The Association Between Walking to School, Daily Step Counts and Meeting Step Targets in 5- to 17-Year-Old Australian Children

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Objective measurement of daily steps was used to assess whether children ($n = 2,076$) in Years 1, 5 and 10 who reported walking to or from school were more active and more likely to reach recommended step targets than those who were driven or took public transport to school. Walking to school was associated with higher school-day steps in older children (16,238 vs 15,275 for Year 5 male $p < .05$, 13,521 vs 12,502 for Year 5 female $p < .01$, 12,109 vs 11,373 for Year 10 female $p < .05$). The proportion of children who met recommended step thresholds was higher in those who walked to school compared with those who took motorized transport, and this was significant for Year 5 females ($71.7\%$ vs $54.5\%$, $p < .01$). This study suggests that walking to school for older children has potential to contribute significantly to daily activity levels and increases the likelihood of attaining recommended step targets. These data should encourage public policy and those concerned with the built environment to provide and support opportunities for walking to school.

Increasing overweight and decreasing physical fitness in children over the past two decades have raised serious concerns regarding the adequacy of children’s physical activity levels (11,30,39). This has lead to a wealth of studies that have examined ways to increase physical activity in the lives of children, through school based programs, after school programs, community settings and social marketing campaigns (18,29). One approach that has received considerable recent attention is that of promoting active transport to school, particularly pertinent in an era when the number of children being driven to school worldwide seems to continually be on the rise (14).

Active transport to school primarily involves walking and cycling. Active transport to and from school has been shown by some to be a potential mechanism to help increase children’s daily physical activity levels (5,6,8,33) and improve their cardiovascular health (2,8). Cooper et al. (6) found that primary school chil-
Children who walked to school had higher overall levels of physical activity than those who traveled to school by motorized transport. In the same study, the boys who cycled to school were also more active than their motorized transport-reliant peers. Positive benefits of taking an “active” journey to school, in terms of enhancing overall daily activity, have also been reported by others (1,5,33), but not indeed all. Metcalf et al. (21) showed that while 5 year old primary school children who walked or cycled to school were more active in the process of the school journey itself, the difference had no overall impact on weekly activity.

To date, most of the studies that have investigated the contribution of active transport to school to overall activity, have focused on primary school children, yet we know that children are more likely to actively commute to school as they get older (15). At the same time, increasing age is noted to be associated with decreasing physical activity levels (19,31). Therefore, might active transport to school by older children have a greater impact on daily or weekly activity levels than younger children? A small study of 90 13–14 year olds in Scotland, showed that the children who were active in traveling to school, had higher overall moderate to vigorous physical activity throughout the day, than those who went by motorized transport (1). Energy expenditure levels of Filipino adolescents who actively commuted school were significantly higher than their peers who traveled to school by motorized transport (33). Two pedometry studies from New Zealand have examined active transport in adolescents. Walking to school was associated with higher levels of school day steps in 200 12–18 year olds compared with peers who traveled by car (17). Duncan et al. (9) examined this across a wide age range (Years 1 through to 10) and found higher daily step counts with active transport to school, but only for children in Year 5 and above; in the younger children, there was little difference. This study however was a girls only study, no data for boys were available. In a longitudinal study assessing active transport to school in a sample of Danish youth over the course of six years, Cooper et al. (8)) showed that regular cycling to school was associated with improved cardio-respiratory fitness. Active transport prevalence was high in this Danish study: 40% cycling to school at baseline and over 60% cycling to school six years later.

