

Children's Active Transport and Independent Mobility in Urban and Rural Areas of Victoria

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Background

In 1990 the Policy Studies Institute (PSI) in London published the landmark report¹ 'One False Move... A Study of Children's Independent *Mobility*'. That seminal study led by Dr Mayer Hillman explored the degree to which children were able to travel and play outside unaccompanied by adults. In particular, it examined whether children engaged in active transport (e.g. walking or cycling) to and from school and whether they had adult accompaniment on these journeys. The study demonstrated a marked reduction between 1971 and 1990 in children's active transport and independent mobility in England, largely due to parents' fear of danger from traffic, and revealed significantly different cultural attitudes to children's independent mobility between England and Germany.

Declines in active transport and independent mobility are of concern as both can contribute significantly to children's overall physical activity.^{2,3} Regular physical activity during youth is associated with physical health benefits and the development of social and practical skills essential to children's personal growth.⁴⁻⁷ Declines in active transport and independent mobility may therefore have significant public health implications.

Twenty years after the publication of the above study, PSI researchers repeated their surveys of parents and of their children in England and Germany. In addition they invited international collaborators to repeat the surveys in their own countries. This report presents data gathered from surveys in Victoria, Australia in 2010. Comparison of Australian data with other international data will be published in scientific journals. The aim of this report is to compare levels of active transport and independent mobility among primary and secondary schoolchildren in urban and rural Victoria, and to describe parents' and children's views in relation to these behaviours.

Study design and methods

This cross-sectional¹ study examined active transport and independent mobility among primary schoolchildren in Years 3-6 and secondary schoolchildren in Years 7-10. The study involved surveys of parents seeking information about parental rules or 'mobility licences' regarding their child's independent mobility, and surveys of children that asked about their actual levels of independent mobility. Approval to conduct this study was received from the

¹ A cross-sectional study involves observation of a population, or a representative subset, at a defined time.

Deakin University Human Research Ethics Committee and from the Victorian Department of Education and Early Childhood Development. Consent for participation in the study was provided by the parents on behalf of themselves and their child.

Study participants

Between August and November, 2010, 891 parents and 688 Year 3-10 schoolchildren took part in this study. They were recruited from nine Primary schools, six Secondary schools and one Prep-Year 12 school in urban (inner city and suburban) and rural² areas of Victoria. Children each took home a package containing information about the study, a parent survey and consent forms for participation. Completed parent surveys and consent forms were returned by mail to Deakin University. Children's surveys were conducted in the classroom during October and November, 2010.

Measures

Mobility licences

Parents were asked whether they allowed their child to do the following: to travel home from school alone; to cross main roads alone, to go out alone after dark; to cycle on main roads alone and to travel on local buses alone.

Mode of travel to school

Children were asked how they had travelled to school on the morning of the survey. Response options were: (1) walked most or all of the way; (2) cycled; (3) school bus; (4) local bus, tram or train; (5) car; (6) other. In addition, children were asked how they *would like* to travel to school.

Independent mobility on journey to school

Children were also asked with whom they had travelled that morning. Response options were: (1) travelled alone; (2) parent; (3) another adult; (4) older child/teenager; (5) child of

² 'rural' as defined by Australian Bureau of Statistics:
[http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/29020C73E6419D91CA2573A0001148F1/\\$File/13672_sep_2007_map_victoria_urban_centres_and_regions_2006.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/29020C73E6419D91CA2573A0001148F1/$File/13672_sep_2007_map_victoria_urban_centres_and_regions_2006.pdf)

same age or younger. Those who did not travel with a parent or other adult were categorised as having had no adult accompaniment on the journey to school.

Independent mobility on weekends

Children were asked to report which of the following activities they did on the previous weekend without adult accompaniment: visited (1) a friend's home, (2) relatives or grown-ups; went to (3) a youth club (including Scouts, Guides, Cadets, Sunday school), (4) shops, (5) library, (6) cinema, (7) concert; (8) spent time with friends outside after dark; (9) went to a playground, park; (10) played sport or went swimming; (11) went for walk or cycled around; (12) visited a place of worship. They could also list up to 3 additional activities. A count of independent activities on weekends was recorded for each child.

