

Active Travel to School: Policies and Attitudes of School and District Leaders

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Background: When promoting active travel to school, it is important to consider school and district policies as well as attitudes of school and district administrators. **Methods:** School principals and district officials in South Carolina participated in the *School Travel Survey*. Frequency distributions and Chi-squared tests were used to analyze the data. **Results:** Three hundred fourteen persons responded to the survey (53.2% response rate). Sixty-five percent of district officials reported having a clear position about students walking to school, 80.0% of which were supportive. Seventy-two percent of principals reported having a clear position about walking to school, 67% of which were supportive. These positions were most commonly communicated either orally or through memos or other written documentation rather than through official, written policies or directives. Respondents who personally supported walking to school were more likely to believe that walking to school benefited students' health ($\chi^2 = 8.82, df = 1, P = .003$) and academic performance ($\chi^2 = 14.87, df = 1, P < .0001$). **Conclusions:** Promotion of walking to school should encourage schools and districts to develop official, written directives or policies. Promotional efforts may benefit from linking active travel to academic performance and health.

Keywords: transportation, policy, physical activity, active travel, children

Increasing physical activity among children is a critical public health challenge. Regular physical activity during childhood is associated with many positive health outcomes, including controlling weight, reducing blood pressure, raising high density lipoproteins, reducing risk of diabetes and some kinds of cancer, and improving psychological well-being.¹ Many children, however, are not regularly active.^{2,3}

Many factors contribute to inactivity or irregular activity among children. For example, many schools have reduced physical activity opportunities during the school day by limiting or omitting physical education and recess.⁴⁻⁶ Rather than engaging in physical activity after school, many children participate in sedentary activities, such as watching television and playing video games.⁷⁻⁹ One approach that shows potential for increasing children's physical activity levels is active transportation to and from school. However, the proportion of children walking and cycling to school has decreased from about 50% in 1969¹⁰ to approximately 5 to 14% today.^{11,12}

Healthy People 2010 calls for increasing the proportion of children's trips to school made by walking (≤ 1

mile) to 50% and increasing the proportion of children's trips to school made by bicycling (≤ 2 miles) to 5%.¹³ Efforts are needed to increase the proportion of children who actively commute to and from school.^{11,12} Reauthorization of the federal transportation legislation in 2005 charged the Federal Highway Administration with providing funds for states to create and implement Safe Routes to School (SRTS) programs.¹⁴ SRTS funding may increase the percentage of children who walk or cycle to school through a variety of initiatives including: engineering (eg, building sidewalks); enforcement (eg, ticketing drivers who speed in school zones); education (eg, teaching pedestrian skills in the classroom); and encouragement (eg, participating in walk-to-school days).¹⁵ Research supports the effectiveness of such efforts for increasing active travel to and from school.^{16,17}

Successful implementation of active travel initiatives requires the support and collaboration of many community stakeholders including parents, school and district personnel, public safety officials, and local government representatives.^{18,19} Support from district and school officials is especially important when developing and implementing programs involving schools.²⁰⁻²² In interviews with parents involved in walk to school programs, Eyler and colleagues¹⁸ found that support from school officials was one of the keys to successful initiatives.

The *School Travel Survey* was conducted to develop a better understanding of 1) the proportion of districts and schools with walking or cycling policies, 2) how these policies are being communicated, and 3) the attitudes of

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school principals and district officials toward active travel to school. This is the first study to systematically collect information about the attitudes of school and district officials about walking and cycling to school.

Methods

This cross-sectional study developed and used the *School Travel Survey* to examine active travel policies and the attitudes of elementary and middle school principals, district superintendents, and district school board chairs in South Carolina related to walking and cycling to school.

Survey Development

The *School Travel Survey* was developed by the University of South Carolina Prevention Research Center (USC PRC), in partnership with the S.C. Department of Transportation, S.C. Department of Education, S.C. Coalition for Promoting Physical Activity, and the Physical Activity Policy Research Network (PAPRN). Survey items were developed based on an earlier case study of active travel to school, conducted by the USC PRC and other members of the PAPRN.^{18,19} Survey items were reviewed by team members, including academics and practitioners in a variety of fields (including public health, urban planning, political science, and school policy). The questionnaire for school principals was similar to that of district officials, but the school survey focused on issues at the school level while the district survey focused on the district level. The surveys (available at <http://prevention.sph.sc.edu/projects/paprn.htm>) were pretested with members of the target population.

