Social play amongst preschool-aged children from an inner and an outer metropolitan suburb

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Abstract

Play is essential for healthy child development. While, the relationship between neighbourhood and young children's physical activity is well reported in the literature, less is known about preschool children's social play or inclusion in different suburban settings.

This study took a mixed methods approach. Seventy-two parents from an inner-suburb and 26 parents from an outer-suburb in a metropolitan city in Australia returned a survey on: who their preschool age children played with and where their children played (n = 98). Twenty parents also consented to a follow up open-ended interview (n = 20).

Children from the inner-suburb played more with non-related children ($p < 0.05$) and in a wider range of formal and informal settings than children from the outer-suburbs. Neighbourhood, family and planning policy contributed to the differences in child socialisation and these were mapped using Bronfenbrenner's Social Ecology model. Findings have implications for both service providers and policy makers to ensure greater opportunities for social play and inclusion in suburban settings.

Key words: Neighbourhood, suburban, parents, children, play, socialisation.

Introduction

All children have a right to play (United Nations, 1990). Through play children learn how to interact with others, and their cultural, physical and social environments (Rodger, 2010). As children develop, they engage in all forms of play with social, pretend play becoming a leading activity during the preschool (typically 5 years and under) stage of development (Whitebread & O'Sullivan, 2012). Children who have the opportunities to play and engage with others have been found to be more socially interactive (Lindsay & Cowell, 2003), have greater levels of self-regulation (Whitebread & O'Sullivan, 2012); creatively problem solve (Russ, et al., 1999) and have better

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physical, social and behavioural health outcomes (Brussoni et al., 2015). Thus understanding the different influences on children's play is essential in supporting healthy child development.

The family environment is an important influence on children's play (Ziviani & Rodger, 2006). Access to play activities such as swimming pools and playgrounds have been found to be impacted by the family's socio-economic status and parents' perceptions of safety (Ziviani et al., 2008; Kimbro & Schachter, 2011). Opportunities for children to engage in self-directed play and risky outdoor play have been reported to be declining (Brussoni et al., 2015; Gray, 2011), in part in relation to parents' concerns about stranger danger. Consequently, children's play has been reported to have moved indoors (Brussoni et al., 2012; Jarvis et al., 2014).

Children's play is also influenced by the physical design of their neighbourhood environment (Rodger, 2010). For children to engage in play, a child requires others to play with, space, a safe environment, and play materials (Rodger, 2010). Neighbourhood environments can influence children's play in a number of ways. The physical structure of neighbourhoods including street design are significant. Studies suggest that cul de sac or dead end street designs are more conducive to children's unstructured, outdoor play because they limit traffic and are perceived as safer (Veitch et al., 2006; Veitch et al., 2010; Hoschild & Thomas, 2013). Arts et al. (2012) found that footpaths close to home were important venues for play, especially where parallel parked cars provided a barrier to passing traffic. Furthermore, neighbourhoods with reduced proximity between homes were associated with increased outdoor play amongst young children (Roemmich et al., 2006), as were those with good quality, accessible public open spaces (Roemmich et al., 2006; Grigsby-Toussaint et al., 2011; Sanders et al., 2015).

The neighbourhood social environment also contributes to children's opportunities for unstructured play. Kenny (2012) found a reduction in peer play amongst preschool age children in unsupportive neighbourhoods (e.g. neighbourhoods where people didn't help each other out, watch out for each other's children or could be trusted). Neighbourhood social cohesion on the other hand was positively associated with outdoor play across a wide range of children's age groups (Arts et al., 2010). Similarly, Veitch et al. (2010) found an increase in children's active, free play where children had a good friendship network.