Journeys to other neighbourhood destinations

Parents were asked about their accompaniment of their child on journeys to destinations other than school that were within walking distance. They were asked if their child (1) usually travelled alone, (2) was usually taken or if (3) this varied. In addition they were asked to report the number of such round trips they made each week to accompany their child; and their usual mode of travel. Those who usually accompanied their child were asked to choose the main reason for this, from the following list of options: 'concern about traffic danger'; 'child is too unreliable or too young'; 'concern about danger from adults'; 'fear of bullying by other children'; 'other parents would disapprove of this'; 'concern that there is no one to support your child should they need help'; 'other reason'; 'not applicable'.

Parents' views of their own active transport and independent mobility during childhood

Parents were asked how they had usually travelled to school when aged 8-9 years. They were also asked whether they were allowed to get about alone at a younger age than they would allow their child to do so, and, if so, what the main reasons were for this. They could choose up to three of the following: 'Nowadays, there is greater traffic danger'; 'Nowadays, there is greater risk of harm from strangers'; 'Nowadays, there is greater risk of bullying by other children'; 'Our family has greater access to a car(s) than my family did when I was a child'; 'My child's leisure time is more structured (with sports & activity classes) than mine was'; 'Other reason'; 'Not applicable'.

Access to a car

Parents were asked whether they had regular use of one, two or more cars.

Mobile phones

Parents were asked whether their child had a mobile phone, and if so whether this gave the parent more confidence about allowing their child to go out alone.

Children's perceptions of neighbourhood safety

Children were asked how safe they felt when out on their own in their local neighbourhood. Response options were 'not allowed out on my own'; 'very safe', 'fairly safe'; 'not very safe'; 'not at all safe'.

More specifically children were asked whether they were worried by any of the following when outside alone or with friends: traffic, getting lost, bullying, strangers, whether they did not feel old enough to go about on their own, or whether they worried about not knowing what to do if someone spoke to them.

Study Findings

Characteristics of study participants

Data were analysed for 430 primary schoolchildren (48% boys; 72% urban) and 258 secondary schoolchildren (52% boys; 51.6% urban) with mean ages 10.4 (SD 1.2) and 13.7 (SD 1.0) years, respectively. Parent surveys were completed mainly by mothers or female carers (88%). Most parents who completed the survey had a partner (87%), around half (53%) were aged under 45 years and most engaged in full-time (28%) or part-time (53%) paid employment.

Mobility Licences

The proportions of primary and secondary schoolchildren who were granted each of the various 'mobility licences' are shown in Table 1.

Table 1. Mobility licences granted by parents to primary and secondary schoolchildren

	Primary	Secondary
	(%)	(%)
Travel home from school alone	40	80
Cross main roads alone	55	97
Go out alone after dark	2	12
Cycle on main roads alone	19	65
Travel on local buses alone	11	62

The mean number of mobility licences granted to primary/secondary schoolchildren in urban and rural areas is shown in Figure 1.

