1998).

However, the study also identified challenges in sustaining consistency among children's behaviors. Some children required repeated guidance and reinforcement to maintain environmental routines, particularly during transitions or unstructured times. This variation reflects individual differences in readiness and prior exposure, as well as the influence of external contexts such as family habits and community norms (Epstein, 2018). Although overall implementation was effective, these findings highlight the need for differentiated support strategies that acknowledge learner variability within early childhood environmental education.

Interpretation in the Context of Early Childhood Development

The results of this study affirm that effective environmental education in early childhood goes beyond the transmission of factual knowledge. It involves shaping dispositions, habits, and identity, which are deeply intertwined with daily routines and consistent adult modeling. This perspective extends cognitive models of learning by emphasizing affective and behavioral dimensions as essential components of environmental education (Chawla & Cushing, 2007). The study contributes to an understanding that environmental education at young ages should prioritize holistic development—integrating cognitive, practical, emotional, and social aspects into a coherent pedagogical framework.

The findings also mirror results from international studies, which have reported that young children benefit most from environmental education that is experiential, contextualized, and socially supported (Davis, 2015). The consistency observed in this study between teacher practices and child behaviors underscores that early environmental dispositions are not merely taught but lived, a dynamic that mirrors research from other cultural and educational contexts.

Implications

The findings of this study highlight several important implications for early childhood education practice and policy. *First*, environmental education at the early childhood level should not be treated as an isolated or supplementary topic but rather integrated systematically into daily classroom routines and school culture. The results demonstrate that habituation-based practices, when consistently modeled by teachers, are effective in shaping children's pro-environmental behaviors.

Second, the role of teachers extends beyond instructional delivery to include serving as behavioral role models and facilitators of character formation. This implies that teacher

professional development programs should emphasize reflective practice, personal environmental responsibility, and the integration of environmental values into everyday interactions with children. Environmental education in early childhood contexts is most effective when teachers consciously embody the values they aim to instill.

Third, institutional support and a conducive learning environment are essential for sustaining environmental education practices. Schools that provide basic infrastructure and promote a culture of environmental responsibility create conditions that enable children to practice and internalize environmentally responsible behaviors consistently. These implications suggest that environmental education should be embedded within broader school policies and routines rather than implemented as short-term or project-based initiatives.

Research Contribution

This study contributes to the growing body of knowledge on early childhood environmental education by providing empirical insights into how teachers operationalize environmental values through habituation and role modeling in everyday classroom practices. The research strengthens the understanding of environmental education as a process of character formation rather than merely cognitive instruction, highlighting the importance of lived experiences and consistent behavioral modeling.

Limitations

This study has several limitations that should be acknowledged. The research was conducted at a single early childhood education institution, which limits the generalizability of the findings to other educational contexts with different socio-cultural and institutional characteristics. The qualitative design, while providing rich and in-depth insights, does not allow for the measurement of the magnitude or statistical significance of behavioral changes among children.

Suggestions

Future studies should involve multiple early childhood education institutions with diverse backgrounds to enhance the transferability of findings and provide comparative insights. Employing mixed-methods or longitudinal research designs would allow researchers to capture both qualitative depth and measurable changes in children's environmental knowledge and behaviors over time.

CONCLUSION

This study concludes that teachers play a pivotal role in fostering environmental consciousness, sustainable habits, and ecological responsibility among young children through consistent role modeling, habituation, and developmentally appropriate learning activities. Early childhood environmental education settings is most effective when it is embedded in daily routines and supported by a school culture that emphasizes responsibility, cleanliness, and care for the natural environment. Teachers' consistent demonstration of environmentally responsible behaviors enables children to observe, imitate, and internalize environmental values in a natural and meaningful way.

The findings further indicate that experiential and concrete learning activities, such as waste sorting, classroom cleanliness, and plant care, are particularly effective in promoting environmental responsibility among young children. These activities align with the developmental characteristics of early childhood learners, who tend to learn best through direct experience and repetition. When environmental learning is presented in an engaging and participatory manner, children are more likely to develop positive attitudes and sustainable environmental habits.

The effectiveness of environmental education is strengthened by institutional support and collaboration with parents. A supportive school environment, combined with consistent reinforcement of environmental practices at home, enhances the continuity and sustainability of

children's pro-environmental behaviors. Although challenges remain, particularly in maintaining consistent behavior among all children, systematic habituation contributes significantly to success. Ongoing teacher guidance further ensures effective implementation of environmental education at the early childhood level.

