

Active commuting to and from elementary school children 9 years old in Tuzla Canton

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Abstract

The aim of this study was to determine how children in Tuzla Canton travel to school and from school to home, what do children think about how much walking to school and from school to home is good for them. The sample consisted of randomly selected of children N=169 (school girls 90 girls and 79 boys) from elementary school in Tuzla canton, chronological age (9.7 years \pm 1.1 yr). All Pupils had to answer on 32 closed questions, two of them were open. According to the results we can conclude: children in Tuzla canton are active commuters to/from school 71.6-80.5%. All children have the desire to spend more time with their parents on their way to/from school. On questions which would make walking to and from school are better in the highest percentage pleaded nothing, I feel fine about walking to school 49.1%. The results suggest that walking school have many social benefits and children in Tuzla Canton are active commuters to/from school.

Key words: Physical activity, walking, children, reasons, benefits

Sažetak

Cilj ovog rada bio je da se ustanovi kako djeca u Tuzlanskom kantonu putuju od kuće do škole i od škole do kuće, šta djeca misle o tome koliko je pješaćenje dobro za njih. Uzorak ispitanika sastojao se od slučajnog izabranih N=169 (90 djevojčica i 79 dječaka) iz osnovnih škola u Tuzlanskom kantonu, kronološke dobi (9.7 \pm 1.1 godina). Učenici su odgovorili na 32 pitanja zatvorenog tipa, a dva pitanja su bila otvorenog tipa. Prema dobivenim rezultatima možemo zaključiti: djeca u Tuzlanskom kantonu su aktivni putnici u/iz škole 84.6-85.2% i obično putuju sa prijateljima u/iz škole 71.6-80.5%. Sva djeca imaju želju da više vremena provode sa roditeljima na putu u/iz škole. Na pitanja šta bi moglo učiniti bolje pješaćenje u/iz škole djeca su se u najvećem procentu izjasnili da ništa, ne osjećaju na putu u/iz škole 49.1%. Rezultati pokazuju da pješaćenje do škole ima mnogo socijalnih dobiti i djeca u Tuzlanskom kantonu su aktivni putnici u/iz škole.

Ključne riječi: tjelesne aktivnosti, pješaćenje, djeca, razlozi, dobiti

Introduction

Children are designed to be active. Physically active children are healthier, happier and more socially connected than children who have more sedentary lifestyles (US Department of Health and Human Services, 2008). Children and young people who are physically active are more likely to be active adults, resulting in health benefits across the life course (Troost, Owen, Bauman, Sallis & Brown, 2002; Kjonniksen, Torsheim & Wold, 2008). Children who actively commute to school have higher levels of physical activity and improved cardiovascular fitness compared with children who do not walk or cycle to school (Davison, Werder & Lawson, 2008).

In recent decades, substantial changes in our lifestyles, urban environments and transportation systems have led to changed physical activity patterns among children. Active transport, in particular, has declined dramatically in countries such as the EU, USA, UK and Australia, where car travel has become the predominant form of personal mobility (Salmon, Timperio, Cleland & Venn, 2005; Ploeg, Merom, Corpuz & Bauman, 2008).

A growing number of industrialised countries such as Germany, Denmark, the Netherlands and Japan have successfully reversed unsustainable and unhealthy increases in rates of driving children to school and other local destinations. Some cities and municipalities in the UK, USA, EU and Canada have also achieved relatively high rates of active travel (Pucher, Dill & Handy, 2010).

Similar changes and benefits can be achieved in Australia. Data from the Australian Children's Nutrition and Physical Activity Survey indicate that, in contrast to sport and play, active travel tends to increase with age, and has similar participation rates for girls and boys at most age levels. Similar findings have been reported internationally. In a large UK study, year 10 females were 6.5 times more likely to meet recommended levels of physical activity if they actively commute to school (Smith, 2008).

Recent reviews have reported that lower household income and parental education levels are generally associated with higher rates of active travel among children (Sirard & Slater, 2008; Pont, Ziviani, Wadley, Bennett & Abbott, 2009). Spallek, Turner, Spinks, Bain & McClure (2006) reported similar relationships for walking to school among 871 Brisbane families with children aged 4-12 years (yr).