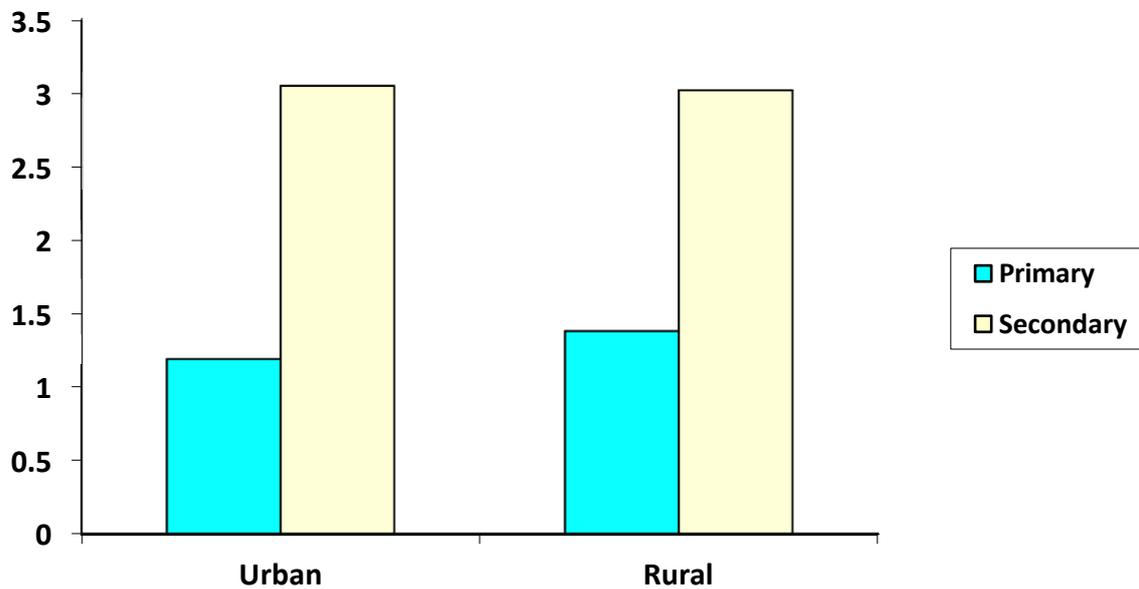


Figure 1: Mean number of mobility licences according to urban/rural location.

There was little difference in the mean number of mobility licences according to urban/rural location. International evidence^{8,9} shows that boys are granted independent mobility at an earlier age than girls. Therefore, we compared the mean number of mobility licences granted to boys and girls in urban and rural areas (Table 2).

Table 2. Mobility Licences: mean (SD) values

	Boys	Girls
Urban primary	1.36 (1.19)	1.03 (1.15)*
Rural primary	1.44 (1.25)	1.32 (1.24)
Urban secondary	3.32 (3.00)	2.81 (0.93)**
Rural secondary	3.29 (0.98)	2.81 (1.16)*

* p<0.05, ** p<0.01 independent t-tests reported significant differences by sex within each urban/rural setting and age-group

There were no significance differences between mean mobility licences by urban/rural setting for each sex and age-group pair. On average, however, girls were granted fewer mobility licences than were boys, and these differences were statistically significant in all cases except among rural primary schoolchildren.

Mode of travel to school

Participation rates by primary/secondary schoolchildren in each travel mode on the journey to school are shown in Figure 2. Overall most schoolchildren (43%) travelled to school by car, but the school bus was the most popular method of travel to school among secondary schoolchildren (predominantly those living in rural areas).