Many of the studies have also been unable to differentiate whether children who engage in active transport are by their very nature more active i.e., it is not the active transport itself that is causing their higher activity level, but that they are actively commuting because they are simply more predisposed to habitually being more active. Indeed Alexander’s study above (1) did not differentiate between school days and weekend days, and nor did Hohepa et al. (17). Two groups have investigated this. Duncan et al. (9) examined weekend levels of activity of children who had reported actively commuting to school and found little difference in activity levels compared with those who had been taken to school by bus or car, yet significant differences had existed in school day step counts. While they acknowledged that this did not prove that there were not differences in the behaviors of the two groups of children (active transporters and nonactive transporters) it does lend support to the hypothesis that active transport itself can have an impact on the school day activity level. Cooper et al. (8), in their longitudinal study of Danish youth described above, showed that cycling to school, while associated with physical fitness, was not associated with habitual physical activity, again suggesting that active transport to school is not necessarily a behavior selected by more active children.
Whether children who walk to school are more likely to reach recommended daily activity levels has not yet been investigated. With the more widespread use of pedometers in children’s physical activity research (3,10,20) and threshold recommendations for steps for children now available (34,38), assessing whether active school commuting helps children reach target thresholds is more achievable. Hohepa et al. (17) recently showed that 12–18-year-old children who walked to school took significantly more daily steps more than those who were driven, and very few met the 10,000 step threshold on a daily level, but they did not examine whether those who walked to school were more likely to make the threshold.

This study used objective measurement of steps taken to assess whether boys and girls from a large state-based survey of primary and secondary schools who reported walking to or from school were more active than those who were driven or took public transport to school. Weekend activity of all children was also assessed. This study also explored whether the children who walked to or from school were more likely to reach recommended step thresholds.

**Methods**

**Participants**

The data for this article come from the 3,691 children who took part in the Healthy Kids Queensland (HKQ) physical activity and nutrition survey in 2006. This was the first state-wide survey of anthropometry, physical activity and dietary practices of children in Queensland, Australia. The schools were chosen using a random cluster design to ensure a proportionate mix of rural and urban schools throughout the state. Of the 112 schools invited, 72 agreed to participate (33 rural and 39 urban). Children in Years 1, 5 and 10 were invited to take part in the study. Not only are these years critical in growth and development, but they also represented the first year of compulsory schooling, a key pubertal year and the last year of compulsory schooling respectively. The children were invited to participate in all aspects of the survey, but were able to opt out of specific components they did not want to complete.

**Pedometer-Determined Physical Activity**

An unsealed Yamax Digi-Walker SW700 pedometer was worn for five consecutive days, including a weekend. Unsealed pedometers were chosen deliberately to engage the children in the research. Valid measures of daily habitual activity have been obtained from unsealed pedometers in children, with researchers noting no significant difference in reactivity change between sealed and unsealed pedometers (23,25). The children were provided with a pedometer diary and asked to record their steps at the end of each day. Also within the diary they were asked to record the time that the pedometer was put on and taken off and make a note if the pedometer was removed for any reason and for how long. For children in Year 1, it was the parents who completed the above information.

**Mode of Travel to School**

The children were provided with a physical activity questionnaire to complete. This questionnaire was the same as that used in the Western Australia CAPANS survey.
2003 (15). Their estimates of test-retest reliability for this questionnaire ranged from 0.10 to 0.83 for individual items. As part of the previous 24 hr recall within this questionnaire, the children were asked about their mode of travel to and from school. Options provided were walking (all of the way, part of the way), cycling (all of the way, part of the way), car, bus, train, ferry and other. For the purposes of this study, walking all of the way or part of the way, were grouped together as children who had walked, and the same process was taken for cycling. Mode of travel to and from school was also questioned in the section of the questionnaire that asked about the previous seven days. The children were asked how often they had walked to and from school over the past seven days and this produced a minimum score of 0 and a maximum score of 10 (each visit to or from being counted as one). This score was then grouped into three categories; those who reported no walking in the previous week, those who reported between 1 and 5 walking trips and those who reported 6 or more walking trips. These questions about active transport were completed on either Day 1 or Day 2 of the 5-day step record. Again, for children in Year 1, it was the parents who completed the above information.

**Step Cut-Offs**

For children in Years 1 and 5, the daily step cut-offs of 15000 for boys age 6–12 years and 12000 for girls age 6–12 years, suggested by Tudor-Locke et al. (2004), were used to determine whether the children had reached target step counts. These cut-offs were established using a contrasting groups method to establish criterion-referenced standards based on BMI categories from 2000 boys and girls from the USA, Australia, and Sweden. The difference in cut-off level for boys and girls is in line with sex-related differences commonly observed in objectively monitored physical activity in children of this age (16,17,31,40). These cut-offs are weight-determined targets, i.e., thresholds beyond which children and older adolescents have a lower chance of being overweight. The Tudor-Locke cut-offs are higher (1,000 more for both boys and girls) than those previously put forward (38), but as the authors themselves noted, are consistent with physical activity requirements for children. The step range (12,000–15,000) translates to approximately 120–150 min of activity per day (34). For children in Year 10, a 12,000 step threshold was chosen. While 10,000 steps, based on previous adult cut-off recommendations, has been used as a conservative guide for assessing sufficient adolescent activity (17), more recent analyses of steps taken by adults (35) suggests that for young adults, 12000 steps per day may be a more suitable threshold, with regards to activity sufficient to maintain a healthy weight.