Data Collection

A random sample of 420 out of 817 elementary and middle school principals in South Carolina was selected to take part in the survey. All 85 school boards and 85 superintendents in SC were initially included. The study

was approved by the University of South Carolina Institutional Review Board as exempt. In addition, the study was reviewed by 5 district review boards and approved by 3; 17 principals and 2 superintendents from the disapproving districts were removed from the sample.

A mix of web-based and paper methods were used to collect data from principals, superintendents, and board chairs based on methods recommended by Don Dillman in *Mail and Internet Surveys: the Tailored Design Method*.²³ These guidelines ensured that a high-quality survey was developed and implemented for a maximum response rate while minimizing sampling errors.

Based on conversations with representatives from the SC Department of Education and the SC School Boards Association, we determined that most principals and superintendents had Internet e-mail access; however, school board chairs were less likely to have such access. Thus, principals and superintendents were contacted via e-mail (or U.S. Mail if e-mail addresses were unavailable) and asked to complete a web-based questionnaire. Board chairs were contacted and sent the questionnaire via mail.

All members of the sample were sent an initial letter by mail explaining the survey and letting them know they would be contacted soon (see Table 1). Shortly thereafter, principals and superintendents were sent an e-mail message or mailed letter inviting them to go to the *School Travel Survey* website and complete the survey. This message included a user ID and password to access the secure site, developed by the USC Survey Research Laboratory. Once participants reached the website, they were presented with a screen describing the study and asking for their user ID and password. After this information was entered successfully, participants were asked to proceed with the questionnaire. If they did not wish to participate, they had the option to decline. The site prevented access from individuals without a valid user ID and password, prevented duplicate entries, and stored responses for analysis. All board chairs were mailed paper copies of the questionnaire. Follow-up reminders were sent to nonresponders via e-mail or U.S. mail. A final

Table 1 Summary of Contact Methods for School Travel Survey

	Principals and superintendents with e-mail addresses	Principals and superintendents without e-mail addresses	Board chairs
Prenotice letter	U.S. Mail	U.S. Mail	U.S. Mail
Initial invitation (sent 1 week after prenotice)	Invitation with link sent by e-mail	Invitation with link sent by U.S. Mail	Invitation with survey sent by U.S. Mail
1st reminder (sent 1 week after invitation)	E-mail reminder #1 with link	Post card reminder with link	Post card reminder
2nd reminder (sent 3 weeks after 1st reminder)	E-mail reminder #2 with link	Letter with link sent by U.S. Mail	Letter with survey sent by U.S. Mail
Final reminder (sent 4 weeks after 2nd reminder)	Letter and survey sent by priority mail	Letter and survey sent by priority mail	Letter and survey sent by priority mail

letter and questionnaire were sent to all nonresponders via priority mail. Data were collected from September 2007 through January 2008.

Data Analysis

Descriptive and inferential statistics were calculated using SPSS for Windows (v 14.0). Frequency distributions summarized the majority of the data. Chi-squared tests using Fisher's exact test were also conducted to examine the relationship between: respondent type (district official versus school principal) and policies and attitudes toward walking and cycling to school; school type (elementary versus middle school) and policies and attitudes toward walking and cycling to school; and factors associated with principals and district officials support of walking and cycling to school.

Results

Participant Characteristics and Response Rates

Three hundred fourteen persons responded to the survey: 99 district officials (47 board chairs and 52 superintendents) and 215 principals. Response rates, based on the initial sample sizes, were 55.3% for board chairs (47 of 85), 61.2% for superintendents (52 of 85), and 51.2% for principals (215 of 420). Among principals, 152 were elementary school principals, 60 were middle school principals, and 3 served as principals for combined elementary and middle schools. The 3 principals of elementary/middle schools were excluded from the current analysis as they could not be placed uniquely into a school category.

