

# CHILDREN'S GENDERED USE OF SCHOOL GROUNDS: THE ROLE OF THE PHYSICAL ENVIRONMENT

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## ABSTRACT

School grounds are increasingly valued for the freedom of choice they give children for operating their preferred activities. However, the physical characteristics of these places appear to provide unequal opportunities for boys and girls. This study shows that school grounds are mostly qualified for certain types of activities which are more of boys' interest and their activities can constrain girls' use. It explores the physical characteristics which can alleviate the negative impact of boys' activities on girls' and provide more opportunities for girls to use and explore the environment. Three methods have been applied in this multi-case qualitative study involving three Australian schools: (a) behaviour mapping of school grounds during the recess and lunch time period; (b) walking tours guided by children around the school grounds; and (c) focus groups of 3-5 children in each school. The results outline three main themes which centre on the physical characteristics of school grounds: (a) the design of enclosed spaces; (b) the organisation of multiple activity settings facilitated by the spatial arrangement of school buildings; and (c) incorporating natural environments in the design of school grounds. The discussion argues that these physical environments need to be valued in the design of school grounds because they can provide girls with more freedom of choice to get engaged in their preferred activities.

**KEYWORDS:** CHILDREN'S ACTIVITIES, GENDER, PHYSICAL CHARACTERISTICS, SCHOOL GROUNDS.

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## INTRODUCTION

According to the Melbourne Declaration on Educational Goals for Young Australians, the social context of school environments should promote equity, encourage children to build a sense of responsibility and act creatively to master new skills (Barr et al., 2008). Exercise of responsibility and expression of creative potential are part of the definition of agency (Bandura, 2001). School environments are one of the first arenas where children learn to negotiate their agency (Rainio, 2008). Their expression of agency is not necessarily confined to their experience of formal school environments (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2014). School grounds tend to give children more freedom of choice for operating their preferred activities independent of the formal education.

There seems to be a tension between girls' expression of agency and the nature of activities facilitated by the school grounds. The organisation of schools strongly values activities through which girls may not be able to express self in a way that is interpreted as being agentic by the school structure (Rainio, 2009). Boys have more freedom of choice in the use of school grounds because they are provided with the traditional play courts in which girls may not be interested to use in the same way (Dyment, Bell, & Lucas, 2009). The physical environments of schools may fail to support the richness of girls' own way of self-expression in their activities.

Many studies elaborate on boys' and girls' use of different parts of school grounds (J. Dyment & O'Connell, 2013; J. E. Dyment et al., 2009; Mårtensson et al., 2014; Rönnlund, 2013; Samborski, 2010). Although a few of these studies draw attention to the gendered use of school grounds, their results are mostly based on periodic observations of children in predetermined target areas (J. Dyment & O'Connell, 2013; J. E. Dyment et al., 2009). Almost no study adequately explores children's perspectives on the physical characteristics which can reinforce the social constraints girls might experience in the use of school grounds.

The current study argues that the design of school grounds can impose limitations on girls' activities while giving more opportunities to boys. Firstly, it identifies the differences between preferred activities of Australian boys' and girls' within school grounds. Specifically, the current research focuses on the nature of boys' activities which interfere with girls' free use of school grounds. Further, the analysis proposes the physical characteristics which alleviate the negative impact of boys' activities on girls'.

## BACKGROUND

Many studies highlight gender differences between the nature of boys' and girls' preferred activities within school grounds. Findings suggest that children's aim of freely chosen activities within school grounds is socialisation, and boys' and girls' ways of socialisation are different (Baines & Blatchford, 2011; Fromberg & Bergen, 2006; Paechter & Clark, 2007). Boys socialise more through competitive

rule-bound sports (J. E. Dyment et al., 2009; Hyndman & Lester, 2015). In contrast, girls often view school breaks as an opportunity for intimate verbal interaction (Hyndman & Lester, 2015; Paechter & Clark, 2007). They are more engaged in open ended play, sedentary or moderate physical activities which are creative, more cooperative and less competitive (J. E. Dyment et al., 2009). They can speak easily during moderate physical activities while vigorous physical activities make them breathe harder and faster which impedes their verbal interaction (Australian Government Department of Health, 2014).

