

# Public open spaces — what features encourage children to be active?

Findings from the CLAN study

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Access to public open spaces has been shown to influence physical activity levels for both adults and children<sup>1,2,3</sup>. However, little is known about what specific features of parks and open spaces might be associated with physical activity. Also little is known about whether these associations are different for boys and girls, and for younger children and adolescents.

This study sought to further explore this issue in order to more specifically inform future planning efforts. The study also sought to explore whether the features of public open spaces varied by neighborhood socioeconomic status and thus whether this may be a contributor to the lower levels of physical activity and poorer health profiles seen in disadvantaged neighbourhoods<sup>4,5</sup>.

## Study design and methods

The CLAN study was a longitudinal design involving surveys of parents and children at primary and secondary schools in areas of varying socioeconomic status in metropolitan Melbourne. In 2004 the study involved 591 families with children in grade 2 (younger children) or in years 7–10. Four hundred and eighty six families participated in the follow-up survey in 2006 at which time the children were in grade 4 or years 9–12. The study also involved an audit of 1,497 public open spaces in terms of the features and amenities offered, and

direct measurement of the level of physical activity of participating children. The proportion of children with access to any public open space was calculated, as was the distance from the child's home to the nearest public open space via the road network.

## How active are our children?

National guidelines for physical activity recommend 60 minutes (1 hour) per day of moderate-to vigorous-intensity physical activity (MVPA) for children and adolescents.

On average, younger children in the study performed more than this recommended level on weekdays (73 minutes for both boys and girls). On weekends, they were considerably more active with boys performing approximately 170 mins/day, and girls performing approximately 155 mins/day of MVPA.

Adolescents were less active than younger children, and on average did not meet the recommended levels of activity during the week. Adolescent boys performed approximately 40 mins/day of MVPA on weekdays and approximately 65 mins/day on weekend days.

Adolescent girls were less active than adolescent boys, performing on average approximately 30mins/day on weekdays and 45 mins/day on weekend days.

There were very few differences in levels of physical activity between those children of middle and low socioeconomic status.

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## Access to public open spaces and facilities

On average, children lived approximately 300m from their closest public open space, which is well within the 800m identified through previous research as a reasonable distance to walk. There was no significant difference in this regard between the socioeconomic groups.

The number of public open spaces was found not to vary between neighbourhoods of different socioeconomic status. There were, for example, a total of 285 public open spaces in neighbourhoods of highest socioeconomic status and 314 in neighbourhoods of lowest socioeconomic status (not a significant difference).

The number of playgrounds and facilities such as courts, ovals or grassed areas, also did not vary between neighbourhoods of different socioeconomic status.

**Access to open public spaces was not found to vary between neighbourhoods of different socioeconomic status.**

However, there were differences between neighbourhoods in terms of the proportion of public open spaces that had certain features. For example, when comparing public open spaces in neighbourhoods of highest and lowest socioeconomic status, those of highest socioeconomic status had:

- approximately 20% more walking and cycling paths;
- 40% more trees providing shade; and
- twice as much signage regarding dogs.

## How do features of public open spaces affect physical activity?

The study found complex associations between the features of public open spaces and levels of physical activity. These associations varied amongst young children and adolescents and amongst girls and boys. They also varied between weekdays and weekends.

The most significant finding was in relation to the presence of playgrounds and the level of activity of boys on weekends. Access to playgrounds in the local park was associated with an increase in physical activity of 25 mins/day for young boys on weekends (that is almost half of their recommended daily activity). There was no associated increase on weekdays. Although not significant, adolescent boys with a playground in their nearest public open space also performed more physical activity (approximately 16 mins/day).

There was no significant association between playgrounds and physical activity among girls of either age group.

Features such as walking and cycling tracks did not show any association with levels of activity amongst girls or boys of either age group.

Features that were important for adolescent girls included trees that provided shade, a water feature, and signage regarding dogs. For younger girls, the number of recreational facilities such as ovals, courts or grassed areas was negatively associated with physical activity.

## Where to from here?

This study highlights the complex influences on children's physical activity behaviour and supports the view that future urban planning and design of public open spaces should consider features that promote physical activity for various age groups and genders. In particular it supports the inclusion of interesting and age-appropriate playground equipment in order to promote children's physical activity.

These findings also support the hypothesis that people living in neighbourhoods of lower socioeconomic status may have fewer opportunities to be active in interesting and attractive public open spaces with a variety of features.

## References

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