Despite this evidence, there are significant gaps in our understanding around the social and physical environments of neighbourhoods and children's play. For example, most of the research on children's unstructured play with peers has focused on primary school-aged children or older. Furthermore, many studies have studied children's physical activity, rather than play in general. In previous studies we have identified that parents in different suburban settings in Melbourne, Australia, had different preferences and experiences around raising their preschool-aged children (Andrews et al. 2014; Andrews et al. 2018). For example, parents in an inner-suburb preferred to walk around their neighbourhood with their children, tended to use local public open space more than parents in an outer-suburb and had stronger local social networks. These differences were related to both parental preferences as well as physical aspects of their neighbourhoods.

In the current study we returned to the same inner and outer suburbs and explored parents' experiences of their preschool aged children's play in the two communities. Specifically, we aimed to compare who children played with and where they played in the two communities, along with the reasons for any differences in children's play experiences. Findings are then discussed using Bronfenbrenner's Social Ecology Model (Bronfenbrenner, 1994), to understand the levels of influence of contextual factors on children's social play, from the proximal to the distal, and to explore policy and practical implications of the findings.

Methods

This was a mixed methods study of parents of pre-school-age children, who lived in selected inner and outer-suburban areas, one located >25km and the other <10km from the central business district of Melbourne, Australia. The suburbs researched in the current study were chosen previously as they were home to the highest percentage of children aged 0-4 years for an inner and outer municipality of Melbourne (Australian bureau of Statistics [ABS], 2011). To be eligible, participants were required to have lived in their suburb for at least 12 months and be a parent of at least one preschool-age child. The research took a stratified purposive approach to recruitment of parents. Participants were recruited via preschools in two suburbs within each of the two municipalities. This study was approved by the institutional Human Ethics Committee prior to commencement of the research.

As there were no surveys available that aligned with the aims of the study, a new survey was developed based on Creswell's principles of survey design (Creswell, 2009). The survey comprised 26 questions. There were 15 closed questions which collected demographic data such as: How long have you lived at your current address? (response in years), your highest educational qualification, and access to a car during the week with a yes/no response. There were then 11 questions on their children's play in formal and informal settings. The questions required parents to fill in how many hours their child was involved in formal settings such as preschool, playgroup, various classes such as swimming, music or dancing classes. There were four questions asking about hours playing in informal settings and the location of these settings. These questions were presented in a closed format. Each question on play in informal settings divided play into: playing with siblings or extended family, playing with non-relatives, playing with adults, or child playing by themselves and where this play took place. Parents could nominate more than one category, as playing with siblings and extended family (and other combinations of social groups) may not be mutually exclusive. Questions followed this format for typical and non-typical day of the week and a typical and non-typical weekend. Parents were asked an open question about the child's favourite toys and then to choose from a list of play materials and list their child's top three choices. The survey concluded with a closed question on impacts to their child's play such as, health issues, access to public space, and access to transport. For each closed question, there was an option to tick 'other' with a comment. The survey was trialled by the research team before distribution.

Surveys were distributed via Council mailing lists to families whose children attended the preschools. Participants returned their survey and consent form for an interview in a reply paid envelope to the researchers. Quantitative survey data were analysed using SSPS version 24. Descriptive statistics using frequency distributions were used to analyse the demographic data. To analyse significant differences between the inner and outer suburb groups, a Mann-Whitney U was used as there were unequal sample sizes (Daniel, 2005). To compare who the children played with, where and what they played between the two groups (inner and outer suburbs), descriptive statistics using mean and standard deviation were used and a Mann-Whitney U was used to explore significant differences between groups.

At the conclusion of the survey, parents were also asked if they wished to be interviewed to explore their responses in more detail. A semi-structured interview guide was developed to provide opportunities for participants to add to their answers from the survey. Questions included: Tell me about who your child plays with? Tell me about where your child plays? Prompts were used throughout the interviews to engage participants in further discussion on their child's play. A total of 20 parents (10 from each of the two communities) who consented were interviewed. Parents were interviewed by telephone at a time nominated by them. Interviews took between 30 minutes to one hour. The qualitative interviews were recorded, transcribed verbatim and analysed thematically. Analysis of the interview data was informed by a socio-ecological approach to understanding children's play and considered child, parent and neighbourhood influences on the play

experience.