Literature on the use of playgrounds and schoolyards informs gender differences in the spatial dimension of their activities. Girls often operate a wide variety of activities in small groups (two or three girls) (Karsten, 2003). They tend towards occupying more confined territories in play, suggesting that many girls do not need much space for their preferred activities (Karsten, 2003; Paechter & Clark, 2007;

Rönnlund, 2013). Boys, in contrast, usually play in larger groups and in more limited types of activities (Karsten, 2003). Because they tend to play in large numbers, they arguably control more extensive spaces than girls (Karsten, 2003).

A few studies challenge the design of school grounds which reinforce the exclusion of girls from the use of space (Barbour, 1999; J. Dymont & O'Connell, 2013). While boys dominate the play space girls and less physically competent children are observed to use the sidelines, unable reluctant or not willing to participate in the dominant activities (J. Dymont & O'Connell, 2013; J. E. Dymont et al., 2009). Peripheral spaces and hidden corners seem to provide a safe refuge for boys and girls who do not want to engage in active, rule-bound play (J. Dymont & O'Connell, 2013; Mårtensson et al., 2014).

The nature of children's activities within a setting tends to influence the behavioural patterns of that place. Previous literature shows that boys and girls tend to use different areas of the school ground totally separated from the activities of the opposite gender. Dymont, Bell, and Lucas's (2009) observations of several target areas within Australian schools indicate that boys use the sporting areas, whereas the canteen courtyard is often used by many girls who choose to simply sit in circles, talk and play quiet games. The social characteristics of each target area seem to encourage certain types of activities resulting in the exclusion of a gender not interested in such activities.

The literature strongly argues for the natural environment which engages a high percentage of both boys and girls in moderate physical activities. Research suggested that projects of greening the school grounds resulted in more diverse types of activities in which both genders tend to involve (Jansson, Gunnarsson, Mårtensson, & Andersson, 2014; Mårtensson et al., 2014). Furthermore, both boys and girls participated in exploring areas hidden by trees and bushes, climbing over boulders, playing in the sandpit and crawling through long grass in imaginative play during school breaks (J. E. Dymont & Bell, 2008; J. E. Dymont et al., 2009). The natural environment seemed to be gender-neutral and offered good opportunities to promote gender equity within school grounds (Änggård, 2011; Lucas & Dymont, 2010; Refshauge, Stigsdotter, & Petersen, 2013; Sargisson & McLean, 2012).

Findings from the literature on the gendered use of school grounds mainly points to the correlation between gendered activities and the physical characteristics of each setting. The results are mostly derived from observations of children indicating the intensity of activities in each setting. These studies fail to draw enough attention to children's own perspectives on both the social and physical characteristics of the settings which influence this binary divide. Children might choose some settings for both the physical affordances and the social characteristics determined by boys' activities. Although nature can afford activities of both genders' interest, previous studies lack adequate explorations on the social characteristics of natural settings that encourage children's use. This study explores the physical characteristics that can influence the social character of a setting, alleviating the negative impact of boys' activities to afford girls' use of the place.

## **THEORETICAL FRAMEWORK**

The key theoretical framework of this study is guided by the ecological theories of affordances (Gibson, 2014) and behaviour settings (Barker, 1968). The association between children's preferred types of activities and the socio-physical characteristics of their selected places within school grounds can be explained by these theories. The environmental characteristics of affordances within school grounds can support boys' and girls' preferred activities. The dynamic interplay between the social and physical environment of a behaviour setting can explain the role of the physical environment in the dynamic influence of activities within a setting.

## **METHODOLOGY**

Three public primary schools were selected in Sydney to be involved in this multi-case qualitative study. The selected schools represent some contrasting features (i.e. vegetation, buildings' spatial arrangement, and density) that help to assess the varying socio-physical characteristics of children's selected places. Three methods were applied within school grounds and during the recess and lunch time periods: (a) 60 behaviour mapping sessions in three school grounds; (b) 24 walking tours guided by children around each school ground; and (c) six focus groups of three to five children in each school. Data was collected with open-ended, semi-structured questions in walking tours and focus groups about student's preferred activities in their selected places within the school grounds.

