

Appendix B. Methodology

The 1999 Physical Activity Monitor is the sixth nationwide survey on physical activity conducted by the Canadian Fitness and Lifestyle Research Institute—after the 1981 Canada Fitness Survey,¹ the 1988 Campbell Survey on Well-Being in Canada,² and the 1995,³ 1997,⁴ and 1998⁵ waves of the Physical Activity Monitor. The 1999 survey provides a synopsis of the current situation in Canada and links it to policy and decision-making relative to the design of initiatives to decrease sedentary living, particularly as they relate to the direct and indirect role of the sport and recreation system.

Questionnaire content

The content of the 1999 Physical Activity Monitor was determined by the Institute in consultation with partners: the Fitness/Active Living Unit of Health Canada along with provincial and territorial partners concerned with fitness, active living, leisure, sport, and recreation through the auspices of the Interprovincial Sport and Recreation Council.

In addition to monitoring progress toward achieving the goal of reducing physical inactivity by 10% in Canada by 2003, the 1999 survey was designed to

- provide trend data on physical activity patterns, including energy expenditure, and participation rates in various types of activities for Canadians aged 18 and older;
- provide trend data on physical activity patterns and participation rates in various types of activities for children and youth aged 1 to 17;
- describe the access to information on physical activity in the community, the systemic barriers to physical activity for adults and children, the factors helping Canadians to become more active, and the opportunities to be active in the community.

Data collection

Data were collected in the spring, summer, and fall of 1999 by the Institute for Social Research at York University in Ontario. This institute captured data directly during the interviews using the CATI (computer-assisted telephone interviews) system. Adults aged 18 and older responded to individual interviews related to the above-mentioned topics. Children's data were obtained via parents who, in addition to completing interviews of their own, answered questions about one of their children under 18 who were still living at home.

Survey design

The 1999 sample was selected using random-digit dialing from telephone exchanges used by households. Findings in this report are based on a final country-wide sample of 4,369 Canadians. A sample of roughly 250 adults was selected within each of the provinces and territories, with additional sample in New Brunswick, Ontario, Quebec, Manitoba, and the Northwest Territories. For each selected household, one individual over the age of 18 was selected at random, thus providing a random sample of individuals in Canada. In addition, if that individual was a parent with children under the age of 18 living at home, he or she answered another physical activity questionnaire for one of the children in the household, also selected at random.

The overall response rate obtained in the 1999 Physical Activity Monitor was 58%. In telephone surveys of this type, a response rate of approximately 65% has been typical, with the response rates dropping in recent years. The response rate was highest in the Yukon and lowest in British Columbia. The sample take is shown in Table 1.

Table 1

SAMPLE TAKE BY REGION AND PROVINCE			
	Adults 18+	Children 1–17	Total
Canada	4,369	1,375	5,744
Atlantic	1,310	447	1,757
Newfoundland	253	94	347
Prince Edward Island	254	94	348
Nova Scotia	258	91	349
New Brunswick	545	168	713
Quebec	367	94	461
Ontario	958	274	1,232
West	1,144	336	1,480
Manitoba	346	92	438
Saskatchewan	262	87	349
Alberta	280	88	368
British Columbia	256	69	325
North	590	224	814
Northwest Territories	348	129	477
Yukon	242	95	337

When there is non response, there is the potential for bias if the responses of respondents do not represent those of non respondents. Potential bias was identified by comparing the demographic variables to the latest Census data (1996). Respondents are more likely to be female and to have a university degree, a common occurrence in telephone surveys.⁶ However, these differences disappear for women and are generally reduced for education in the weighted data used in the analyses.

Data analysis

Sample weights were adjusted to reflect the non-response rates. All numbers have a statistical error associated with them by virtue of the random selection of the sample. The first table in the table section (Appendix A) permits statistical tests of significance between percentages, taking into account sample design, design effect, and sample size. It specifies the difference required between two estimates for statistical significance. Caution should be used in interpreting data based on small cell sizes, particularly for provincial comparisons. According to standard practice, data released in the tables have been screened to ensure that each statistic is based on a minimum of 30 individuals. Insufficient sample size is denoted by “–”.

Comparability with earlier surveys

The physical activity data from the 1995, 1997, 1998, and 1999 waves of the Physical Activity Monitor are comparable to the data collected in the 1981 Canada Fitness Survey and the 1988 Campbell Survey on Well-Being in Canada. The question used to determine physical activity levels was similar in all surveys, and the survey context—physical activity—was the same. In all six surveys, the objective was introduced as participation in physical activity and its role in the individual's well-being. In each survey, participation in physical activity was probed by means of a list and respondents had the opportunity to volunteer additional activities. The physical activity question used is an adaptation of the Minnesota Leisure-Time Physical Activity questionnaire, for which test-retest reliability data were published in 1986 by Aaron Folsom and colleagues.⁷

The data collection methods differed for the six surveys. The 1981 and 1988 surveys used self-completed questionnaires administered face to face in households, whereas the 1995, 1997, 1998, and 1999 surveys were telephone surveys. This accounts for the difference in response rates: about 85% in the 1981 and 1988 surveys compared with about 65% or less in the 1995, 1997, 1998, and 1999 surveys. The assumptions used for non-response adjustment should enable comparisons among the six surveys.

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- ¹ Canadian Fitness and Lifestyle Research Institute. (1983). *Fitness and lifestyle in Canada*. Ottawa, ON: Author.
 - ² Stephens, T., & Craig, C.L. (1990). *The well-being of Canadians: Highlights of the 1988 Campbell Survey*. Ottawa, ON: Canadian Fitness and Lifestyle Research Institute.
 - ³ Craig, C.L., Russell, S.J., Cameron, C., & Beaulieu, A. (1998). *1997 Physical activity benchmarks report*. Ottawa, ON: Canadian Fitness and Lifestyle Research Institute.
 - ⁴ Craig, C.L., Russell, S.J., Cameron, C., & Beaulieu, A. (1999). *Foundation for joint action: Reducing physical inactivity*. Ottawa, ON: Canadian Fitness and Lifestyle Research Institute.
 - ⁵ Cameron, C., Craig, C.L., Russell, S.J., & Beaulieu, A. (2000). *Increasing physical activity: Creating effective communications*. Ottawa, ON: Canadian Fitness and Lifestyle Research Institute.
 - ⁶ Canadian Fitness and Lifestyle Research Institute. (1996). 1995 Survey methodology. *Progress in Prevention*.
 - ⁷ Folsom, A.R., Jacobs, D.R., Jr., Caspersen, C.J., Gomez-Marín, O., & Knudsen, J. (1986). *Journal of Chronic Diseases*, 39 (7), 505–511.