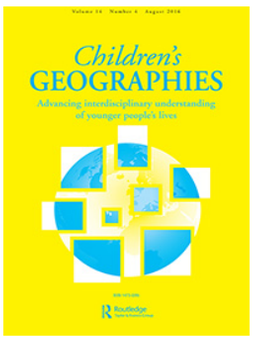

Children's Geographies

ISSN: 1473-3285 (Print) 1473-3277 (Online) Journal homepage: https://www.tandfonline.com/loi/cchg20

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To cite this article: Stephanie Schoeppe, Mitch J. Duncan, Hannah M. Badland, Amanda L. Rebar & Corneel Vandelanotte (2016) Too far from home? Adult attitudes on children's independent mobility range, Children's Geographies, 14:4, 482-489, DOI: 10.1080/14733285.2015.1116685

To link to this article: https://doi.org/10.1080/14733285.2015.1116685

Children's Geographies, 2016
Vol. 14, No. 4, 482–489, http://dx.doi.org/10.1080/14733285.2015.1116685

Routledge
Taylor & Francis Group

Too far from home? Adult attitudes on children's independent mobility range

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(*Received 14 April 2015; accepted 29 October 2015*)

The purpose of this study was to investigate adult attitudes on distances children should be allowed to travel to places and play in outdoor areas without adult supervision, with consideration of differences in adult attitudes by socio-demographics and urbanisation. In 2013, Australian adults ($N = 1293$) were asked what distances children aged 8–12 years should be allowed to walk/cycle to places, and play outdoors without adults. Descriptive analyses and chi-square tests were conducted to assess adult attitudes on children's independent mobility range. Overall, 62% of adults would restrict children's independent travel to places <500 m from home, and 74% would restrict independent outdoor play <500 m from home. Women and adults with lower education were more likely to report restrictive attitudes than men and adults with higher education, respectively. The promotion of active travel and outdoor play in children may require increasing adults' acceptance of greater independent mobility range.

Keywords: cross-sectional; parent; permission; unaccompanied; movement; young people

Introduction

Child independent mobility describes the freedom of those aged under 18 years to travel to places and play outdoors without adult supervision (Hillman, Adams, and Whitelegg 1990; Whitzman and Mizrachi 2009). Active travel (e.g. walking, cycling) and outdoor play are important sources of daily physical activity that is vital for children's bone health, motor skills, physical fitness and healthy weight (Dencker et al. 2008; Hallal et al. 2006; Janz et al. 2010; Loprinzi et al. 2012). In addition, unsupervised neighbourhood play provides children with psychosocial, cognitive and developmental benefits in the form of social interactions with peers, spatial and traffic safety skills for navigating in public spaces, and maturity in regard to decision-making (Oliver et al. 2011; Pooley et al. 2010; Tranter and Whitelegg 1994). Children's independent mobility has dramatically declined in developed countries (Karten 2005; Shaw et al. 2013; Wridt 2004). For example, trend data from England showed that in 1971 86% of primary school children were allowed to travel home from school alone; whereas in 1990 this proportion was 35%, and in 2010 this further declined to 25% (Shaw et al. 2013).

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Adults, including parents, grandparents and other child caregivers, play an important role in facilitating independent travel and outdoor play as they permit or restrict these behaviours (Rudner and Malone 2011). Children's permission for independent mobility usually increases between the ages 8 and 12 years when parents notice increasing physical and cognitive capabilities in their children (Carver et al. 2010a; Whitzman and Mizrachi 2009). The higher independent mobility levels observed in children in the 1970s suggest that adult attitudes on acceptable territorial ranges for children's independent mobility have shifted in generations of Western societies (Hillman, Adams, and Whitelegg 1990; Shaw et al. 2013). Nowadays, adults grant children significantly less freedom for independent travel and outdoor play (Karsten 2005). Parents are sensitive to protecting their children from potential neighbourhood dangers, such as motorised traffic and strangers, and in response tend to restrict independent mobility (Carver et al. 2010b; Karsten 2005). However, little is known about what distances adults nowadays are willing to allow children for independent travel and outdoor play. Moreover, it remains unexplored whether attitudes on acceptable distances for children's independent mobility differ in adults with diverse socio-demographic characteristics. This is likely, as previous studies (Brown et al. 2008; Carver at al. 2012; Carver et al. 2010a; Mackett et al. 2007) have demonstrated that children's independent mobility is significantly influenced by sex, age, urbanisation and socio-economic factors. This information is important for the development and targeting of public health interventions to promote walking, cycling and outdoor play in children.