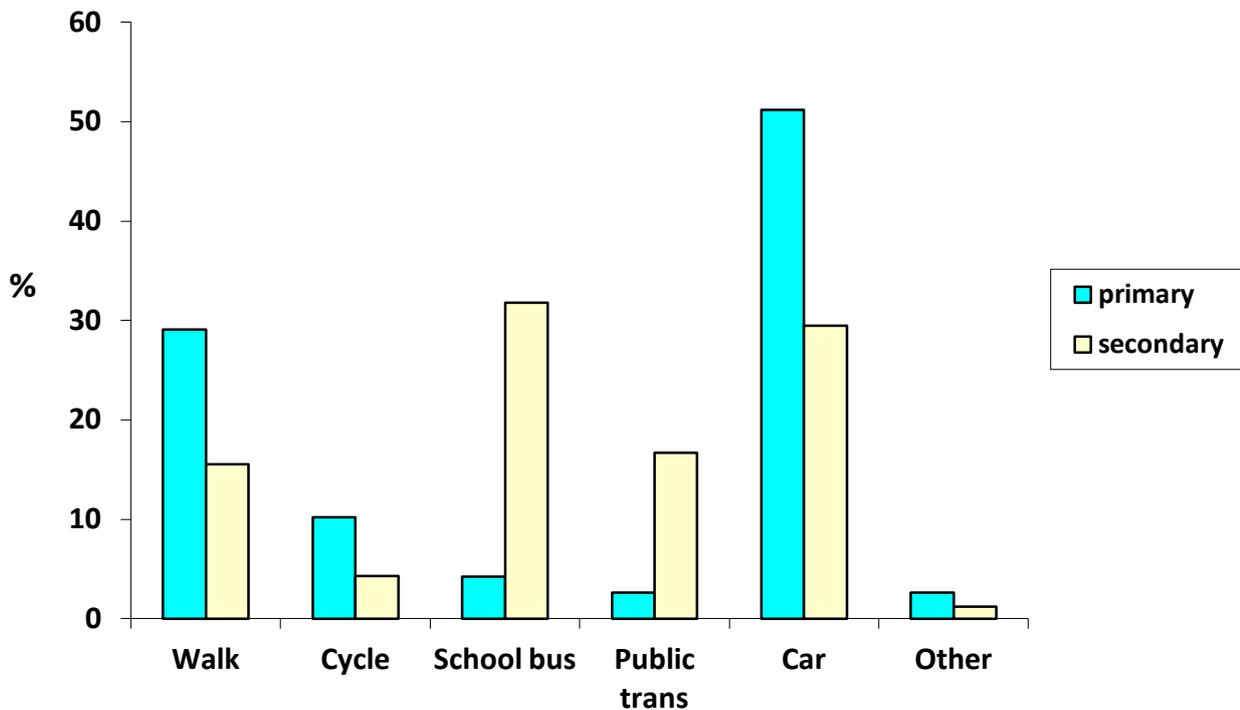


Figure 2: Participation rates in transport modes on journey to school

When asked how they *would like* to travel to and from school, 30% of primary schoolchildren reported they would like to walk to school (this aligned with the actual proportion doing so), while 36% reported they would like to cycle there. Among secondary schoolchildren 21% reported they would like to walk to school, while 12% reported they

would like to cycle there. Therefore, far more schoolchildren would like to engage in active transport to school than do currently.

Urban and rural schoolchildren tended to use different modes of travel to school (Figure 3 below). Most urban and rural primary schoolchildren travelled to school by car. Amongst urban secondary schoolchildren, equal proportions travelled by car or public transport, while among rural secondary schoolchildren travel by school bus was most prevalent.

