Along the Boardwalk: Effects of a Boardwalk on Walking Behaviour Within a Nova Scotia Community

Colin Mangham, PhD,¹ Patricia Weld Viscount, MA²

Walking has long been recognized as an excellent way to achieve a variety of health benefits. It is certainly the most popular form of exercise in North America.^{1,2} Much of the interest in walking from the viewpoint of health stems from the benefits of regular exercise on cardiovascular health.^{3,4} However, numerous other health benefits of walking are well documented, such as stress relief, reduction of depression, and improved sleep habits.^{5,6} Walking is easily adopted, is generally accessible, and enjoys a wide social acceptance. All of these factors makes the promotion of walking a popular goal in community health promotion programs and policies.

BACKGROUND

In the summer of 1993, a raised wooden boardwalk, slightly over 1 km in length, was erected along the seashore and harbour approaches to the local beach and fishing wharf in Eastern Passage, Nova Scotia. The purposes of its construction were community beautification, promotion of tourism, and the protection of the local beach ecology (personal communication: Fisherman's Cove Waterfront Development Project, 1995). Almost immediately, many persons were observed walking along the board-

walk, during most times of the day and in all but the most inclement weather. The authors designed a study to determine whether the boardwalk was a) simply providing an alternative setting for persons who already walked regularly; b) producing an increase in walking mainly among area residents who already got regular exercise; or c) actually stimulating previously less active persons to take up walking and thereby to get more exercise. The study also examined the main reasons people walked, and the health benefits boardwalk users perceived to be a result of their walking.

METHOD

In order to determine overall patterns of use, the boardwalk was observed for a total of 84 hours at various times of the day over a three-week period during September 1995. A questionnaire, patterned after published surveys of mall walkers⁷ and trail users,⁸ was then employed to determine specific walking patterns and perceptions of health benefits. The questionnaire was administered to walkers over a two week period, spread over morning, afternoon, and evening blocks. Within these blocks, all adult walkers approaching the boardwalk who were regular boardwalk users (i.e., six or more times in the previous six months) were asked to participate.

RESULTS

Boardwalk observation revealed that on a typical day, an average of 327 persons used the boardwalk. Of the regular users of the boardwalk, 151 (86%) completed the questionnaire, almost all of whom reported living within 15 km of the boardwalk. Table I gives a breakdown of the sample by age and sex. Within this sample, 32 walkers also participated in focus groups to elaborate on questionnaire responses.

Table II displays the frequency, duration, and intensity of walking reported by the sample. Statistical analysis (chi square) showed no significant differences in any questionnaire items by sex or age, so descriptive data only for the whole sample are reported. Over three quarters reported using the boardwalk more than once weekly, with responses ranging from two days a week to every day. Most persons (86%) reported walking on the boardwalk for at least 20 minutes per visit, and most (81%) reported walking at a moderate or vigorous pace.

Perhaps the single most important finding in the survey was the apparent impact of the boardwalk on individual exercise levels. In the study, being "previously active" was defined as getting exercise in any way for 20 or more minutes three or more times a week before starting to use the

1. Manager, Prevention Source BC, Vancouver
2. Social Support Research Program, School of Nursing, Dalhousie University, Halifax
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This work was conducted while both authors were affiliated with the School of Recreation, Physical, and Health Education, Dalhousie University, Halifax, Nova Scotia.

Correspondence and reprint requests: Patty Weld Viscount, Project Coordinator, Social Support Research Program, School of Nursing, Dalhousie University, Halifax, NS, B3H 3Y6, Tel: 902-494-1352, Fax: 902-494-3594.

TABLE I
Age and Sex of Respondents in Boardwalk Exercise Survey

Sex	19-54 years		Age		55 years and over		Total	
	n	%	n	%	n	%	n	%
Female	65	(44)	30	(20)	95	(64)		
Male	26	(18)	27	(18)	53	(36)		
Total	91	(62)	57	(38)	148 *	(100)		

* Of the 151 participants who completed the questionnaire, 3 did not indicate age.

TABLE II
Walking Frequency, Duration, and Intensity of Boardwalk Users (n=151)

Variables	n	%
Frequency of Boardwalk Use		
Less than once a week	18	11.9
About once a week	16	10.6
2 to 5 times a week	61	40.4
Daily or almost daily	56	37.1
Duration of Boardwalk Use		
Less than 20 minutes	21	13.9
20 to 40 minutes	90	59.6
40 minutes or more	40	26.5
Perceived Intensity of Walking		
Light intensity	28	18.5
Moderate intensity	101	66.9
Vigorous intensity	22	14.6

TABLE III
Amount of Exercise Since Using the Boardwalk by Level of Previous Activity

	A Lot Less Exercise		About the Same Amount		A Bit More Exercise		A Lot More Exercise		Total	
Exercise History	n	%	n	%	n	%	n	%	n	%
PLA	-		1	(0.7)	23	(15.4)	19	(12.8)	43	(28.9)
PA	3	(2.0)	23	(15.4)	44	(29.5)	36	(24.2)	106	(71.1)
Total	3	(2.0)	24	(16.1)	67	(45.0)	55	(36.9)	149	(100)

PLA: previously less active (no regular walking or other physical activity)
PA: previously active (regular walking and/or regular physical activity)

boardwalk. The authors recognize that this traditional method is more rigid than criteria used more recently to determine exercise levels. Of all 148 sample members answering this question, 43 persons (29%) were *not* previously active on the basis of these criteria (Table III). A large majority of persons among both previously active (71%) and less active groups (29%) reported that they exercised more now than before starting to use the boardwalk (Table III). The boardwalk appears to have contributed to an increase in physical activity not only among respondents who participated in little regular exercise before its existence but also among persons who were already exercising regularly. This result is supported by focus group discussions; all 32 members of the focus groups attributed some or all of their increased activity to the boardwalk itself. Their responses identified three main boardwalk attributes that seemed to be important in the increase in walking.

1. The boardwalk provides a specific place to go to walk, one that is known

in the community, is popular, and is easily accessible.

2. The setting of the boardwalk appears to provide a place of beauty, peace, and clean air.
3. The physical location of the boardwalk is itself conducive to walking. Women in particular noted that the boardwalk, which is well lit and has no hidden sections, feels safe, even after dusk.

DISCUSSION

Although limited to the responses of a sample of regular boardwalk users, this study suggests that the boardwalk has played a positive role both in the walking and overall exercise choices of the community members using it, and in stimulating a level of physical activity that was not present before it became available. The boardwalk appears to have created opportunities for healthy activity in a way that is easy and fits with local leisure needs and interests. For many, its presence seems to have

provided a catalyst leading to positive lifestyle change. Although specific health benefits were not determined clinically, if one assumes that walking is a beneficial activity, then its effects on community health are positive.

One area often overlooked when promoting active living is what the authors call "passive" health promotion. Certainly not a new concept, passive health promotion occurs when, deliberately or otherwise, community access to opportunities for healthy activities is increased through changes in the environment. Such passive measures rest partly on the concepts of accessibility and compatibility, as outlined in diffusion theory.⁹ In our opinion the boardwalk exemplifies such an often overlooked potential for cost-effective health promotion—the role of passive measures in creating healthy environments. Without being erected specifically to promote health, it has still accomplished the ends of health promotion. In a day of shrinking budgets and the need to combine resources to achieve health benefits, the Eastern Passage boardwalk provides a serendipitous success story.

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