**Data Analysis**

**Steps.** Each pedometer diary was examined and outliers of step records were removed. As such, all daily records which were less than 1,000 or greater than 30,000 were discarded as being unlikely to be valid as has been used elsewhere (9,10,17). This resulted in records from 31 children being excluded. Valid day records were those that stated that the pedometer had been worn for more than eight hours and had not been removed for more than one hour. While the latter criterion has been used before (9,10,34), an eight hour minimum was a provision
of the data analysis for this survey, less than a 10 hr minimum reported by others (12). However, 93% of valid days were records of 10 hr or more. On average, children recorded 12.7 ± 0.3 hr of step measurement on school days and 12.2 ± 0.3 hr on weekend days. Only children that had a minimum of 4 valid days of measurement were included for this paper as four to five days of monitoring has been shown to be sufficient to obtain a reliable estimate of physical activity in children (31), and four days have been widely used (9,10,16). Days were separated into school days and nonschool days to provide a mean school day step count and a mean weekend day step count.

All analyses were performed using SPSS for Windows version 15.0 (SPSS, Illinois, USA). Where data were normative, independent t tests were used to test for differences in step counts between mode of transport to and from school by year and sex. Pearson chi-square tests were used to test for differences between mode of transport to school and attaining step cut-off thresholds. The Kruskal–Wallis test was used to explore whether frequency of weekly walking to and from school was associated with school day steps. Significance was set at \( p < .05 \).

The HKQ 2006 survey was approved by both The University of Queensland Ethics Committee, and the Education Queensland Ethics Committee. All parents provided informed consent for their child to be involved in the survey.

### Results

In total, 6,061 children were invited to take part in the HKQ survey and 3,691 children consented to take part (60% response rate). Of these, 3,245 consented to wear a pedometer, but only 2,270 were successful in recording 4 days of valid measurement as defined in the methods (70% success rate). A further 194 did not have complete information regarding active transport, leaving 2,076 children with full datasets for both components. To assess for potential bias in this remaining group, active transport patterns of all children who fully completed the physical activity questionnaire in the HKQ survey (\( n = 3,197 \)) were compared with the 2076 children reported in this paper. Active commuting to school was reported by 24.9% in the whole survey, compared with 24.5% for this group and 29.7% reported active commuting from school, compared with 29.5% for this group.

Table 1 shows the mean age, sex ratio, the mean school-day step counts of the children and the proportion of the children who engaged in some form of active transport to school: either to, from or both. Overall, 34.6% of children had engaged in active transport on the previous day. The proportion of children who actively commuted to or from school clearly increased with age, with almost half of Year 10 girls engaged in active transport to get home from school on the previous day. The mode of active transport was predominantly walking for both boys and girls: cycling to school on the previous day only contributed to 7.7%, 17.9% and 2% of Year 1, 5 and 10 girls engaged in active transport. Boys were more likely to report having cycled, with 10.9%, 33.8% and 23% of the Year 1, 5 and 10 boys cycling to or from school. At all age groups, boys took on average more steps than girls, the difference being as much as 2000–3000 steps in Years 5 and 10. Year 5 children took the most steps.
The number of school-day steps and weekend steps, according to whether the child walked to and from school, reported for the previous day, are shown in Table 2. For Year 1 children, there was little difference in school-day step counts between those who walked to or from school compared with those who went by car or public transport. For Years 5 and 10, walking to school was associated with higher school-day steps, and this was significant for Year 5 males and females, and Year 10 females. Weekend step counts for these groups were inconsistent, with no significant differences. Similar findings were observed when the children were grouped according to mode of transport from school: Year 5 females who walked home from school took significantly more steps, approximately 1,000 in number, than their peers who went by motorized transport. While Year 10 boys and girls who walked home from school also took more steps than those using motorized transport, the differences did not reach significance. Weekend steps for both these subgroups were inconsistent, with significant differences only observed for Year 5 girls. Irrespective of the mode of transport to or from school, weekend step counts were lower than school day step counts for both males and females in Years 5 and 10. In contrast, Year 1 children on average recorded more steps at the weekend.