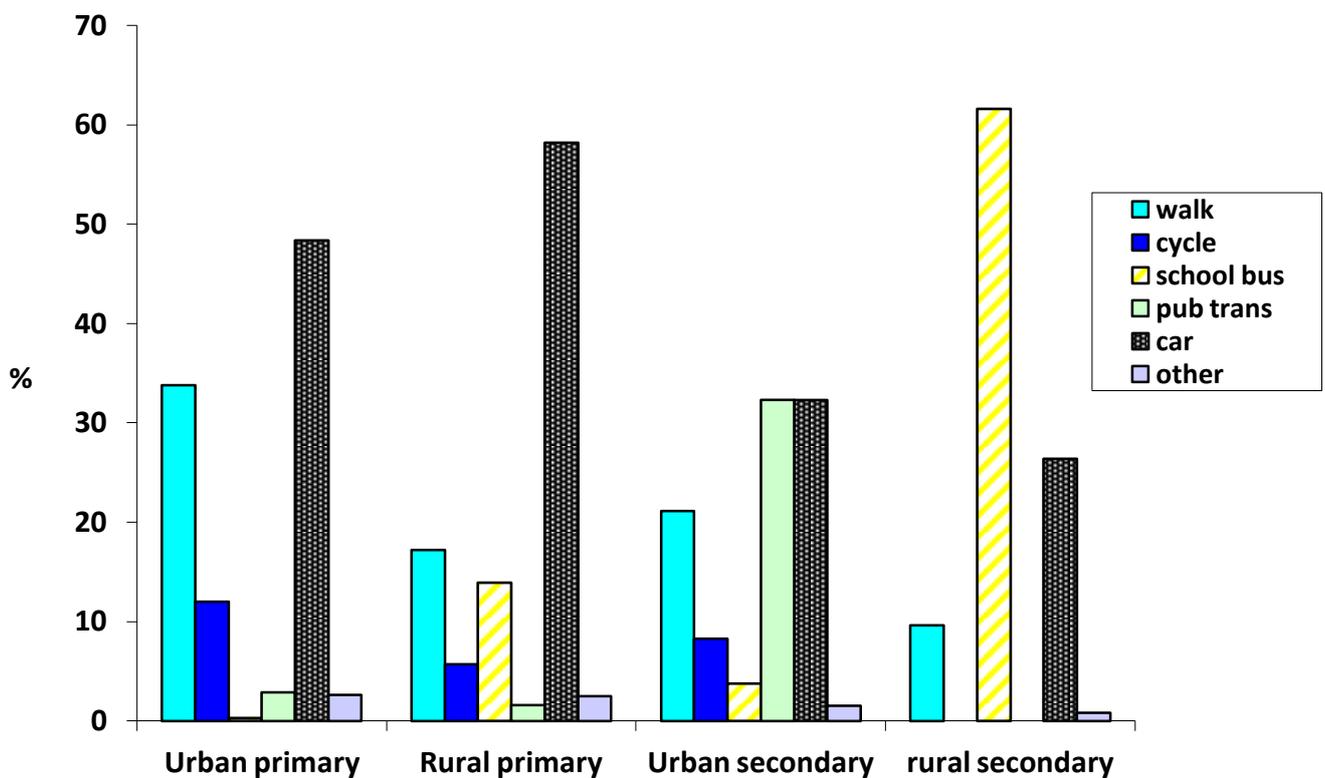


Figure 3: Participation rates in transport modes on journey to school

Independent mobility on the school journey

The proportion of schoolchildren who travelled to school without adult accompaniment is shown in Figure 4. The results contradict the usual pattern where independent mobility increases with age⁸. For all groupings except urban girls, lower proportions of secondary schoolchildren compared with primary schoolchildren were travelling to school without adult accompaniment. This is related to the lower participations rates in active transport

among secondary schoolchildren as depicted in Figure 2. An important barrier to engaging in active transport is distance to school¹⁰ and distance from home to secondary school, in particular, will be an important predictor of travel mode.

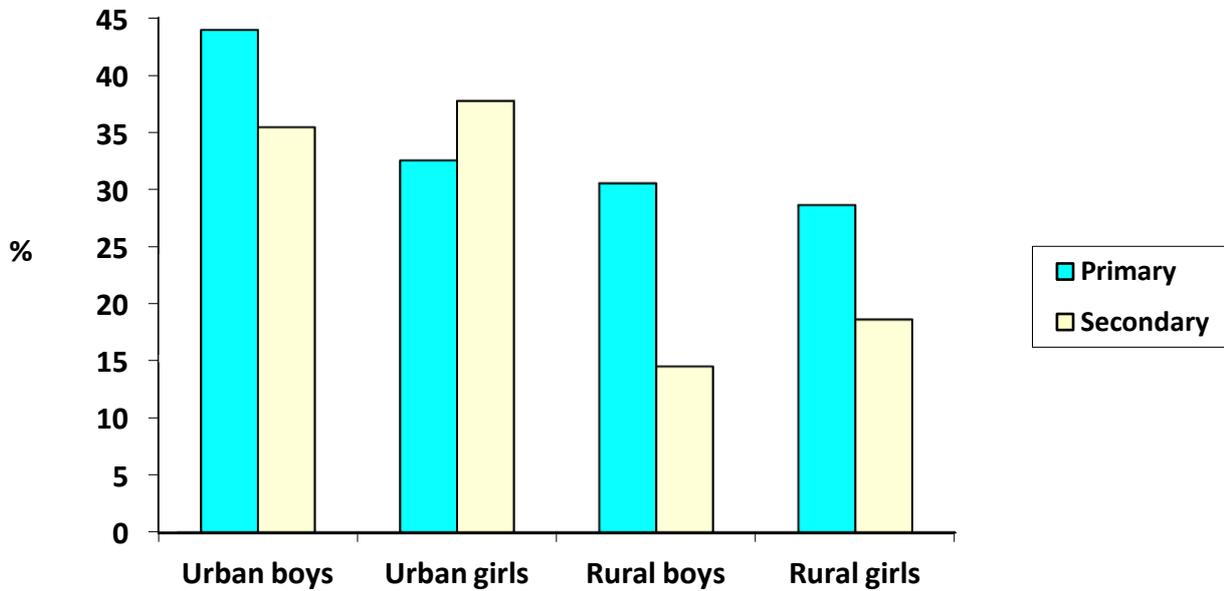


Figure 4: Proportion of schoolchildren who travelled to school without adult accompaniment

Independent mobility on weekends

The total numbers of independent activities (i.e. without adult accompaniment) in which primary/secondary schoolchildren engaged on weekends had skewed distributions. The median (and range of) values according to urban/rural location, as well as the proportions of children who engaged in some independent activities are reported in Table 3.