A Melbourne study, however, reported variable relationships between socioeconomic position and active travel according to age, gender and data collection period (2001 and 2004) (Ball, Cleland, Timperio, Salmon & Crawford, 2009). Variable findings in the Melbourne study, few of which were statistically significant, may be due to small study numbers (542 children) and relatively low levels of active travel to school. Australian children's rates of walking and cycling for transport are low in comparison to many other developed countries, and have declined substantially in recent decades. In Melbourne in 1970, 55.3% of young people walked to school or higher education, falling to 22.2% in 1994.

In the same time period, cycling to education declined from 7.5% to 3.9% and car travel increased from 14.3% to 55.3%. In the rest of Victoria over this time period, walking to education fell from 35.4% to 15.9%, cycling from 20.3% to 7.9%, and car travel increased from 16.5% to 43.9% (Australian Bureau of Statistics 1975; Australian Bureau of Statistics 1995).

Household travel surveys conducted in the Sydney metropolitan area show similar trends. The proportion of children aged 5-9 years who walked to school on the day of the survey more than halved between 1971 (57.7%) and 1999-2003 (25.5%). For children aged 10-14 yr, walking to school dropped from 44% to 21.1%. Cycling data were not included in the analysis, but were reported to be low (1-2%) (Ploeg et al., 2008).

Many different reasons are thought to account for low levels of walking to school. Parental safety concerns such as travel distance, traffic, and crime have been associated with inactive commuting Black, Collins & Snell, 2001; Tudor-Locke, Ainsworth, Adair & Popkin, 2003.

The aim of this study was to determine how children in Tuzla Canton travel to school and from school to home, what do children think about it if you walk to school and from school to home why it's good for them.

Methods

The sample consisted of randomly selected of children 169 (school girls 90 girls and 79 boys) from elementary school in Tuzla canton, chronological age 9.7 yr (\pm 1.1 yr). All parents wrote written permission to allow children to fulfill questionnaire. Questionnaires were answered in September and October 2010. Pupils had to answer on 32 questions, two of them were open. Closed questions were either just to cross the correct answer (e.g. Which class do you attend?), either on Likard scale from 1-2 and 1-5. For each question/variable frequencies/percent were calculated with SPSS 17.0 (*Statistical package for the social sciences*). Evenson, Neelon, Ball, Vaughn & Ward (2008) found questionnaire completed by school-age children to assess travel to and from school, including mode, travel companion, and destination after school, was reliably collected and indicated validity for most items when compared with parental reports.

Results and Discussion

With our investigation we wanted to find the proportion of pupils who are practicing active commuting to school, and the reasons why some children are not active and how they felt about active commuting.

Table 1. How you usually travel to / from school (N=169)

		To	From
		Percent %	Percent %
Valid	on foot	85.2	84.6
	by school bus	6.5	6.5
	by car (given a lift)	1.8	2.4
	bicycle	2.4	2.4
	a mixture of on foot and by car	4.1	4.1
	Total	100.0	100.0

Table 2. Who you usually travel with to / from school (N=169)

		To	From
		Percent %	Percent %
Valid	an adult	1.2	2.4
	an adult and other children	7.7	5.9
	on my own	14.2	7.7
	friends	71.6	80.5
	brother/sister	5.3	3.6
	Total	100.0	100.0

Actually the results for children in Tuzla canton are quite good as more than 85.2% of them is already walking at least all part of the way to school (Table 1). Other percentage is by school bus 6.5%, a mixture of on foot and by car 4.1%, bicycle 2.4 and by car 1.8-2.4%. Comparing to New Zealand children (aged 5-10 years) where slightly more than 42% of them are walking to school (Hinckson, Garrett & Duncan 2011). Most of the children in Tuzla canton traveling to school (Table 2) with friends 71.6-80.5%, on my own 7.7-14.2%, an adult and other children 5.9-7.7%, brother/sister 3.6-5.3% and adult 1.2-2.4%. Most countries with high rates of active travel to school have higher rates of cycling than walking to school which is similar results like Tuzla canton. In many cases, children in countries with high rates of active travel to school also travel further to school than Australian children (van Dyck, Cardon, Deforche & Bourdeaudhuij, 2009). Children in Tuzla canton showed good results.