The purpose of this study was to investigate Australian adults' current attitudes on distances children 'should' be allowed to travel to places and play in outdoor areas without adult supervision, including differences by adult socio-demographics and urbanisation.

Methods

Study population

Between July and August 2013, a random sample of 1293 Australian adults participated in the Queensland Social Survey (QSS) via computer-assisted telephone interview. The QSS is an omnibus survey of households in the state of Queensland, Australia administered by the Population Research Laboratory at Central Queensland University. Participants provided informed consent and the Human Ethics Committee at Central Queensland University approved the study.

Measures

Two questions were used to assess adult attitudes on acceptable distances for children's independent active travel and outdoor play. Adults were asked 'How far away from home should children aged 8–12 years be allowed to walk and cycle to places without an adult?' Example places read out to the respondents included schools, shops, friend's houses, sport and recreation centres. Adults were also asked 'How far away from home should children aged 8–12 years be allowed to play in outdoor areas without an adult?' Example outdoor areas read out to the respondents included yards, streets, bush areas, open fields, parks and playgrounds. Response options for both questions were <500 m, 0.5–1, 1–2, 2–3, 3–5 and >5 km. Based on response distributions responses were collapsed into the categories <500 m, 0.5–1, and >1 km. In addition, socio-demographic variables were measured including adult sex, age group (young adults = 18–39, middle-aged adults = 40–59, older adults ≥60 years), parental status (parent, non-parent), years of education (≤12 years, 13–14 years, ≥15 years) and urbanisation (urban = residing in a city or town, rural = residing in a rural area).

Statistical analyses

Descriptive analyses were used to assess adult attitudes on acceptable distances from home for children's independent active travel and outdoor play. Participants with missing data were

excluded from analyses. Chi-square tests were used to assess differences in adult attitudes on acceptable distances for children's independent active travel and outdoor play by adult sex, age group, parental status, years of education and urbanisation; as well as differences in socio-demographics between included and excluded participants. Analyses were performed in IBM SPSS Statistics (version 21.0) with significance levels set at $p < .05$.

Results

In total, 1164 Australian adults with complete data across variables were included in the present analyses. The mean age was 55.8 (±15.6) years; 52% were male, 80% were parents, 41% had ≥15 years of education and 84% resided in urban areas. These socio-demographic characteristics did not differ significantly between participants included and excluded from the analyses, except for years of education. Included participants had higher levels of education than excluded participants (≥15 years: 41% vs. 37%; 13–14 years: 15% vs. 8%; ≤12 years: 44% vs. 55%; $p = .03$).

Adult attitudes on acceptable distances for children's independent active travel are presented in Table 1. Overall, 62% of adults would restrict children's independent walking and cycling to places <500 m from the home; 19% of adults would allow distances of 0.5–1 km and 20% of adults would permit >1 km. Adult attitudes on acceptable distances for children's independent outdoor play are presented in Table 2. Overall, 74% of adults would restrict children's independent play in outdoor areas <500 m from the home; 14% of adults would allow distances of 0.5–1 km and 12% of adults would permit >1 km.

There were no significant differences in adult attitudes on children's independent mobility range by adult age group, parental status and urbanisation. However, compared to men and adults with higher education, women and adults with lower education were more likely to restrict children's independent travel and outdoor play to short distances of <500 m from the home (Tables 1 and 2).

Table 1. Adult attitudes on acceptable distances for children's independent active travel.[a]

	<500 m	0.5–1 km	>1 km
All adults	61.9	18.5	19.6
Sex*			
Male	57.6	19.3	23.1
Female	66.5	17.6	15.9
Age group			
18–38 years	60.1	19.0	20.8
40–59 years	62.8	18.6	18.6
≥60 years	61.5	18.1	20.4
Parental status			
Parent	62.1	19.2	18.7
Non-parent	60.8	15.5	23.7
Years of education**			
≤12 years	68.2	16.0	15.8
13–14 years	56.9	25.3	17.8
≥15 years	56.9	18.6	24.5
Urbanisation			
Urban areas	61.8	18.2	20.0
Rural areas	62.1	19.8	18.3

[a]Proportions (%) of adults.
*Significant difference between males and females, $p < .01$ level.
**Significant difference between adults with more and fewer years of education, $p < .001$ level.