The association between the frequency of walking to and from school, in the past week and school day steps is shown in Table 3. Walking frequency showed no association with school day steps in the youngest children. For both boys and girls in Year 5 and 10 however, increased school-day steps were observed with increasing frequency of walking to and from school. This was significant for females at both year levels, with a daily difference of 1,000 steps between those who had not walked to school in the past week compared with those who had walked on 6 or more occasions.

Table 4 presents the data relating to attaining recommended step thresholds and walking to and from school respectively. The proportion of children who met recommended step thresholds was higher in those walked to school, but this difference only reached significance for Year 5 females. More than 70% of girls who walked to school accumulated sufficient steps in the day overall to reach the

### Table 1  Age, School-Day Steps and Proportion Who Undertook Active Transport (AT) on Previous Day by Year and Sex

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>f</td>
<td>m</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n = 271</td>
<td>n = 276</td>
<td>n = 380</td>
</tr>
<tr>
<td>Age (years)</td>
<td>6.2</td>
<td>6.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Mean school-day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>steps (SD)</td>
<td>12,887</td>
<td>11,133</td>
<td>15,510</td>
</tr>
<tr>
<td></td>
<td>(2962)</td>
<td>(3228)</td>
<td>(4249)</td>
</tr>
<tr>
<td>% AT to school</td>
<td>17.7</td>
<td>14.5</td>
<td>23.8</td>
</tr>
<tr>
<td>% AT from school</td>
<td>19.6</td>
<td>18.1</td>
<td>26.9</td>
</tr>
<tr>
<td>% AT to and from school</td>
<td>12.4</td>
<td>10.8</td>
<td>18.5</td>
</tr>
</tbody>
</table>
### Table 2  School-Day and Weekend Steps According to Mode of Traveling To and From School: Walking Versus Nonactive Transport (Non-AT)

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 5</th>
<th>Year 10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>f</td>
<td>m</td>
</tr>
<tr>
<td>n = 263</td>
<td>n = 273</td>
<td>n = 351</td>
<td>n = 482</td>
</tr>
<tr>
<td><strong>Mode of travel to school</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School-Day Steps</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>13,142</td>
<td>10,889</td>
<td>16,059*</td>
</tr>
<tr>
<td>Non-AT</td>
<td>12,853</td>
<td>11,154</td>
<td>15,275</td>
</tr>
<tr>
<td><strong>Weekend Steps</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>14,684</td>
<td>12,444</td>
<td>12,591</td>
</tr>
<tr>
<td>Non-AT</td>
<td>13,602</td>
<td>11,597</td>
<td>12,758</td>
</tr>
<tr>
<td><strong>Mode of travel from school</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>School-Day Steps</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>12,851</td>
<td>11,272</td>
<td>15,882</td>
</tr>
<tr>
<td>Non-AT</td>
<td>12,930</td>
<td>11,074</td>
<td>15,303</td>
</tr>
<tr>
<td><strong>Weekend Steps</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk</td>
<td>14,127</td>
<td>13,615**</td>
<td>12,451</td>
</tr>
<tr>
<td>Non-AT</td>
<td>13,746</td>
<td>11,333</td>
<td>12,759</td>
</tr>
</tbody>
</table>

* $p < .05$ (Walk vs Non-AT)
** $p < .01$ (Walk vs Non-AT)