Results

Participant Characteristics

There were 72 parents who responded from the inner suburbs and 26 who responded from the outer suburbs. The demographic profiles of the participants are outlined in Table 1. There was a significant difference between the two areas in the highest level of education ($p = .001$) with 34.4% of the inner suburb participants having a post-graduate qualification compared to 15.4% of participants from the outer suburb. Significantly more participants in the outer suburb held a health care card indicating they were a recipient of government support (38.5%) compared to participants in the inner suburb (15.3%) ($p = .02$). Although specific data were not collected on parents' income, possession of a health care card is indicative of having a lower income. Just under 78% (77.8%) of participants in the inner suburb were born in Australia compared to 46.2% Australian born participants in the outer suburb. There were no significant differences with regard to access to a car during the week, length of time lived at their current address, household income spent on housing, and hours per week in paid work.

Table 1. Demographic details

Variable	**Inner Suburb (n = 72)** Mean (SD)	**Outer Suburb (n = 26)** Mean (SD)
Time lived at current address	5.9 (4.16) years	4.3 (2.8) years
Income spent on rent/mortgage	26.4% spent up to ¼ 65.3% spent between ¼ and ½	26.9% spent up to ¼ 38.5% spend between ¼ and ½
Hours in paid work	16 (14.6) hours per week	10.2 (15.4) hours
Average number of children in the household	2	2
Average age of first child	5.3 (2.5) years	5.7 (1.9) years
Highest qualification***	34.4% postgraduate*** 37.5% degree 13.9% certificate 1.4% year 12 2.8% not completed year 12	15.4% postgraduate*** 34.6% degree 19.2% certificate 11.5% year 12 11.5% not completed year 12
Marital status	87.5% married 1.4% separated 6.9% de facto 4.2% never married	88.5% married 7.7% separated 3.8% never married
Country of birth	Australia 77.8% Vietnam 6.9% England 2.8% India 2.8% Fiji, Malaysia, New Zealand, Thailand, UK, Zimbabwe - 1.4% each	Australia 46.2% Indonesia 7.7% Bosnia Hercegovina, Burma, Chile, China, Germany, India, Iran, Pakistan, Poland, Singapore, Vietnam, Yugoslavia - 3.8% each

Responded to survey	Mother 95.8%	Mother 84.6%
Holding a health care card	Yes 15.3%	Yes 38.5%
Access to a car Monday to Friday	Yes 98.6%	Yes 92.3%

Note: ***$p < .001$

Who do children play with?

Children in our study engaged in play in both formal and informal settings during a typical week. Table 2 presents the data for formal activities during a typical week for participants in the inner and outer- suburbs. Overall, children from the inner-suburb were involved in more formal activities. Attending preschool was the formal activity that the majority of families engaged with.

Although children from the inner-suburbs engaged in more formal activities overall, in the open-ended interviews, parents from the outer-suburbs emphasised the importance of formal activities as a way of meeting people and a source of friends for their children, in their new and developing neighbourhoods. For example one parent explained:

> We're a new estate here… Ah, yeah and I'm also on a lot of committees and stuff so I meet people through a lot of avenues… We also run a playgroup in the estate so we meet a lot of people socially through that and he goes to that as well. (P77 outer)

Table 2. Where children play in outer and inner suburbs in formal settings

During a typical week day, how many hours does your child spend	**Inner suburb (n= 72)**		**Outer suburb (n= 26**	
	n	**%** of total for each option	**n**	**%** of total for each option
at childcare?	41	91.1%	4	8.8%
family day care?	2	100%	0	0.00%
informal care?	29	80.6%	7	19.4%
preschool?	45	64.3%	25	35.7%
playgroup?	13	72.2%	5	27.8%
music class?	7	100%	0	0.00%
swimming?	48	81.4%	11	18.6%
dancing class?	12	63.2%	7	36.8%
Gymbaroo?	14	93.3%	1	6.7%
reading time at the library?	14	66.7%	7	33.3%
other structured activities?	10	71.4%	4	28.6%

