

# Playground design matters: Insights on quality, gender, and usage

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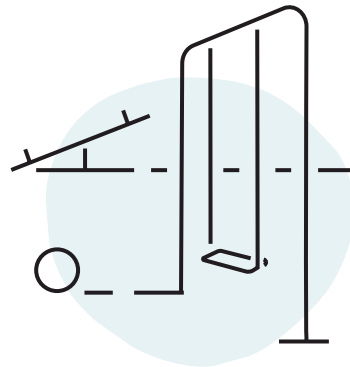
# Introduction

**Outdoor play is vital** for children's physical, social, and emotional development. Yet, opportunities for outdoor play are declining due to urbanization and digitalization.

**Public playgrounds** can help counter this trend, but their effectiveness may depend on their design.

This study aimed to investigate **how specific playground features influence children's usage**, with attention to gender differences.

Blikendaal and colleagues (2025) assessed **38 neighborhood playgrounds** in Almere



in the Netherlands, using the **Play Space Audit Tool (PSAT)**. They observed 426 children's presence through systematic headcounts.

The researchers used GEE-regression models\* to analyze the relationship between playground features and usage.

The findings are particularly relevant for **urban designers, playground developers, and policy-advisors** seeking to create inclusive, engaging, and well-utilized play environments.

## Study facts

Netherlands

0-12 years

September to October 2024

\* Generalized Estimating Equations (GEE) are a type of regression model used to analyze repeated or clustered data. They adjust for correlations within groups to ensure more accurate estimates.

# Key findings

## Play Space Audit Tool (PSAT) =

The PSAT is a simple checklist developed by Gustat and colleagues (2020) to **evaluate playground quality**.

It includes **48 questions** covering key features such as general amenities (e.g., benches, restrooms, lights),

surface types (e.g., condition, vegetation), paths (e.g., wide, smooth), and play structures (e.g., equipment, inclusivity, quality).

The tool helps researchers and planners **assess how well playgrounds support children's play** and identify areas for improvement.

## 1. Overall Playground Quality Matters

- A 1-point increase in the overall PSAT score was associated with an average **26%** increase in playground usage.
- Hence, **higher-quality playgrounds** consistently attracted more children.

## 2. Play Structures Are Crucial

- The **quality and availability of play structures** (e.g., swings, climbing frames, loose parts) had the strongest impact on use.
- A 1-point increase in this score was linked to an average **30%** increase in playground activity.



### 3. Gender Differences

- The study shows **several associations between PSAT score and playground usage**, but the relationships may be stronger for girls.
- For example, a 1-point increase in the PSAT play structure score was associated with a **29%** increase in use by boys and a **35%** increase for girls.
- For boys, general amenities such as benches and lights were negatively associated with playground usage, suggesting a preference for **more open, active play spaces**.

### 4. Play Space Audit Tool (PSAT)

- The study supports the **PSAT as a valid tool** for assessing playground quality and predicting usage.



## Recommendations

Playground design can significantly influence children's usage, with **play structures and thoughtful layout** being the most impactful features, particularly for girls. Gender-specific preferences should be considered to ensure **inclusive play opportunities**.

### Key considerations for planners and designers:

- **Invest in high-quality play structures and avoid a one-size-fits-all approach.** Prioritize diverse play elements to cater to both active and sedentary play styles.
- **Recognize that boys and girls may value different features.** Include looped and smooth paths to support girls' preferences for more static play.
- **Use tools like the PSAT to evaluate existing playgrounds.** It provides a clear foundation for making informed decisions about improvements or planning new developments based on evidence-based criteria.

By aligning playground design with children's preferences and behaviors, communities can **foster healthier, more active lifestyles** and support children's right to play.

## This brief is based on

Bliekendaal, S., Peters, E., Aldershof, S., & Ekkel, D. (2025). Playground Design Matters: A Cross-Sectional study on the association between playground features and children's usage. *Urban Science*, 9(5), 177. <https://doi.org/10.3390/urbansci9050177>

# Contributors

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