Table 2. Adult attitudes on acceptable distances for children's independent outdoor play.[a]

	<500 m	0.5–1 km	>1 km
All adults	73.6	14.4	12.0
Sex**			
Male	66.8	17.7	15.5
Female	80.8	10.9	8.2
Age group			
18–38 years	72.6	14.3	13.1
40–59 years	72.5	16.4	11.1
≥60 years	74.9	12.4	12.6
Parental status			
Parent	74.5	14.5	11.1
Non-parent	69.2	14.2	15.9
Years of education*			
≤12 years	77.9	13.3	8.8
13–14 years	70.1	19.0	10.9
≥15 years	70.1	14.0	15.9
Urbanisation			
Urban areas	72.9	14.8	12.3
Rural areas	76.9	12.6	10.4

[a]Proportions (%) of adults.
*Significant difference between adults with more and fewer years of education, $p < .01$ level.
**Significant difference between males and females, $p < .001$ level.

Discussion

This study investigated adult attitudes on distances children should be allowed to travel to places and play outdoors without adult supervision. Cross-sectional data were presented and compared for Australian adults by population subgroups, i.e. men and women; young, middle-aged and older adults; parents and non-parents; adults with higher and lower levels of education; and those residing in urban and rural areas. A novel finding from this study is that most adults preferred to restrict children's independent travel and outdoor play to the area immediately surrounding the home. Women and adults with lower education were more likely to report more restrictive attitudes than men and adults with higher education, respectively, but these attitudes did not differ as a function of age group, parental status and level of urbanisation.

The majority of adults (62%) in this sample would restrict children's independent walking and cycling in public spaces to <500 m from the home. Only 20% of adults would permit independent travel distances of >1 km for children aged 8–12 years. This finding corresponds to results from previous studies (Veitch, Salmon, and Ball 2008; Villanueva et al. 2012) showing that the distances Australian children travel independently tend to be short. For example, Veitch, Salmon, and Ball (2008) found that 32% of Australian children aged 8–12 years walk or cycle <100 m from home without an adult, 32% travel 150–999 m and 36% travel >1 km from home. Our study further revealed that most adults (74%) would restrict independent outdoor play <500 m away from home. This finding is consistent with other Australian data (Veitch et al. 2006) showing that the most frequently (74%) used space for children's outdoor play is the yard at home. Few studies from other countries (Fyhri et al. 2011; Shaw et al. 2013) have investigated distances adults would permit children for independent travel. Findings suggest that, compared to Australia, adults in Europe have less restrictive attitudes on children's independent travel. For example, in England, 35% of parents reported they would restrict 7–11 year olds' independent travel home from school to distances ≤500 m; approximately 30% of parents would permit

distances of 0.5–1 km and approximately 35% would permit distances over 1 km (Shaw et al. 2013). In Denmark, 73% of 10–16 years olds are allowed to walk or cycle up to 1.5 km to school (Fyhri et al. 2011).

Adults with higher levels of education would permit children longer distances of >1 km for independent travel and outdoor play than adults with lower levels of education. This finding is interesting though its interpretation is limited as comparable studies are lacking. It may be that adults with higher levels of education recognise important benefits of independent travel and outdoor play for children's healthy development, such as physical activity, spatial skills, maturity for navigating in public spaces and improved judgement about risks of injury (e.g. from falling) (Wyver et al. 2010). Another possible explanation may be that adults with higher levels of education tend to live in neighbourhoods that are perceived as being safer for independent travel and outdoor play (Pratt et al. 2015); however, adults' perceptions of neighbourhood safety were not assessed in this study. Further research is needed to explain the influence of educational attainment on adult attitudes on children's independent mobility.

Higher proportions of women than men would restrict children's independent travel and outdoor play in public spaces to short distances of 500 m from the home, whereas higher proportions of men than women would permit longer distances of >1 km. A possible explanation is that women are generally more concerned about real and perceived risks and safety than men (Brussoni et al. 2013; Morrongiello, Walpole, and McArthur 2009); hence, women may be more inclined to protect children from risks associated with independent travel and outdoor play. In contrast, men are more comfortable with allowing children to engage in outdoor activities that contain some risk and independence (Brussoni et al. 2013). Furthermore, compared to men, women may be more influenced by parenting social norms that disapprove children's independent movement in the neighbourhood (Christian et al. 2015). These social norms are often driven by fears about neighbourhood safety that can be exacerbated by media news of child abductions, which in fact, are rare (Foster et al. 2014).