Survey Results

Thirty-three percent of elementary school and 45.0% of middle school principals reported that they have students who walk to school. Among those schools, principals estimate that an average of 3.1% (SD = 6.25) of elementary students and 5.8% (SD = 6.68) of middle school students walk to school. Twelve percent of elementary school and 23.3% of middle school principals reported that they have students who cycle to school. Among those schools, principals estimate that an average 0.4% (SD = 1.37) of elementary students and 1.2% (SD = 2.23) of middle school students cycle to school.

There was a significant association between school type (elementary versus middle school) and having students who cycle to school ($\chi^2 = 4.432$, $df = 1$, $P = .032$) with a smaller percentage of elementary schools (11.8%) than middle schools (23.3%) having students who cycle to school. There was no significant association between school type and having students who walk to school ($\chi^2 = 2.726$, $df = 1$, $P = .099$). District officials were not asked to estimate the percentage of children who walk or cycle to school.

Proportion of Schools With Policies About Walking or Cycling to School

Sixty-five percent of district officials reported that their district has a clear position about students walking to school. Among those respondents, 80.0% indicated that the position is supportive (ie, it allows or encourages walking to school) and 20.0% indicated that the position is unsupportive (ie, it discourages or prohibits walking to school).

Seventy-two percent of school principals reported that their school has a clear position about students walking to school (70.0% of elementary school and 76.3% of middle school principals). Among these respondents, 56.2% of elementary school and 80.0% of middle school principals indicated that the school's position supports walking, while 43.8% of elementary school and 20.0% of middle school principals indicated that the position does not.

Fifty-seven percent of district officials reported that their district has a clear position about students riding bicycles to school. Of those district officials, 86.3% indicated that the district supports cycling to school and 13.7% indicated that the district does not.

Sixty-six percent of principals reported that their school has a clear position about bicycling to school (64.4% of elementary school and 71.9% of middle school principals). Among these principals, 53.2% of elementary principals and 73.2% of middle school principals stated that the school supports cycling to school; 46.8% of elementary school and 26.8% of middle school principals stated that the school does not.

There was no association between respondent type (district official versus principal) and having a position on walking ($\chi^2 = 1.573$, $df = 1$, $P = .210$) or cycling to school ($\chi^2 = 2.355$, $df = 1$, $P = .125$). There was also no association between school type (elementary versus middle school) and having a position on walking ($\chi^2 = .822$, $df = 1$, $P = .365$) or cycling to school ($\chi^2 = 1.048$, $df = 1$, $P = .306$).

There were significant associations between respondent type (district official versus school principal) and the type of walking and cycling policies reported (supportive versus not supportive) as well as between school type (elementary versus middle school) and the type of walking and cycling policies reported (supportive versus not supportive) (see Table 2).

Communicating Walking and Cycling Policies

District officials and principals who reported having a clear position on walking and/or cycling to school were asked how that position has been communicated. As shown in Table 3, respondents most commonly reported communicating their positions on walking to school either orally or through memos or other written documentation rather than through official written policies or directives.

Table 2 Walking and Cycling Policies by Respondent Type and School Type Among Those with Clear Positions on Active Travel to School

Policy type	Respondent type				χ^2	df	P
	District		School				
	n	(%)	n	(%)			
Walking	60		150				
Supportive	48	(80.0)	95	(63.3)	5.213	1	.022*
Unsupportive	12	(20.0)	55	(36.7)			
Cycling	51		135				
Supportive	44	(86.3)	80	(59.3)	11.945	1	.001*
Unsupportive	7	(13.7)	55	(40.7)			

Policy type	School type				χ^2	df	P
	Elementary school		Middle school				
	n	(%)	n	(%)			
Walking	105		45				
Supportive	59	(56.2)	36	(80.0)	7.690	1	.006*
Unsupportive	46	(43.8)	9	(20.0)			
Cycling	94		41				
Supportive	50	(53.2)	30	(73.2)	4.720	1	.030*
Unsupportive	44	(46.8)	11	(26.8)			

* $P < .05$, ** $P < .01$.