Participants of this study were children aged eight to 10. Compared with younger children in primary schools (aged six and seven), there is a greater difference between the play patterns of boys and girls in this age group (Fromberg & Bergen, 2006). Their activities are more likely to provoke conflict in their selected places.

## **FINDINGS**

### ***TYPES OF PREFERRED ACTIVITIES AND THEIR SOCIAL CHARACTERISTICS***

The patterns in the activities of boys and girls persisted across three selected schools. Findings indicated that there were some activities common to both genders including some vigorous physical activities such as tags around the trees and bushes, moderate physical activities such as playing on the climbing equipment, balancing, jumping and sedentary activities such as playing cards. On the other hand, children's participation in other types of activities demonstrated a clear gender bias. Boys of three selected schools showed a strong preference towards ball games and the use of traditional playing courts (e.g. handball courts, soccer courts, basketball courts). Girls in this study, on the other hand, showed more preference towards sedentary and moderate physical activities which include verbal interaction. Within the three selected schools, girls were strongly interested in practicing gymnastics (e.g. do flips, handstands, and cartwheels) and socio-dramatic play (e.g. Mums and Dads, the Voice, Dragons). In addition, they engaged in conversations and story-telling about imaginary characters during play. Although many girls expressed interest in playing handball and soccer, they frequently complained about boys reserving the courts that resulted in losing their opportunity to play.

The findings identified the nature of places where boys' activities can influence girls' use. A large group of boys dominated the main part of the grassed area big enough to play soccer or touch football. Their play, which involves physical intensity, intimidated girls into using the peripheral spaces or the corners to keep safe from getting struck by the balls or collisions with the boys. A great volume of evidence emerging from the analysis of the walking tours and the focus groups in this study included girls' complaints about boys taking control of the grassed area in which they would like to practice gymnastics or play soccer. During the instances when both girls and boys play soccer in the same field, boys occupied the whole area making girls to stick to their half part. Overall, the activities of boys were described as rough by the girls forcing them to use confined peripheral areas or places away from their play.

### ***KEY PHYSICAL CHARACTERISTICS OF ACTIVITY SETTINGS***

The main contribution of this study is in identifying the key physical characteristics of the settings that reduce the negative impacts of boys' activities on girls'. Three main themes emerge from the analysis of data suggesting that girls prefer to use enclosed spaces; the courtyards away from big grassed areas;

and the natural environment around grassed areas. These types of places are found to provide suitable behaviour settings in which girls are able to use the affordances of the physical environment to express their agency more freely without the intimidation of boys.

### **ENCLOSED SPACES IN THE CORNERS**

Children, especially girls, choose to use enclosed spaces because the barriers provide them with private settings where other children do not interrupt their play and run across. Compared to boys, girls frequently express their sensitivity to crowds when using the central courts. Enclosed spaces such as corners are of particular interest to girls because they are partly or completely away from grassed areas where they are likely to be kicked by balls or hit by boys running everywhere. Figure 1 illustrates examples of enclosed spaces in three selected schools.

### **SPATIAL ARRANGEMENTS OF THE BUILDINGS**

A considerable amount of the school grounds in three selected schools is located in between school buildings. The spatial arrangement of the school buildings results in the creation of multiple settings each of which is used for certain types of activities not necessarily compatible with each other. For example, children usually use the COLA (Covered Outdoor Learning Area) for eating and sitting down games which can be easily interfered by ball games. On the other hand, boys do not usually choose this area for running games because they might trip over people who sit there, playing cards or eating.

Although girls use the COLA more than boys, they express their preference for using the physical affordances of the grassed area (soft ground, sunny in winter, open and next to nature) as well. Their main reason for using the canteen courtyard including the COLA is to keep their activities away from boys who usually leave this area to play on the grassed area. Figure 2 depicts multiple activity settings created in-between buildings in three selected schools.