Table 3 presents data for children's informal play settings in relation to who they play with. To analyse this data, participants' responses were ranked from 1 to 4, with: 1 = least hours, 2 = a few hours, 3 = some hours, and 4 = most hours. The data shows children from the inner-suburbs spending significantly more time playing in informal settings with non-related children during the week.

Table 3. Who children played with in informal settings, comparing inner suburb and outer suburb.

	Inner suburb (n=63)		**Outer suburb (n=36)**	
	Mean	**SD (±)**	**Mean**	**SD (±)**
Typical week day unstructured play hours child spends with siblings or children from extended family?	3.17	.98	3.28	1.03
Typical week day unstructured play hours child spends with nonrelated children?	**2.29***	1.17	**1.80***	1.04
Typical week day unstructured play hours child spend with an adult?	2.94	.97	2.78	.90
Typical week day unstructured play hours child spend by him/herself?	2.67	1.05	2.75	1.13
Typical weekend day unstructured play hours child spends with siblings or children from extended family?	3.33	1.00	3.39	.99
Typical weekend day unstructured play hours child spends with nonrelated children?	2.02	1.02	1.94	1.01
Typical weekend day unstructured play hours child spend with an adult?	3.17	.64	2.94	.98
Typical weekend day unstructured play hours child spend by him/herself?	2.56	.88	2.69	1.04

Note: Responses ranked 1 to 4 with: 1 = least hours, 2 = a few hours, 3 = some hours, and 4 = most hours

*$p<0.05$

There are a number of possible explanations for this. Table 4 outlines some of the factors parents identified as hindering their children's play and these were further explored in open-ended interviews. In particular, inner-suburban parents revealed that their close proximity to other families provided opportunities for informal socialising and children's play. For example one parent said:

> We actually know a good selection of children in the neighbourhood… it's just through running into each other in the street, we're basically staring at each other from the front of our houses. (P6 Inner)

Table 4. Impacts on play

Impact on play	Inner suburb n - 72	Outer suburb n = 26
Ongoing health issues for child	5 (6.9%)	5 (19.2%)
Ongoing health issues for carer	1 (1.4%)	6 (23.1%)
Ongoing health issues (other family)	1 (1.4%)	3 (11.5%)
Paid work commitments of carer	24 (33.3%)	4 (15.4%)
Concerns about safety	7 (9.7%)	11 (42.3%)
Access to open space	4 (5.6%)	4 (15.4%)
Quality of public space	4 (5.6%)	8 (30.8%)
Access to transport	0	4 (15.4%)
Don't know local families	12 (16.7%)	9 (34.6%)
Other	12 (16.7%)	3 (11.5%)

Outer-suburban parents however, reported not knowing families in their local areas as a barrier to their children's play (Table 4). Although there was no significant difference in the length of time families had lived in their homes in the two communities, the fact that many of the outer-suburban estates were new (as indicated from the quote of P77 outer, above) and often still under development, may have limited the proximity of other families and thereby their children's opportunities for peer play. The influence of not having access to other children on children's play was further highlighted in interview data. For example one parent explained:

> Electronic games, he's really into them the last maybe 6 months because he's just getting bored with his other toys and he wants something else and there's no other kids to play. (P68 outer)

Where do children play

Table 5 presents data on where children in the two communities play when children are not organised in formal activities such as preschool. Playgrounds or parks and the home of friends were the setting where the majority of inner-suburban children would spend play time with non-related friends. Open-ended interviews explored the reasons for this. Parents from the inner-

suburbs, emphasised how important these areas were for their children, because of their limited private outdoor space:

> There's always people at the park because it's such a busy area with so many kids his age, you'll always see people there, or for swings which he loves, which we don't have so we'll go there for that… or to kick a ball because we don't have room for that. (P55 inner)

Table 5. Where children play with non-related friends in informal settings

Where play	Inner suburb n = 72	Outer suburb n = 26
Inside the home	3 (4.2%)	6 (23.1%)
Outside the home	3 (4.2%)	5 (19.2%)
Home of other relative	1 (1.4%)	3 (11.5%)
Home of friends	18 (25%)	6 (23.1%)
Playground/park	20 (27.8%)	6 (23.1%)
Indoor playground	0	3 (11.5%)
other	12 (16.7%)	3 (11.5%)

Furthermore, regularly walking, cycling or scootering to and from these parks allowed for further encounters with peers and informal play activities. One parent explained:

> When you go to a park or a playground it's the journey on the way there which will always stimulate conversation, it's really great for the children to travel together as a group and you know enjoy the getting there as well as the playground. (P48 inner)

In contrast, more outer-suburban children played within the home environment. Although parents reported visiting local parks and playgrounds in interviews, many discussed being unhappy about the quality of the facilities and the safety of these spaces, aligning with the data in Table 4. For example one parent said:

> We've got one park, it's not very good but it's all that we've got. Yeah it's sort of sandwiched between a street and two courts and there's heaps of traffic that goes past and the equipment that's there is really not that good, there's old equipment that's been broken down and old parts that have been removed so like a slide removed but not replaced. (P79 outer)

Concerns about traffic were a safety issue mentioned by several outer-suburban parents as a barrier to visiting local parks in the open-ended interviews, however, traffic wasn't the only safety concern mentioned. One parent explained:

> You've got a certain amount of people they don't care, they just leave their dogs without control, just running around you know, and very often, in certain playgrounds and the football pitch… even when there's kids running around there's still a certain amount of people coming with dogs running all around

> which is crazy to me. (P78 outer)

Interestingly, although few parents from the inner-suburb identified safety as a barrier to their children's play in the survey (Table 4), an enclosed street design and passive surveillance were described as being conducive to children playing outside the home environment, with their peers, in both communities:

> It's a dead end street so it works, we've got, um a few neighbours with similar aged kids so it's actually made everyone quite close and we've made a really good network. (P41 inner)

Discussion

This study revealed some of the differences in children's social play in two Australian suburban contexts and the various factors that may contribute to those differences. Children in the inner-suburb played more with non-related children and engaged in more formal activities, than outer-suburban children. Inner-suburban children also played in more diverse environments such as homes of friends, in parks and playgrounds in comparison to the outer suburban children who played more at home. There were a number of intersecting influences that affected children's social play revealed in our study, which have implications for service providers and policy makers. In order to explore these in more detail and make recommendations for policy and practice, our findings are discussed using Bronfenbrenner's Social Ecology model.

Bronfenbrenner's Social Ecology model was originally developed to explore the layers of contextual influences on children's health and development, from those micro system factors that most directly affect a child (such as parents and local neighbourhoods) to exosystem and macrosystem factors with more of a trickledown influence (such as policy and social norms) (Bronfenbrenner, 1994). In the current study we consider the layers of influence on children's play.

At the microsystem level, parents are key play providers for their children, especially in the preschool years in Australia. While cost was not specifically mentioned as a barrier to children's play amongst outer-suburban parents, a higher proportion of parents from this setting were recipients of government benefits than inner-suburban parents. Aligning with our findings, a previous study by Ziviani et al., (2008) found that children in the inner-suburbs in an Australian city, participated in more formal paid activities because their families could afford to pay for participation in these activities. However, while outer-suburban parents utilised formal activities to a lesser extent in our study, they placed high value on these as a means of engaging with other families, in line with previous research (Andrews et al., 2014). This has implications for service providers in these communities, with the need to consider offering more low-cost activities for families to ensure opportunities for social inclusion. Provision of facilitated playgroups in shopping centres is a model that could be considered to promote social play for children in the outer- suburban setting. These have been shown to successfully engage disadvantaged families in Australia and the UK (Evangelou et al., 2013; McEwan, Andrews & Stagnitti, 2015) and allow children to socialise and play with non-related peers at minimal or no cost.