Table 3 Communication of Positions on Walking and Cycling to School Among Those With Clear Positions on Active Travel to School

Communication method	School principals					
	District officials		Elementary school		Middle school	
	n	(%)	n	(%)	n	(%)
Walking position	60		105		45	
Official written policy or directive	7	(11.7)	5	(4.8)	9	(20.0)
Written memo or other document	13	(21.7)	34	(32.4)	14	(31.1)
Orally, not in writing	30	(50.0)	45	(42.9)	16	(35.6)
Not been communicated	10	(10.7)	20	(19.0)	5	(11.1)
Missing	0	(0.0)	1	(0.9)	1	(2.2)
Cycling position	51		94		41	
Official written policy or directive	3	(5.9)	13	(13.8)	7	(17.1)
Written memo or other document	12	(23.5)	19	(20.2)	12	(29.2)
Orally, not in writing	26	(51.0)	37	(39.4)	18	(43.9)
Not been communicated	10	(19.6)	24	(25.5)	4	(9.8)
Missing	0	(0.0)	1	(1.1)	0	(0.0)

There was a significant association between school type (elementary and middle school) and method for communicating the school's walking position ($\chi^2 = 9.500$, $df = 1$, $P = .023$). Notably, a greater percentage of middle school principals than elementary school principals reported having official written policies or directives on walking to school. There was no association between school type (elementary and middle school) and method for communicating the school's cycling position ($\chi^2 = 4.769$, $df = 1$, $P = .190$). There was also no association between respondent type (district official versus principal) and method for communicating the school/district position on walking ($\chi^2 = 2.647$, $df = 1$, $P = .449$) or cycling ($\chi^2 = 3.295$, $df = 1$, $P = .348$).

Attitudes and Beliefs About Walking to School

Several questions were asked to examine district and school officials' attitudes and beliefs about walking to school. Respondents were asked if they currently support local efforts to encourage walking to school and what type of impact walking can have on students' health and academic performance (see Table 4).

There were significant associations between respondents' support for efforts to encourage walking to school and their beliefs about the impact of walking to school on students' health ($\chi^2 = 8.82$, $df = 1$, $P = .003$) and academic performance ($\chi^2 = 14.87$, $df = 1$, $P < .0001$). Specifically, 98.5% of respondents who believe that walking to school can positively impact students' health and 97.1% of respondents who believe that walking to school can positively impact academic performance also favor or actively support efforts to get more students to walk to school.

Among principals, there was a significant association between having students who walk to school and supporting efforts to encourage walking ($\chi^2 = 18.970$, $df = 1$, $P < .0001$). Eighty-four percent of principals who are not in favor of or actively discourage efforts to promote walking to school also do not have students who walk to school.

There was a significant association between respondent type (district official versus school principal) and support for walk-to-school efforts ($\chi^2 = 6.579$, $df = 1$, $P = .010$). Specifically, 76.5% of respondents who are not in favor of or actively discourage efforts to promote walking to school are principals and 23.5% are district officials.

Respondents' level of support for walk-to-school efforts was not associated with their school or district having a position on walking ($\chi^2 = .092$, $df = 1$, $P = .761$) or with the method used to communicate their position on walking to school ($\chi^2 = 6.958$, $df = 1$, $P = .073$).

Table 4 Respondent Attitudes Toward and Beliefs About Students Walking to School

Attitudes	School principals					
	District officials		Elementary school		Middle school	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Support for efforts to encourage walking to school	99		152		60	
Yes	57	(57.6)	58	(38.2)	26	(43.3)
No	19	(19.2)	51	(33.6)	11	(18.3)
Neutral	20	(20.2)	41	(26.9)	22	(36.7)
Missing	3	(3.0)	2	(1.3)	1	(1.7)
Impact on health						
Positive	82	(82.8)	112	(73.7)	50	(83.3)
Negative	3	(3.0)	5	(3.3)	3	(5.0)
No impact	5	(5.1)	13	(8.5)	7	(11.7)
Missing	9	(9.1)	22	(14.5)	0	(0.0)
Impact on academic performance						
Positive	51	(51.5)	78	(51.3)	35	(58.3)
Negative	5	(5.1)	9	(5.9)	1	(1.7)
No impact	25	(25.3)	36	(23.7)	19	(31.7)
Missing	18	(18.2)	29	(19.1)	5	(8.3)

Discussion

This study provides information about the context in which active travel to school initiatives may be developed and implemented. Specifically, this is the first study to examine school and district officials' perceptions of and attitudes toward students' active travel to school. The findings from this study highlight several opportunities for promoting active travel to school so that future efforts may be supported by school and district administrators.