Table 3. If you walked part or all of the way to school on most days, what benefits would there be ? (N=169)

Claims	Yes	No
Questions	Precent %	Precent %
My heart and lungs would be healthier	72.2	27.8
I would be alert and awake for school	96.4	3.6
I would be able to talk to my friends	81.1	18.9
My body would become healthier	74.0	26.0
It would be fun	90.5	9.5
I would be helping the environment	98.2	1.8
I would hear and see things that I wouldn't usually	98.2	1.8
I would save money on fares	98.2	1.8
I would get lots of fresh air	89.3	10.7
I would be able to talk to my parents on the way	100	0.0
I would be able to talk to my brothers/sisters on the way	98.8	1.2

Six main reasons in (Table 3) why children walked part or all of the way to school on most days, what benefits would there be: I would be able to talk to my parents on the way 100.0%, I would be able to talk to my brothers/sisters on the way 98.8%, I would be helping the environment 98.2%, I would hear and see things that I wouldn't usually 98.2%, I would save money on fares 98.2%, I would be alert and awake for school 96.4%.

Other studies Kerr, Rosenberg, Sallis, Saelens, Rank & Conway (2006); Cole, Leslie, Donald, Cerin & Owen (2007) report that children participating in a walking to school particularly like to spend more time with parents. Parents, on the other hand, appreciate having more time to kids to talk, have fun, save gas required to drive to and from school, have concerns addressed which may have kept them from allowing their children to walk to school (such as traffic, personal safety or distance), socialize with other families, reduce traffic congestion around schools, participate in physical activity as part of their day, etc.

Table 4. Which of the following would make walking to and from school better? (N=169)

Claims	Yes	No
Questions	Precent %	Precent %
Better weather	11.8	88.2
If my friends walked	22.5	77.5
If I was less frightened of meeting strangers	1.8	98.2
If I was less frightened of being bullied	0.6	99.4
More safer places to cross	5.3	94.7
More school lollipop people	3.0	97.0
Less/slower traffic	4.1	95.9
Cars kept away from the school entrance	1.2	98.8
If my parents walked with me	0.6	99.4
If my older brothers or sisters walked with me	3.6	96.4
Nothing, I feel fine about walking to school	49.1	50.9

Children nothing, feel fine about walking to and from school better 49.1%, if my friends walked 22.5%, and better weather 11.8%. This reason is far the strongest and again can't be changed by children and it is objective. Then there is a group of reasons which can be defined as objective obstacles from traffic.

Children's freedom to explore their communities is greatly limited when walking is not safe or enjoyable. Today, only 13% of all trips to school are made by walking and bicycling. Of school trips one mile or less, a low 31% are made by walking; within two miles of school, 2% are made by bicycling. Sadly, this deprives our neighborhoods of the activity and laughter of children walking and bicycling to and from school together (U.S. Centers for Disease Control and Prevention, 2006).

Today, fewer children are walking and bicycling to school, and more children are at risk of becoming overweight and obese than children 30 years ago (Koplan, Liverman & Kraak, 2004) Encouraging a healthy lifestyle requires creative solutions that are safe and fun. Implementing a walking school bus can be both. For many parents, safety concerns are one of the primary reasons they are reluctant to allow their children to walk to school (Martin & Carlson, 2005).

The experience of several affluent European and Asian countries demonstrates that active travel choices can be easy choices, including within urban environments similar to the low population density suburbs and surrounding cities. With the right conditions, policies, education and encouragement, more children would undoubtedly travel to school by foot (up to about 1km) or by bicycle (up to about 5km). These distances place active travel within the

reach of the approximately 80% of Bosnians families who live within 1-5 km of school (Ministry of Transport and Communications BiH, 1999).

Conclusions

According to the results we can conclude. Children in Tuzla canton are active commuters to/from school and usually travel with friends to/from school. Children who walked part or all of the way to school on most days, would be able to talk to parents on the way to/from school, would be able to talk to my brothers/sisters on the way, would be helping the environment, would hear and see things that I wouldn't usually and would save money on fares. Children nothing, feel fine about walking to and from school better. The results suggest that walking school have many social benefits.

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