Parents' safety concerns were cited as a barrier to children's play by more outer-suburban than inner suburban parents. While these concerns related in part to physical features such as traffic, social elements were involved as well. Parents' perceptions of safety (as opposed to actual risk) may be important, aligning with previous work indicating parents from inner-urban areas were more pragmatic about children's safety than those from outer-suburban areas (Andrews et al., 2016). Perceptions of safety may also relate to outer suburban parents not knowing

other families in the area. These two findings align with studies showing less peer play in unsupportive neighbourhoods (Kenny et al., 2012) and positive associations between possessing local social networks and outdoor play (Arts et al., 2010; Veitch et al., 2010). Addressing some of the physical factors that reduced opportunities for socialisation with non-related peers, especially amongst outer-suburban children, may improve perceptions of neighbourhood safety and children's opportunity for social play.

Local playgrounds were one such physical, microsystem factors that influenced children's social play in our study. In line with previous studies, access to high quality local playgrounds impacted on where parents took their children to play (Roemmich et al., 2006; Grigsby-Toussaint et al., 2011; Sanders et al., 2015). In the outer suburbs, parents reported that the quality of local playgrounds was a barrier to their children's play. Our findings support previous work (Brussoni et al., 2012; Jarvis et al., 2014), which showed outer-suburban children's play revolved more around the home environment. Limited access to high quality playgrounds in the outer suburbs may explain the reduction in socialisation with non-related children in our study, aligning with Moore and Lynch (2015) who noted that the importance of the local playground as a social environment for children to play and interact with peers. These findings have implications for local government who provide playgrounds for suburban communities. In particular, the need to develop more high quality playground areas in the new outer suburbs and continue to maintain these as the population increases in these communities (Andrews et al., 2014).

Exosystem factors such as government town planning policy and local laws also have the potential for indirect, but nevertheless important influences on children's social play. Connected or grid pattern streets are favoured by government town planning policy in Australia as they have been shown to increase walkability (Giles-Corti et al., 2015). However, aligning with previous research, we found that in both communities, cul de sac or dead end street designs were more conducive to children's play as they were perceived to reduce traffic hazards (Veitch et al., 2006; Veitch et al., 2010; Hoschild & Thomas, 2013). An alternative policy approach might be to continue building connected or grid pattern streets but consider better traffic calming measures within this design.

Local laws relating to the shared use of public open space are important in promoting orderly interaction between different users and are of particular significance in newly developing communities (Kent, Thompson & Jaludin, 2011). The observation that outer suburban parents were concerned about accessing local parks with their children because of free ranging dogs, suggests a need for policy development around shared use of these spaces to ensure children can safely play in these spaces. Finally, our findings revealed that a combination of higher-density living, with limited private outdoor space, promoted child socialisation amongst inner-suburban children through incidental interaction in the street. Current government planning policy that supports higher density living in Australia (Thompson & Magnin, 2012) may in the long term help support children's socialisation and social play opportunities.

As with all research, there were limitations to our study. This study relied on parents' consent to return forms, hence the sample was self-selecting. The study data were also limited by parent's reporting and their perceptions of their children's play as there were no direct observations of children's play in the two different suburban settings.

Conclusion

Our study has identified some key differences in preschool age children's social play in an inner and outer Australian suburb. Findings highlight the interrelationships between different elements of children's home and local environments that support or hinder social play. Findings also indicate the need for changes in policy and practice at the local government level,

particularly in new outer- suburban settings to better support preschool-age children's social play and inclusion more broadly.

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