### Table 3  Frequency of Walking To and/or From School (in Previous Week) and Mean School-Day Steps

<table>
<thead>
<tr>
<th></th>
<th>Did not walk at all</th>
<th>Walked 5 times or less</th>
<th>Walked 6 times or more</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>m</td>
<td>f</td>
<td>m</td>
<td>f</td>
</tr>
<tr>
<td>1</td>
<td>263</td>
<td>273</td>
<td>12,924</td>
<td>11,038</td>
</tr>
<tr>
<td>5</td>
<td>351</td>
<td>482</td>
<td>15,480</td>
<td>12,595</td>
</tr>
<tr>
<td>10</td>
<td>235</td>
<td>391</td>
<td>13,190</td>
<td>11,247</td>
</tr>
</tbody>
</table>
Discussion

This study assessed school day and weekend day step counts and active transport habits in over 2,000 school aged children (5–16 years) from rural and urban schools throughout Queensland, Australia. On the day questioned, only 16% of the youngest age group of children (Year 1) had engaged in some form of active transport to or from school on the previous day. In the oldest group (Year 10), 37% had either walked or cycled to or from school on the previous day. These proportions are similar to those found elsewhere in recent years within Australia and internationally (22,36), but are notably lower than those reported for Northern Europe (2,28).

Step counts were higher in males compared with females at all ages, during the week and at weekends, as has been found previously (10,40). The daily steps attained by both males and females appear comparable to other contemporary pedometer studies in Australia and internationally (16,34). Our findings also support studies by Hohepa et al. (17) and Rowlands et al. (26) showing weekend activity to be lower than school day activity for both males and females in the older children, in some cases by over 2,000 steps.

The first objective of this study was to assess whether walking to school was associated with higher levels of daily steps: for both younger and older children,
and for both sexes. We examined this with one-day data from the day before the children were surveyed, as well as with frequency data covering the previous week. For the children attending Year 1 of school, aged 5–7 years, there was little difference in school-day step counts between those who walked to or from school compared with those who went by car or public transport. However, in the older age groups, walking to school, assessed by either recall of the day before or by frequency over the past week, was associated with increased school-day steps, for all females and also Year 5 males. The data for Year 10 males were in the same direction, but potentially not sufficient in either magnitude or sample size to be statistically significant. These data compare well with the girls-only study by Duncan et al. (9) who showed that active transport was only correlated with increased steps for girls from Year 5 and above. Their observed mean step difference between the two groups was 1050 steps, for girls who traveled both ways and 836 steps for girls who only reported traveling one way. Our difference ranged from 800 to 1,300 steps according to year grouping and included children who had traveled either way as well as children who traveled both.

Having two separate measures of mode of transport to school is a unique aspect of this study. Most studies to date have asked about “usual” mode of transport to school (5,13). In asking about the past week, we have assumed that we are obtaining a habitual estimate of the mode of travel to and from school. The fact that the previous day data match closely with the findings from the past week, suggests that the previous day may also be a useful indicator of usual mode.

The second objective of this study was to see whether walking to school was associated with higher rates of children meeting the step threshold targets. In Year 1 children, while there appeared to be a higher number of children who walked to school who met step thresholds, compared with peers who used motorized travel, the difference was not statistically significant. Young children may be more active throughout the day, and active transport to school therefore while adding to daily activity, may have less of an impact on total daily activity. Indeed, Metcalf et al. (21) in their study of 5 year olds from the UK using accelerometers, found similar results: time spent in moderate-to-vigorous activity (MVPA) in the traveling to school period was greater in active commuters than non active-commuters, but this did not have a significant impact on overall daily MVPA. We know that active commuting to school is influenced by a host of factors, ranging from family support and economic circumstance through to distance and environmental features (4,24), however it is not known whether actively commuting to school when young influences commuting habits as the child gets older. Actively commuting to school when young may increase the likelihood of actively commuting when older.

For children in Year 5 (aged 9–11), walking to school was associated with a greater likelihood of reaching step targets compared with children who went by motorized transport. The most marked difference was observed in the females, with more than seven in ten of those who walked to school meeting targets for steps compared with just over half of those who went solely by car or public transport. While we observed a similar trend for the children in Year 10, in favor of those who walked to school, these differences were not significant. We acknowledge that the sample sizes of both Year 1 and Year 10 groups were smaller than that of Year 5, which may help explain why these observed differences were not
statistically significant, however it is also noted that the difference in proportions reaching step targets was largest for children in Year 5. Year 5 children were the most active of the children, in terms of daily steps, and it may be that this plays a role in either how far they are willing to walk to school, or involvement in additional activity on their way to and from school. Data on distance to school and other places visited on the route to and from school however, were not collected.