Table 3. Independent activities on weekends: median (range) values

	Boys		Girls	
	Median (range)	Some independent activities (%)	Median (range)	Some independent activities (%)
Urban primary	1 (0 to 8)	53.4%	0 (0 to 6)	46.0%
Rural primary	0 (0 to 6)	47.5%	1 (0 to 7)	52.4%
Urban secondary	3 (0 to 12)	84.6%	2 (0 to 8)	79.5%
Rural secondary	2 (0 to 9)	87.3%	2 (0 to 10)	82.9%

Around half of all primary schoolchildren engaged in at least one independent activity on weekends. In urban areas, slightly higher proportions of boys compared with girls did so, while in rural areas slightly higher proportions of girls did so. Most secondary schoolchildren engaged in at least one independent activity on weekends. The median number of independent activities was highest (and the range of values was broadest) among urban secondary boys. Compared with those in urban areas, slightly higher proportions of rural secondary schoolchildren engaged in at least one independent activity on weekends.

Journeys to other destinations

Parents were asked about journeys that their child made to destinations other than school that were within walking distance. Less than a quarter (23%) of schoolchildren made these journeys without adult accompaniment, while 42.4% of schoolchildren were usually taken by parents to these destinations (the remainder were taken by parents on some but not all of the journeys).

Of those children (n=292) who were usually taken by parents from home to places within walking distance, 81.5% were attending primary school, and 80.5% of children did not walk or cycle on these journeys; instead travel by car was the usual mode. On average, parents accompanied their children on 3.6 (SD 2.4) such non-school journeys per week. The main reasons given by these parents for accompanying their child on these trips are presented in Figure 5 below.

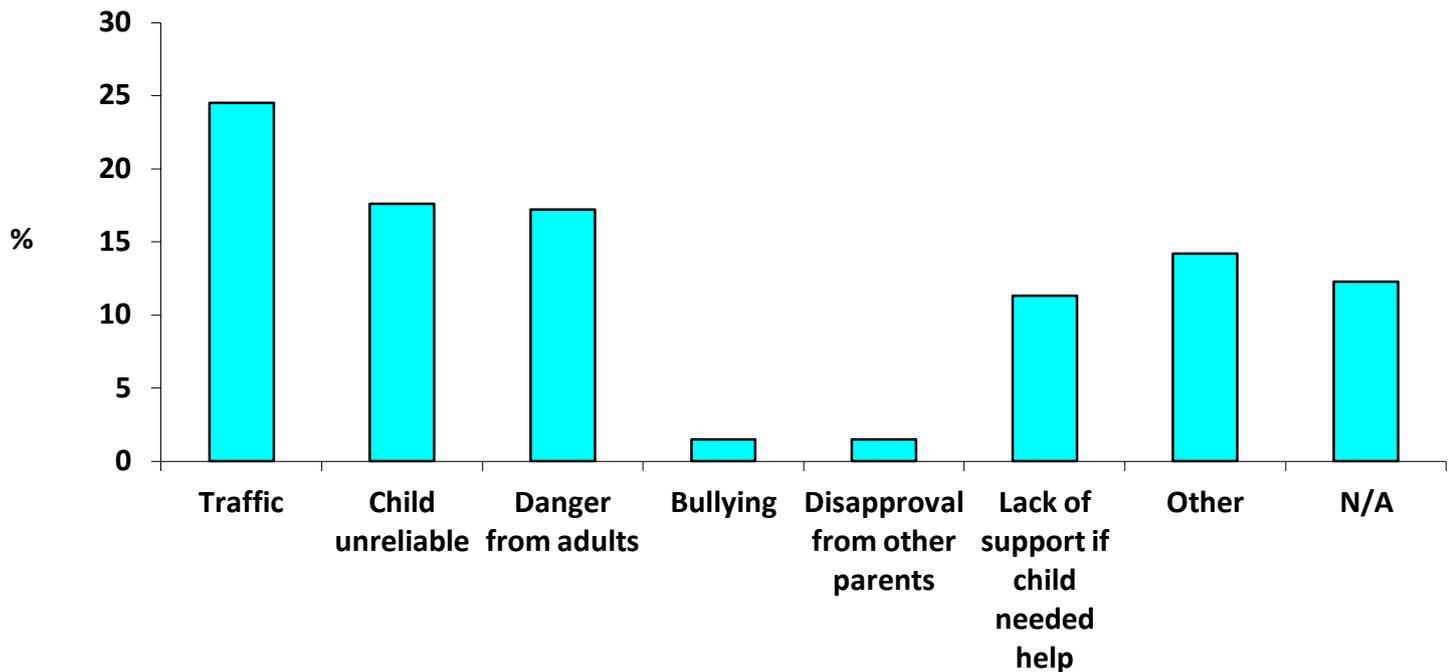


Figure 5: Main reasons for parental accompaniment on local trips within walking distance