This study provides empirical evidence from an underexplored local context, contributing to global understanding of early childhood environmental education. By integrating environmental values into everyday practices and fostering collaboration among teachers, schools, and families, early childhood education institutions can lay a strong foundation for the development of environmentally responsible future generations.

AUTHOR CONTRIBUTION STATEMENT

Fitriyah: Conceptualization, Validation, Investigation and Writing—original draft. **Imelda Indah Lestari:** Methodology, Data curation, Formal Analysis and Supervision. **Zineb El Atmani:** Resources and Writing - Review & Editing.

REFERENCES

Alderson, P., & Morrow, V. (2020). *The Ethics of Research with Children and Young People: A Practical Handbook*. SAGE Publications Ltd. https://doi.org/10.4135/9781529682694

Al-Saidi, M. (2019). Environmental Policy and Sustainable Development. In W. Leal Filho (Ed.), *Encyclopedia of Sustainability in Higher Education* (pp. 619–626). Springer International Publishing. https://doi.org/10.1007/978-3-030-11352-0_434

Ardoin, N. M., & Bowers, A. W. (2020). Early childhood environmental education: A systematic review of the research literature. *Educational Research Review*, *31*, 100353. https://doi.org/10.1016/j.edurev.2020.100353

Bandura, A. (1977). *Social learning theory*. Prentice-Hall.

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, *9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Chan, K. J. D., & Liao, V. Y. (2025). Sustainability commitment, environmental achievement, and green bond premium. *Journal of Environmental Management*, *392*, 126875. https://doi.org/10.1016/j.jenvman.2025.126875

Chawla, L., & Cushing, D. F. (2007). Education for strategic environmental behavior. *Environmental Education Research*, *13*(4), 437–452. https://doi.org/10.1080/13504620701581539

Check, J., & Schutt, R. K. (2012). *Research Methods in Education*. SAGE Publications, Inc. https://doi.org/10.4135/9781544307725

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (Fifth edition). SAGE.

Creswell, J. W., & Poth, C. N. (2025). *Qualitative inquiry & research design: Choosing among five approaches* (Fifth edition). Sage.

Davis, J. M. (2015). *Young children and the environment: Early education for sustainability* (2nd ed). Cambridge university press.

Dixon, J., Baird, H. M., Field, J., & Martin, N. (2025). Longitudinal integration of environmental sustainability in the dental curriculum: Assessing changes in student awareness, attitudes and knowledge. *Journal of Dentistry*, *156*, 105710. https://doi.org/10.1016/j.jdent.2025.105710

Epstein, J. L. (2018). *School, Family, and Community Partnerships: Preparing Educators and Improving Schools* (2nd ed.). Routledge. https://doi.org/10.4324/9780429494673

Ernst, J., & Burcak, F. (2019). Young Children's Contributions to Sustainability: The Influence of Nature Play on Curiosity, Executive Function Skills, Creative Thinking, and Resilience. *Sustainability*, *11*(15), 4212. https://doi.org/10.3390/su11154212

Gauvain, M. (2020). Vygotsky's Sociocultural Theory. In *Encyclopedia of Infant and Early Childhood Development* (pp. 446–454). Elsevier. https://doi.org/10.1016/B978-0-12-809324-5.23569-4

Gebrekidan, T. K. (2024). Environmental education in Ethiopia: History, mainstreaming in curriculum, governmental structure, and its effectiveness: A systematic review. *Heliyon*, *10*(9), e30573. https://doi.org/10.1016/j.heliyon.2024.e30573

IPBES. (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services* (S. Díaz, J. Settele, E. S. Brondízio, H. T. Ngo, M. Guèze, J. Agard, A. Arneth, P. Balvanera, K. A. Brauman, S. H. M. Butchart, K. M. A. Chan, L. A. Garibaldi, K. I. J. Liu, S. M. Subramanian, G. F. Midgley, P. Miloslavich, Z. Molnár, D. Obura, A. Pfaff, … C. N. Zayas, Eds.; Version summary for policy makers). Zenodo. https://doi.org/10.5281/ZENODO.3553579