While it seems intuitive that if active transport is associated with increased daily steps then more children would automatically reach step targets, this is dependent on whether the added difference active transport makes is sufficient to breach the target level. We also have to consider that the act of active transport itself may ‘prime’ those who engaged in it to be more active during the school day itself. As far as we are aware, this has not been explored to date, though Dollman and Lewis (8) have found that children who actively commute to and from school are more likely to actively commute to other destinations.

This is the first study to investigate the association between active transport and step thresholds and the data support the notion that walking to school may help children attain public health targets for steps. The targets used for this study (34,35) were weight-determined targets, i.e., thresholds beyond which children and older adolescents have a lower chance of being overweight. The thresholds are higher than others that have been proposed (38), but as noted by the authors themselves, setting lower thresholds may undermine attempts to increase physical activity levels of children. It was not the aim of this study to investigate threshold suitability. The sex difference of the thresholds appear warranted with our data, with boys taking 1,500–2,500 more steps than girls during school days across all Year levels.

Can walking to school make a significant difference to children’s daily activity levels, or are the findings we have observed simply a reflection of the fact that the children who chose to walk are, by their very nature, more active? This is an important question for public health professionals interested in practical strategies that increase children’s daily activity levels. We attempted to address this by looking at weekend step counts to see if children who walked to school were also more active on a weekend day. There were no consistent differences observed in weekend step counts between children who walked to school compared with those who went by motorized transport. The only significant difference observed was that for Year 5 girls: those who walked to school were also more active at the weekend compared with their peers who had taken motorized transport to school. The similarity of step counts at the weekend among the boys in Year 5 and boys and girls in years 10 (despite higher step counts during school days), between those who walked to school compared with those who did not, lends support to the suggestion that these children were not simply more “naturally active”. This agrees with earlier findings from both a cross-sectional study (6) and a recent longitudinal study of Danish children (7). Our data add plausible weight to the concept that active transport intervention strategies could beneficially influence daily activity levels of children, particularly older girls, a group whose declining activity levels are of noted concern (27).

We acknowledge that our study is cross-sectional and limits being able to establish any causality; only intervention studies using objective measurement will be able to establish the additive effect that active transport can make. A fur-
ther limitation is the grouping used to categorise the children who walked. Walking included children who had walked “part of the way,” as well as “all of the way” and information regarding the distance itself was not gathered. It is likely however that the inclusion of the mixed mode journey will, if anything, have underestimated the effects of walking the full distance to school on daily steps. We also acknowledge that our decision to use a minimum of eight hours for a valid pedometer day is lower than that cited by others, and therefore may bias the comparability of our data with other data-sets. However, as has been noted, 93% of the valid days observed in this study consisted of days with more than the ten hours of recording, as used by others. Furthermore, as has been discussed, the mean steps of the children in this study are very similar to other contemporary studies on step levels.

The strengths of this study are its large size (over 2,000 children), and through its size, it has consistent and valid objective measurement across a data set that comprises a range of ages and includes both males and females. This study also provides contemporary data on active transport behaviors and steps patterns of children. Finally this study has shown that active transport is more prevalent in older children and that walking to or from school is associated with higher daily steps on school days for those that engage in it.

Conclusion

The children who chose to walk to school in this study were more likely to have a higher school-day step count and achieve daily step targets than those who went solely by car or public transport. While it is acknowledged that there are many mediating factors that influence whether children actively commute to school, some of which are very difficult to influence such as distance, this study supports continued efforts in promoting and increasing active transport to school for children. Enhancing accessibility for active commuting to school needs to remain a priority in urban planning and community development.

Acknowledgment

Queensland Health commissioned and funded the Healthy Kids Queensland Survey. A Steering Committee including representation from Queensland Health, Education Queensland, Independent Schools Queensland, the Queensland Catholic Education Commission and the Queensland Department of Local Government Sport and Recreation provided advice, guidance and support regarding the survey. The authors would like to acknowledge the research officers that collected the data on behalf of the Healthy Kids Queensland research team and the families and schools who kindly agreed to participate in the state survey.

References