Concern about traffic was the most commonly cited reason for parents accompanying their child on trips that were within walking distance. The next most prevalent concerns were in relation to their child being considered too unreliable or too young, and in relation to danger from adults or ‘stranger danger’, which is pervasive in the literature on neighbourhood safety¹¹.

Concern about child being involved in a traffic accident when crossing a road

All parents were asked how concerned they were about their child being injured in a traffic accident while crossing a road. As depicted in Figure 6, parental concern regarding this was higher amongst parents of primary schoolchildren. These findings are not surprising as children’s road safety skills improve with age. Furthermore, there is evidence that children under the age of 10 years are not capable of crossing roads safely without adult supervision¹².

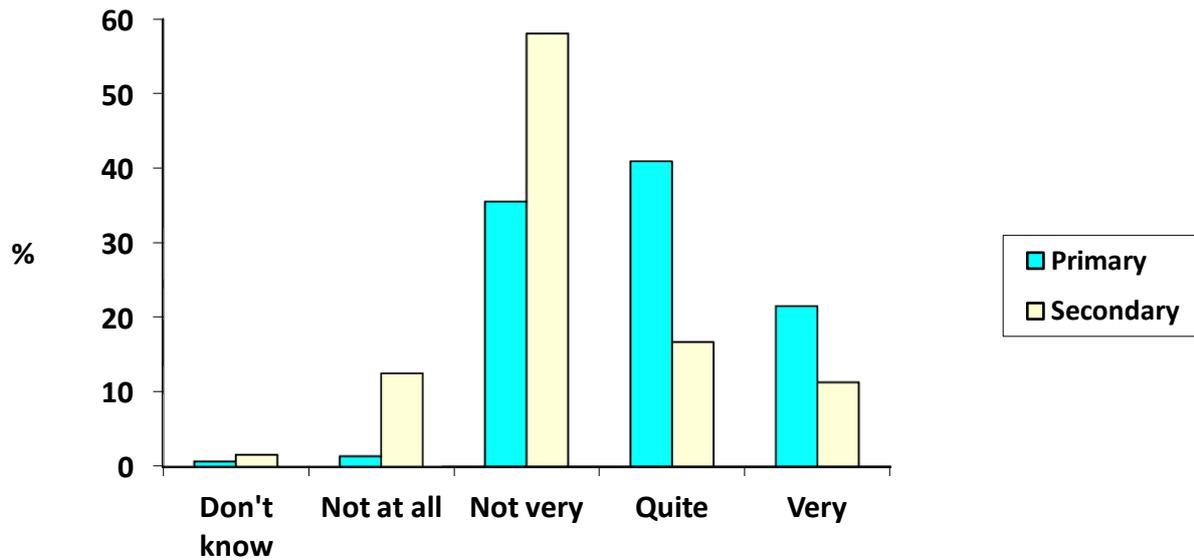


Figure 6: Level of parental concern about child being injured while crossing a road

Bicycle ownership and frequency of cycling

Almost all schoolchildren (93%) reported that they owned a bicycle. However, few (primary, 27%; secondary, 17%) cycled at least three times per week, including weekends. This is in addition to the low rates of cycling to school reported earlier (primary, 10%; secondary, 4%).

Mobile phone ownership

While most secondary schoolchildren (84%) owned a mobile phone, less than a fifth of primary schoolchildren (18%) did so. Most parents (88%) whose child owned a mobile phone stated that this made them feel more confident about allowing their child to go out alone.

Parents' usual mode of travel to school as children

Most parents reported that they had engaged in active transport on the journey to school, when they were aged 8 to 9 years. Most of these parents (67%) had usually walked to school. However, rates of cycling to school were low (6%) in this earlier generation.

