RESEARCH BRIEF

The impact of childcare playgrounds on children's health

January 2025

Sharing research

At the World Playground Research Institute, we are dedicated to sharing valuable insights from research studies and reviews through concise and accessible publications called Briefs.

Briefs provide summaries of key research findings and their implications, serving as valuable resources for policy and decision-makers.

All briefs focus on topics related to the development and design of playground as well as the impact of playgrounds on children's physical activity, mental and social health and motor skills.

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Introduction

Active outdoor play is crucial for children's health and development, and playgrounds in Early Childhood Education and Care (ECEC)* centers provide an ideal space for it.

However, the importance of these playgrounds' use for health and well-being is still unclear.

As part of the World Playground Research Institute's comprehensive scoping review conducted in 2024*, **62 studies** related to ECEC playgrounds were extracted from all published research on playground use and its health benefits for children. **The aim** was to create a more clearer and more detailed overview of ECEC playgrounds' impact on children's well-being.

In this brief, we **summarize important insights** from the scoping review, aiming to guide ECEC leaders, daycare staff, policymakers, and practitioners, like landscape architects, in making informed decisions about investments and designs in the area of ECEC outdoor spaces.

It also supports researchers in identifying areas for future research needs.

* ECEC includes centre-provided and 'family day care', privately- and publicly-funded, pre-school and pre-primary provision.

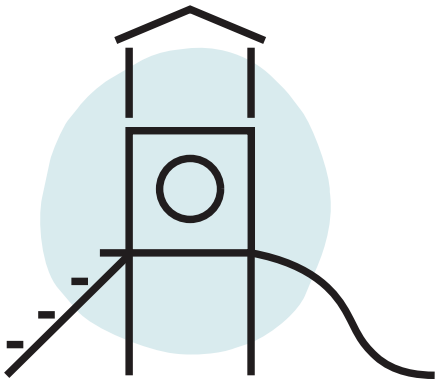
* Schipperijn, J., Madsen, C. D., Toftager, M., Nørager Johansen, D. L., Lousen, I., Amholt, T. T., & Pawlowski, C. (2024). The role of playgrounds in promoting children's health – a scoping review. *International Journal of Behavioral Nutrition and Physical Activity*, 21, Article 72. https://doi.org/10.1186/s12966-024-01618-2

Overview of the reviewed ECEC playground studies

Out of the **62 studies**, most were descriptive and exploratory studies about physical activity.

Few studies were about motor skills, social, and mental health. Nine studies reported on feasibility and pilot intervention studies, while two reported on efficacy and effectiveness studies.

These two studies measured the impact of using ECEC playgrounds in promoting physical activity.



Research quality level (1=low, 4=high)	Physical health			Social health	Mental health	Number of publications*
	Physical activity	Motor skills	Weight status			
1. Descriptive and exploratory studies	35	6	2	12	10	51
2. Feasibility and pilot studies	7	2	0	1	2	9
3. Efficacy and effectiveness studies	2	0	0	0	0	2
4. Repetition studies	0	0	0	0	0	0
Total ECEC studies	44	8	2	13	12	62

* One publication can include multiple outcomes. For that reason, the numbers in each row do not necessarily sum to the overall numbers.

Recommendations and insights from the playground studies

For ECEC leaders, daycare staff, policymakers, and architects, this review recommends …

Providing more space per child can have a positive impact on physical activity	Experts recommend that playgrounds have a **minimum space of 7 m²** per child. In a pilot study, the average playground space per child was increased from 7.4 m² to 16.7 m². The findings suggest that scheduling **extra recesses with fewer children** on the playground at once can effectively promote physical activity.
Greening an ECEC playground seems to decrease physical activity, but can have a positive effect on social health	A pilot study found that providing **high-quality**, **natural outdoor play environments** for children can have a significant positive impact on their health and well-being, without the need for costly equipment or complex interventions.
Renewing play structures in ECEC playgrounds have a positive effect on physical activity	One natural experiment study showed that **fixed sandboxes, real grass, and adding portable play equipment** (e.g., balls, slides, twirling equipment, tumbling mats) can increase children's activity levels. It also found that children prefer playing equipment with **moveable features** as they are action-oriented and versatile.

For researchers, the research on ECEC playgrounds …

- → Needs more **efficacy and effectiveness studies**, and in particular **replication and scale-up studies** to demonstrate which type of ECEC playground interventions are successful.
- → The existing evidence, however, provides good arguments for **investing in play structures** in the ECEC playgrounds to improve physical activity.

This brief is based on

- Schipperijn, J., Madsen, C. D., Toftager, M., Nørager Johansen, D. L., Lousen, I., Amholt, T. T., & Pawlowski, C. (2024). The role of playgrounds in promoting children's health – a scoping review. *International Journal of Behavioral Nutrition and Physical Activity*, 21, Article 72. https://doi.org/10.1186/s12966-024-01618-2

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- Van Cauwenberghe, E., De Bourdeaudhuij, I., Maes, L. & Cardon, G. (2012). Efficacy and feasibility of lowering playground density to promote physical activity and to discourage sedentary time during recess at preschool: A pilot study. *Preventive Medicine: An International Journal Devoted to Practice and Theory*. 55(4):319–21. https://doi.org/10.1016/j.ypmed.2012.07.014

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