The creation of multiple settings also supports the establishment of multiple separate play areas. Children prefer to play in separate fields instead of using one large area in which multiple groups play in the same field. The larger the number of children in a space, the more rough their play tends to be and the more children register feelings of crowding.

### **THE NATURAL ENVIRONMENT**

Bushes and trees can work as barriers around grassed areas controlling the flying balls, and making quiet places for the use of children who are sensitive to getting hit by the balls. In contrast to ball games in grassed areas, the nature of boys' activities around the trees and bushes is more similar to girls' and does not usually come into conflict with them. The natural environment gives children (mostly girls) a safe setting to get engaged in playing with malleable materials (e.g. wood chips, sticks, leaves and mud) in several constructive and imaginary types of play. Both genders play chasing games behind the trees and between the bushes. Although girls are observed using the sidelines of the grassed areas, they repeatedly express their strong desire to use the central part of the grassed area because they think it is a large field and everyone is entitled to use it. Figure 3 illustrates the lines of trees in three selected schools next to the grassed area.

## DISCUSSION

This study acknowledges the literature informing the nature of boys' and girls' preferred activities. Consistent with previous studies, boys are observed as being more interested in traditional games and sport based physical activities whereas girls indicate a greater interest in sedentary or moderate physical activities which include verbal interaction (Baines & Blatchford, 2011; J. E. Dymont et al., 2009; Fromberg & Bergen, 2006; Pellegrini & Bohn, 2005). Although boys dominate the ball courts and the grassed area, it does not necessarily mean that girls would not like to use them. Girls frequently complain about boys taking control of the grass and the courts inhibiting their use.

The current study also supports past literature that propose that girls are more likely to use the peripheral areas and the corners compared to boys (Dymont & O'Connell, 2013; Dymont et al., 2009; Karsten, 2003; Paechter & Clark, 2007). However again, their use of these places does not necessarily mean that they do not wish to use the main grassed areas. From girls' perspectives, peripheral areas are less crowded and interfered with by others, particularly boys. Therefore, girls select these places due to privacy and control that is often not achievable in other areas.

The natural vegetation is also found to be more inclusive for the types of activities both genders are interested (Änggård, 2011; Lucas & Dymont, 2010; Mårtensson et al., 2014). In addition to the affordances of the natural environment which supports natural play, it provides safe settings around the grassed area in which both girls and boys, who are crowd sensitive can play peacefully.

This study shows that the design of multiple activity settings within the school grounds can support the diversity of children's types of activities. For example, the canteen courtyard and the main grassed areas are popular for different types of activities (J. Dymont & O'Connell, 2013; J. E. Dymont et al., 2009). Although the social characteristics of the COLA and the canteen courtyard are more compatible with girls' activities, the affordances of this area are not adequately supportive. Girls prefer the soft surface of the grass to sit, eat, talk and play rather than the asphalt.

When the school ground provides opportunities for a variety of activities, children have more alternatives for engagement in their preferred activities. This reduces the probability of children being ignored or rejected by peers and increases the opportunity for children to initiate and sustain physical activities and social skills and develop their sense of agency (Barbour, 1999; Kumpulainen et al., 2014).

## CONCLUSION

The results from this study illustrate that the main grassed areas are the most problematic places with respect to gendered use. Although girls would like to use the main grassed areas, they are afraid of getting struck by the balls flying in these areas or being involved in collisions with boys running around. They use enclosed spaces such as corners, sidelines around the grassed areas, alternative courtyards rather than the grassed area to keep away from boys' activities. They find the social characteristics of these places more supportive for the nature of these activities although, they still prefer to use the physical affordances of the main grassed areas.

This study argues that school designers need to consider this dynamic interplay between the social and physical characteristics of a setting to support both genders' activities. They need to use the physical characteristics that alleviate the negative impact of boys' activities on girls' to provide more equitable opportunities for each gender to use the school ground and express their agency.



*Figure 1: Examples of enclosed spaces at the periphery of major play areas which girls prefer to use from all three schools*



*Figure 2: Multiple settings created between buildings used for different types of activities from three selected schools*



*Figure 3: The line of trees and bushes provides a safe setting next to the grassed area in all three schools*

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