Furthermore, almost half the parents reported they had been allowed to get about alone at an earlier age than they would allow their child to because nowadays there is greater traffic danger (45%) and greater risk of harm from strangers (44%). A quarter of parents reported

that greater access nowadays to a family car(s) was a contributing factor, while 30% of parents reported that they had more free time than their child who has more structured leisure activities. Few parents (7%) reported that nowadays there is a greater risk of bullying by other children.

Access to cars

Car ownership was high. Only 1% of households did not have regular use of a car, and 72% of households had two or more cars.

Child's perception of neighbourhood

Levels of perceived safety were high: almost all schoolchildren considered their neighbourhood to be either 'very safe' (51%) or 'fairly safe' (45%). However, when asked about particular aspects of safety when outside on their own or with friends, concern about strangers was most prevalent (primary schoolchildren, 54%; secondary, 40%). Other causes for concerns were: traffic (primary, 26%; secondary, 16%), getting lost (primary, 28%; secondary, 14%), bullying (primary, 22%; secondary, 8%) and not knowing what to do if spoken to by someone (primary, 29%; secondary, 15%). Despite these concerns most schoolchildren considered themselves old enough to get about on their own (primary, 87%; secondary, 95%).

Study conclusions

This study is among the first to provide an overview of levels of independent mobility among schoolchildren in urban and rural areas of Victoria, as well as some insight into their participation in active transport on journeys to school and to other destinations within their neighbourhood.

Overall, on average, boys were granted greater freedom in terms of mobility licences than were girls, and secondary schoolchildren were granted more mobility licences than were primary schoolchildren. While these findings concur with existing international evidence,^{8,9} little was known, until now, about independent mobility among Australian schoolchildren and whether this varied by urban/rural locality.

Our findings demonstrate that there was little difference in the freedom granted to urban or rural schoolchildren. However, variations by urban/rural locality were identified in relation to *actual* independent mobility. On weekends, slightly higher proportions of rural schoolchildren engaged in at least one independent activity compared with urban schoolchildren. On the journey to school, however, boys attending urban primary schools had the highest rates of independent mobility. Because motorised travel requires some level of adult accompaniment, travel mode is closely associated with independent mobility on the journey to school. In our study, rates of walking and cycling to school were highest among urban primary schoolchildren. Future research will examine objectively the distance between home and school travelled by these children, as distance to school is a key barrier to travel by non-motorised transport¹⁰. Our findings demonstrate that the school bus was the dominant mode of transport for rural secondary schoolchildren. Anecdotally, several Principals and teachers at rural schools reported that many of their schoolchildren lived in farming communities and that school buses were the most convenient mode of transport for these schoolchildren. This is an important consideration when designing programs to promote active transport and independent mobility in rural areas, as there is clearly not a 'one-size-fits-all' solution that can be applied state-wide.

In areas where schoolchildren travel large distances (not easily covered on foot or by cycling) to school, it may be more important to concentrate efforts to promote active transport and independent mobility on trips to other neighbourhood destinations. Our findings demonstrate high levels of parental accompaniment and mainly travel by car on local trips that were within walking distance. The most commonly cited reason for this was concern about traffic. Our earlier research^{13,14} has identified the importance of providing traffic calming infrastructure on residential streets to promote active transport and outdoor physical activity among schoolchildren. This may in turn help to address concerns about stranger danger by encouraging greater pedestrian activity, outdoor physical activity and social interaction on and around local streets¹⁵. Even though almost all schoolchildren considered their neighbourhood to be either 'very safe' or 'fairly safe', their most prevalent safety concern was about harm from strangers.

Our findings, therefore, provide further support for the requirement identified by the National **Preventative Health Taskforce**¹⁶ for local government, urban planners and policy-

makers to promote active transport through the design of the built environment. From an urban planning perspective, in order to encourage active transport it is essential that residential areas are designed to include walkable destinations such as shops, schools, medical centres and recreational facilities¹⁷. To support walking and cycling in particular, physical infrastructure such as bike paths and/or lanes, walking tracks and pedestrian crossings are required to create pedestrian- and child-friendly environments^{13,14}. Further analyses will be conducted to objectively measure the physical environment around the children's homes and to examine how it is associated with levels of active transport and independent mobility. Findings will help design tailored interventions for those living in urban and rural areas, with different physical infrastructure and varying population density.

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