

## Negative beliefs

Most Canadians agree very strongly with the overall health benefits of physical activity.<sup>1</sup> This does not mean, however, that they hold only positive beliefs. The 1997 Physical Activity Monitor also asked respondents how much they agreed with the three following negative statements about physical activity:

- participation in physical activity leads to injuries;
- participation in physical activity leads to ongoing pain and stiffness in joints;
- participation in physical activity makes people too muscular.

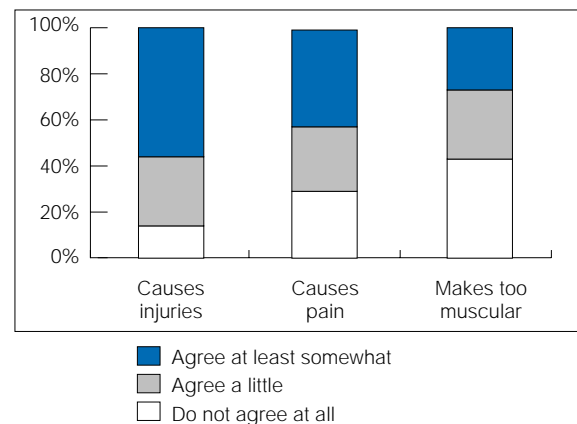
As shown in Figure 1, a majority of Canadians believe that participation in physical activity leads to injuries. That is, 56% agree at least *somewhat* that this is the case. Only 14% do not agree that participation leads to injury. Similarly, 42% hold the belief that participation leads to ongoing pain and stiffness in joints, with 29% not agreeing. Finally, 27% of respondents agree at least somewhat that physical activity makes people too muscular, and 43% do not agree at all.

### Age and sex

The belief that regular physical activity leads to injuries decreases with age group. As shown in Figure 2, 63% of young adults agree to some extent that this is the case, compared with 46% of older adults. In contrast, older adults are the most likely to believe that physi-

Figure 1

#### NEGATIVE BELIEFS ABOUT PHYSICAL ACTIVITY adults 18+



1997 Physical Activity Monitor, CFLRI

cal activity leads to pain (55%) and to being too muscular (39%). Adults aged 25–44 are the least likely to believe that physical activity makes people too muscular.

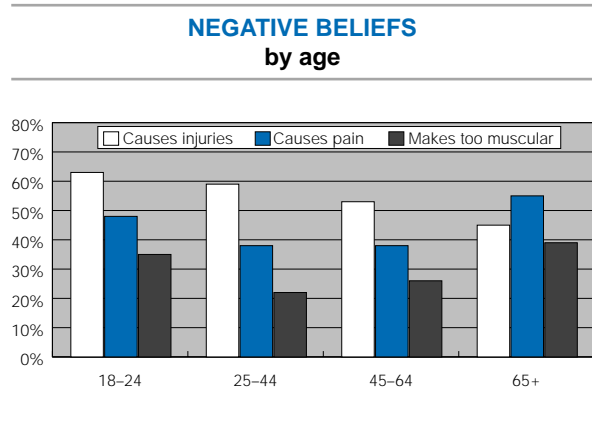
In general, men and women are equally likely to hold somewhat strong beliefs concerning the negative outcomes of physical activity. Women, however, are more likely than men to *not agree at all* that participation leads to continuing pain and stiffness. This sex difference is most evident in the 25–44 age group.

### Socioeconomic differences

Education level seems to influence beliefs about participation in physical activities. In particular, people with higher education levels are less likely to believe that physical activity



Figure 2

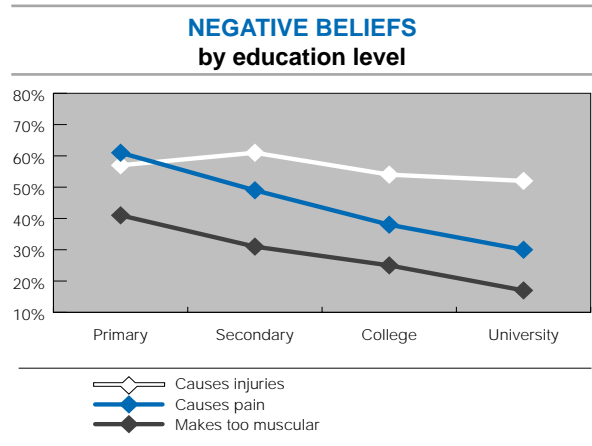


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leads to continuing pain and stiffness and makes people too muscular (Figure 3). The relationship between education level and belief that participation leads to injuries is less clear. Nevertheless, those with a university education are less likely than those with secondary education to hold this belief.

While a wide variety of factors may influence these relationships, at least part of the relationship may be due to the interaction between age and education, particularly given that the effects of age, sex, and their interaction probably account for much of the variation in the association with education, income, and other socioeconomic variables. Specifically, the relationships may be due at least in part to the disproportionately high number of older adults in the lowest educa-

Figure 3



1997 Physical Activity Monitor, CFLRI

tion category and the fact that older adults are more likely to believe that physical activity leads to continuing pain and stiffness and makes people too muscular.