Principals in this study reported that few of their students walk or cycle to school—rates that are consistent with previous studies.^{12,15} The majority of respondents reported that their district or school has a clear position about students walking and cycling to school that supports and encourages these behaviors. District officials were more likely than principals to report having supportive positions on walking and cycling to school, and middle school principals were more likely than elementary school principals to report having supportive positions on walking or cycling to school. It is likely that these positions reflect the student body over which each group presides. District officials are responsible for students across wider age ranges and geographic areas than are principals. Elementary school principals, on the other hand, are responsible for the youngest and most vulnerable students. This is consistent with the views of parents—parents of children ages 5 to 11 were more likely than parents of children ages 12 to 18 to identify safety as a barrier to walking to school.¹⁵ Many of the safety issues (concerns about traffic speeds and volumes, sidewalks and street crossings, and personal safety) are not the responsibility of the schools.^{15,19} To address the safety concerns of school administrators and parents, the promotion of active travel to school must be a collaborative effort among school administrators, parents, community members, law enforcement, and local governments, which have the power to improve conditions around the school.²⁴ Walk to school programs often encourage parents and other adults to accompany younger children to insure their safety. Advocates organizing these efforts may be able to gain support from elementary school principals (and parents) by including them in the collaborative efforts and focusing on safety concerns.

Respondents most often reported that positions on walking and cycling to school were communicated via written memos or orally, but not necessarily as official written policies or directives. However, a greater percentage of middle school principals than elementary principals reported having official written policies or directives on walking to school. Efforts are needed to encourage more districts and/or schools to develop official written directives or policies regarding children's active travel to school, preferably policies that support active travel. Schools can play an important role in promoting health behaviors, such as physical activity, through policies.²⁵ Parents have reported having a school policy that restricts active travel to school is a barrier to their children walking to school.¹⁵ Thus, it seems plausible that parents would respond more favorably toward a school policy that supports and encourages active travel to school.

As in most states in the US, SC provides local education through school districts.²⁶ Official, written policies for schools are made at the district level and implemented at the building level. Because of this, there is an opportunity for advocates, including parents, to work with district officials to pass written policies supporting active travel to school. These policies must be accompanied by implementation plans and procedures (developed either at the district or school level) to insure that student safety is protected.¹⁹ For example, implementation plans and procedures can provide schools with the information about how to work with local authorities to police traffic, procedures for providing crossing guards, and recommendations for collaborating with law enforcement and local governments. The policies and procedures would also provide parents with guidance on how to work with school officials to support active travel to school and protect the safety of their children.

Most respondents believe that walking to school can have a positive impact students' health. Fewer respondents, however, believe that walking to school can positively impact academic performance than believe walking to school can positively impact health. Two recent reviews^{27,28} suggest that physical activity may enhance academic performance through improved concentration, memory, and classroom behavior. However, additional research is needed to examine the impact of active travel to school on academic performance. Almost all respondents in this study who indicated that walking to school can have a positive impact on students' health and academic performance also actively support or favor efforts to promote walking to school. Linking active travel initiatives to academic performance may be especially effective in gaining administrative and parental support as school rating systems are based on academic performance and test scores.^{29,30} Other benefits of active travel to school (eg, social and community benefits) can also be used to gain support.¹⁸

This study has several limitations. First the data are subject to sampling biases because data could be collected only from district officials and principals who chose to respond to the survey. Thus, these results cannot be generalized to all principals and district officials. This is a cross-sectional study, so no conclusions can be drawn about cause and effect. The study is the first of its kind, however, to examine the policies and attitudes of school and district officials about active travel to school.

In conclusion, additional research is needed to identify factors that relate to administrative support for active travel to school. Findings from this study suggest there is an opportunity for practitioners to promote active travel to school at the school and district level by engaging principals and superintendents in collaborative efforts. Through collaboration with parents, community members, law enforcement, and local governments, schools and districts can develop official, written directives or policies that provide support and guidance for safe and active travel to school. Promotional efforts may benefit from linking active travel to school to students' academic performance and health and by addressing safety concerns of parents and administrators. School and district policies are only

one part of a greater framework for promoting safe and active travel to school. These policies must take into account the local physical and social environments and complement local government policies.

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