Social and built environmental factors may explain why most adults in this study prefer to restrict children's independent travel and outdoor play to short distances from the home. For example, safety concerns are a major barrier to children's independent travel and outdoor play (Carver, Timperio, and Crawford 2010; Hillman 2006; Jago et al. 2009; Veitch et al. 2006). Adult concerns about child safety are influenced by multiple factors, such as the child's age, sex and competence (Lee et al. 2015); neighbourhood traffic speed/volume, proximity to destinations and walkability (Carver, Timperio, and Crawford 2008; Zubrick et al. 2010); as well as perceived stranger danger, crime, bullying and community cohesion (Carver, Timperio, and Crawford 2008; Jago et al. 2009). Moreover, adult attitudes on acceptable distances for independent travel and outdoor play are influenced by societal expectations of what good parenting entails (Lee et al. 2015; Zubrick et al. 2010). For example, some parents feel the need to provide close supervision in order to be seen as good parents, whereas they perceive allowing children to roam independently as a sign of poor parenting (Lee et al. 2015).

For children, independent travel usually involves walking or cycling to school, shops, friend's houses, sports and leisure facilities, and parks and playgrounds (Garrard 2009). Research suggests that for children aged 10–12 years, walkable distances range from 0.25 to 1.6 km (Harten and Olds 2004; Timperio et al. 2006; McDonald and Alborg 2009), and acceptable cycling distances include up to 3 km (D'Haese et al. 2011; Schlossberg et al. 2006). Neighbourhoods conducive to independent travel require active transport amenities such as walking/cycling trails, crosswalks, traffic lights, street connectivity, and a variety of destinations within walking/cycling distance (Zubrick et al. 2010). As such, public health policies to promote children's independent travel will require government support and expertise from urban planners and transport experts to create walkable, well-connected neighbourhoods with lower traffic volume; this would increase

parents' confidence in road safety and children's ability to traverse the neighbourhood independently (Villanueva et al. 2012).

This was the first study to examine adult attitudes on children's independent mobility range, with distinction between active travel and outdoor play. Other strengths of this study include the use of a large random population sample and analyses by population subgroups. This study also had limitations. First, most participants were older (mean age 56 years), parents (80%) and urban residents (84%). A sample with more equal proportions of young, middle-aged and older adults; parents and non-parents; and urban, regional and rural residents may have been more suitable for detecting differences in adult attitudes by age group, parental status and urbanisation. Second, the QSS targeted Queensland adults; therefore, findings may not be generalisable to the general Australian population. Third, the measure assessed adult attitudes on distances they would allow children for independent travel and outdoor play. From this we cannot infer distances adults actually allow children for independent travel and outdoor play, or distances children actually travel independently (Veitch et al. 2006; Veitch, Salmon, and Ball 2008). This would be worth exploring in future studies, as well as which particular parent populations (e.g. mothers, fathers, single parents, grandparents) tend to permit or restrict children's independent mobility. Such information may help improve parental support for interventions to promote active travel and outdoor play in children. Future studies should also identify the most influential barriers to children's independent mobility perceived by parents and other caregivers. We know that built and social environmental factors such as traffic, availability of walking/cycling paths, community cohesion and perceptions of neighbourhood safety influence parents' willingness to grant children greater independent mobility (Zubrick et al. 2010); however, little is known about which factors matter most to them. Finally, future studies should examine the health impacts of low independent mobility, such as children's physical activity and sedentary behaviour levels. Overall, this study showed that most adults prefer children's independent travel and outdoor play take place within 500 m of the home. The promotion of active travel and outdoor play in children may require changes in the built and social environment in order to increase adults' acceptance of greater independent mobility range.

Acknowledgements

The authors wish to thank the participants of the 2013 Queensland Social Survey.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This research was funded through a Queensland Social Survey Grant 2013 (Population Research Grant Scheme) provided by the Population Research Laboratory at Central Queensland University, Australia. MJD (ID 100029) and CV (ID 100427) are each supported by a Future Leader Fellowship from the National Heart Foundation of Australia.

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