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Special Report from the CDC

Why don't more children walk to school? ☆

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The Journal of Safety Research has partnered with the National Center for Injury Prevention and Control (the Injury Center) at the Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia, USA, to briefly report on some of the latest findings in the research community. This report is the 12th in a series of CDC articles.

1. Introduction

There has been a sharp decline in the prevalence of walking to school over the last few decades (McDonald, 2007). Concurrently, the prevalence of overweight among young people has increased and physical activity levels are low (U.S. Department of Health and Human Services [DHHS], 2001, 1996). Efforts to promote physical activity have included campaigns to promote active travel (e.g., walking or bicycling) to school. The most notable of these is Safe Routes to School (SRTS), a federal program that seeks to increase walking and biking to school through infrastructure improvements and education, enforcement, and encouragement activities (Federal Highway Administration [FHWA], 2006).

Efforts to promote active travel to school need to address barriers faced by schoolchildren. The purpose of this study was to identify students' usual mode of travel to school and identify the reasons many students do not walk to school.

2. Methods

We used data from the Second Injury Control and Risk Survey (ICARIS-2), a nationally representative, random-digit-dialed telephone survey. Interviews were conducted from July 2001 through February 2003. One adult (≥ 18 years) was selected per English- and Spanish-speaking household. The survey collected data on a variety of injury-related topics, including motor-vehicle safety. Respondents with ≥ 1 child (5–14 years) living in the household were asked three questions about school travel. If a respondent had > 1 child (5–14 years), one child was randomly selected for whom the questions would apply.

The usual mode of travel to school was classified as family car (including carpool), school bus, or walk. Other modes (e.g., train, public transportation, multiple modes, taxi, and bicycle) were excluded because the small number of responses precluded stable estimates. Respondents whose child walked to school < 4 days per week were asked to identify the primary barrier to walking more often. Responses were categorized as fear of crime, distance, traffic danger (including lack of sidewalks), more convenient to drop child off, and all other reasons.

Sociodemographic variables included in the analysis were child's sex, age group (5–11 years vs. 12–14 years), annual household income ($< \$20,000$, $\$20,000 - \$34,999$, $\geq \$35,000$), and census region (Northeast, North Central, South, West).

There were 9,684 respondents to the survey (response rate 48%), 2,409 of whom had at least one child aged 5–14 years. Of these, 135 were excluded from analysis (home schooled [$n=56$], not enrolled [$n=21$], other modes of travel [$n=44$], or missing data [$n=14$]), leaving 2,274 respondents for the present study.

☆ The views expressed in this article are those of the authors, and do not necessarily represent the official views or policies of the US Department of Health and Human Services and the Centers for Disease Control and Prevention (CDC).

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Table 1
Distribution of Transportation to School Variables, ICARIS-2, July 2001 - February 2003

	n*	%	Lower 95% CI	Upper 95% CI
<i>Usual Mode, 3 Categories</i>				
Family Car**	1054	46.3	43.7	48.9
School Bus	896	39.6	37.0	42.2
Walk	324	14.2	12.5	16.1
Total	2274	100.0		
<i>Primary Barrier to Walking to School</i>				
Traffic Danger	165	9.2	7.6	11.1
Fear of Crime	122	6.5	5.2	8.0
Distance	1339	70.7	68.1	73.2
More Convenient to Drop Off	162	6.7	5.5	8.1
Other	127	7.0	5.7	8.5
Total	1915	100.0		

*Sample n.

**Includes carpool.

Prevalence estimates and 95% confidence intervals (CIs) were calculated with SUDAAN. The chi-square statistic was used to test the association between sociodemographic characteristics and the transportation variables of interest. Using 95% CIs as a conservative assessment of significance, we also assessed differences within sociodemographic groups.

3. Results

The most common mode of travel to school was the family car (46.3%), followed by school bus (39.6%), and walking (14.2%; Table 1). Among those who did not usually walk to school, distance (70.7%) was the most common barrier, followed by traffic danger (9.2%; Table 1).

There were no sex differences in usual travel mode. Usual travel mode differed by age group, income, and census region (Table 2). Children 5–11 years were more likely to ride in the family car than 12–14 year olds, while the opposite pattern was observed for the school bus. Children in households making <\$20,000/year were less likely to ride in a family car and more likely to take the school bus than were children in households making \$35,000+/year. Children in the Northeast were less likely to ride in a family car than children in the South or West. Children in the West were less likely to ride a school bus than children in any other region. Children in the South were less likely to walk than children in the Northeast or the West.

Barriers to walking to school were examined by sociodemographic characteristics. Because of large relative standard errors, results for income and census region were not presented. No differences were observed by sex. By age group, distance was more

Table 2
Distribution of Usual Mode of Travel to School, by Selected Characteristics, ICARIS-2, July 2001 - February 2003

	Family Car*				School Bus				Walk				
Characteristic	n**	%	Lower 95% CI	Upper 95% CI	n**	%	Lower 95% CI	Upper 95% CI	n**	%	Lower 95% CI	Upper 95% CI	p-value
Sex													
Male	499	43.5	39.9	47.2	459	41.7	38.0	45.4	173	14.8	12.2	17.4	0.1123
Female	555	49.1	45.4	52.8	437	37.4	33.8	40.9	151	13.6	11.1	16.0	
Age Group													
5-11 Yrs	724	49.0	45.8	52.2	542	36.7	33.6	39.8	215	14.3	12.1	16.5	0.0040
12-14 Yrs	330	40.4	36.0	44.8	354	45.6	41.1	50.1	109	14.0	11.0	17.0	
Income													
<\$20 k	96	31.1	24.9	37.3	149	50.4	43.6	57.2	59	18.4	13.3	23.6	0.0000
\$20-<\$35k	150	42.9	36.5	49.3	139	40.6	34.2	47.1	61	16.5	11.7	21.2	
\$35k+	694	51.8	48.4	55.2	508	36.9	33.6	40.3	150	11.3	9.1	13.5	
Census Region													
Northeast	179	38.5	32.9	44.0	210	43.1	37.6	48.7	100	18.4	14.2	22.6	0.0000
North Central	165	43.0	37.1	48.8	164	43.5	37.6	49.4	47	13.5	9.5	17.6	
South	457	48.8	44.6	53.0	412	43.7	39.4	48.0	73	7.5	5.2	9.8	
West	253	51.4	45.9	56.9	110	26.9	21.9	31.9	104	21.7	17.3	26.1	

*Includes carpool.

**Sample n.

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