Kipping, R., Anne Simpson, S., Hannam, K., Blair, P. S., Jago, R., Martin, C. K., Toumpakari, Z., Johnson, L., Garbutt, J., Maishman, R., White, J., Langford, R., Hollingworth, W., Cochrane, M., Moore, L., Metcalfe, C., Martin, A., Chambers, S., Reid, T., … Pallan, M. (2025). Effectiveness of an environmental nutrition and physical activity intervention in early childhood education and care settings (NAPSACC UK): A multicentre cluster randomised controlled trial. *The Lancet Regional Health - Europe*, 101550. https://doi.org/10.1016/j.lanepe.2025.101550

Kiss, B., Sekulova, F., Hörschelmann, K., Salk, C. F., Takahashi, W., & Wamsler, C. (2022). Citizen participation in the governance of nature-based solutions. *Environmental Policy and Governance*, *32*(3), 247–272. https://doi.org/10.1002/eet.1987

Lightowlers, S., Raby, S., & Chuter, R. (2025). A national framework for moving towards more environmentally sustainable radiotherapy: The green radiotherapy framework. *Radiotherapy and Oncology*, 111114. https://doi.org/10.1016/j.radonc.2025.111114

Lincoln, Y. S., Guba, E. G., & Pilotta, J. J. (1985). Naturalistic inquiry. *International Journal of Intercultural Relations*, *9*(4), 438–439. https://doi.org/10.1016/0147-1767(85)90062-8

Liu, J., & Green, R. J. (2024). Children's pro-environmental behaviour: A systematic review of the literature. *Resources, Conservation and Recycling*, *205*, 107524. https://doi.org/10.1016/j.resconrec.2024.107524

Lu, C., Wang, L., Lan, M., Jiang, Y., & Wang, F. (2024). Parental stress interaction with environmental factors in childhood allergic asthma: Early life significance. *Building and Environment*, *266*, 112082. https://doi.org/10.1016/j.buildenv.2024.112082

Luo, H., & Li, W. C. (2024). Leading change toward future sustainability: Teacher environmental leadership and its impacts on the environmental attitudes of early childhood teachers. *Journal of Cleaner Production*, *442*, 141110. https://doi.org/10.1016/j.jclepro.2024.141110

Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (Fourth edition). SAGE.

Neshteruk, C., Burkart, S., Flanagan, E. W., Melnick, E., Luecking, C., & Kracht, C. L. (2023). Policy, systems, and environmental interventions addressing physical activity in early

childhood education settings: A systematic review. *Preventive Medicine*, *173*, 107606. https://doi.org/10.1016/j.ypmed.2023.107606

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, *16*(1), 1609406917733847. https://doi.org/10.1177/1609406917733847

Sato, K. (1998). Martin Bronfenbrenner. *Journal of Asian Economics*, *9*(3), 385–388. https://doi.org/10.1016/S1049-0078(99)80093-1

Sobel, D. (with Orion Society). (1996). *Beyond ecophobia: Reclaiming the heart in nature education*. Orion Society.

Stake, R. E. (2010). *The art of case study research* (Nachdr.). Sage Publ.

UNEP. (2023). *The Global Environment Outlook, Seventh Edition: A Future We Choose, the product of 287 multi-disciplinary scientists from 82 countries, is the most comprehensive scientific assessment of the global environment ever carried out.* United Nations Environment Programme.

UNESCO. (2020). *Education for sustainable development: A roadmap*. UNESCO. https://doi.org/10.54675/YFRE1448

Varela, E. G., Shelnutt, K. P., Miller, D. M., Zeldman, J., & Mobley, A. R. (2024). Policy, Systems, and Environmental Strategies to Support Healthy Eating Behaviors in Early Childhood: A Scoping Review of Existing Evaluation Tools. *Journal of the Academy of Nutrition and Dietetics*, *124*(12), 1614-1645.e23. https://doi.org/10.1016/j.jand.2024.07.160

Vygotskij, L. S., & Cole, M. (1981). *Mind in society: The development of higher psychological processes* (Nachdr.). Harvard Univ. Press.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (Sixth edition). SAGE.

Zhang, Z., Pereira, J. R., Sousa-Sá, E., Okely, A. D., Feng, X., & Santos, R. (2018). Environmental characteristics of early childhood education and care, daily movement behaviours and adiposity in toddlers: A multilevel mediation analysis from the GET UP! Study. *Health & Place*, *54*, 236–243. https://doi.org/10.1016/j.healthplace.2018.10.008