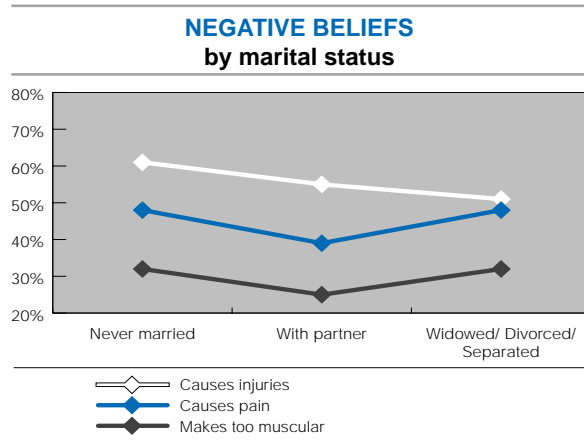
As is the case with education, people with higher income levels are less likely to believe that physical activity leads to continuing pain and stiffness and that it makes people too muscular.

Differences in beliefs are also evident according to people's major occupational status. Retired individuals are less likely than others to believe that physical activity leads to injuries. On the other hand, they are more likely to believe that it leads to continuing pain and stiffness. Full-time employees are the least likely to believe that participation leads to being too muscular and to experiencing pain and stiffness.

Similar patterns also occur with marital status. Those who are widowed, divorced, or separated—many of whom may be older and female—are the least likely to feel that participation leads to injuries (Figure 4). People who are married or living with a partner are the least likely to believe that participation leads to being too muscular and to experiencing pain and stiffness.

Residents in small communities (< 1,000 residents) are the most likely to believe that continuing pain and stiffness result from par-

Figure 4



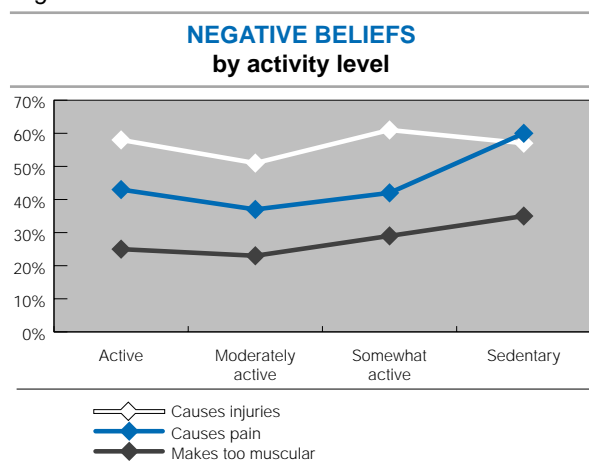
1997 Physical Activity Monitor, CFLRI

ticipation in physical activity. Again, the association may be due in part to differing demographic profiles of communities, with rural and smaller communities having proportionately higher numbers of older adults.

## Activity level

Beliefs that physical activity leads to pain distinguishes sedentary and active Canadians (Figure 5). The relationship is not strictly linear, however. While believing that participation leads to pain tends to decrease across activity levels from sedentary to moderately active, it increases slightly among active Canadians. The belief about becoming too muscular decreases significantly between sedentary and moderately active.

Figure 5



1997 Physical Activity Monitor, CFLRI

## Reversing negative beliefs

Beliefs about the outcomes of physical activity are one piece of the puzzle in an individual's decision to become more active. Negative outcome expectations enter on the debit side of a cost-benefit balance sheet in personal decision-making. These negative images need to be counterbalanced with positive messages.

Increasing knowledge about the benefits of physical activity is a potentially valuable strategy to offset negative beliefs. It could be used to encourage individuals to think about the

importance of physical activity, increase their expectation that they will achieve health benefits, and motivate them to take a first step toward increasing their activity level. Public education strategies should reinforce and increase positive beliefs about the outcomes of physical activity while addressing concerns of the relatively high proportion of people who hold negative beliefs. Messages could take the following pointers into account:

- Emphasize that becoming more active is very safe for most people. Older adults, who are most likely to believe that participation leads to pain and continuing stiffness, may be unsure whether or not physical activity is safe for them. A total of 85% of older adults report walking, which is a very safe activity.<sup>2</sup> Furthermore, many activities such as line dancing, tai chi, carpet bowling, and exercising to music in shallow water have little potential for injury.
- Direct individuals to relevant resources for more information or encourage them to consult an appropriate professional whenever they are unsure about being on the right track safety-wise.
- Inform older Canadians and women, who are the most likely to associate pain and stiffness with physical activity, that recent research on osteoarthritis suggests that *not exercising* aggravates joint pain and stiffness by allowing muscles to grow weaker and joints to become more painful.<sup>3</sup> A few tips to relieve pain and stiffness include:
  - Exercise moderately. Avoid bouncing or high-impact exercise.
  - Warm up before exercising and cool down afterwards. Use range-of-motion exercises to relieve stiffness, restore flexibility, and help with joint movement.
  - Strengthen your muscles, because weak muscles add to joint problems.

- Emphasize that wearing the proper shoes and clothing increases comfort and reduces the chance of strains or injuries.
- Emphasize that health benefits can be achieved even by walking at a comfortable pace, as long as people increase the time spent walking. This activity is a very safe alternative to vigorous activities and is unlikely to lead to injuries or result in pain and stiffness. Walking is a good activity for beginners.
- Educate people to be active safely. For individuals who choose bicycling or sporting activities, proper equipment, protective clothing, and safe procedures (e.g., mountain climbing with a buddy) are a must to avoid injury. So are warm-ups and cool-downs to prevent muscular damage. This is particularly important for young adults, who are the most likely to believe that participation leads to injuries and the most likely to participate in vigorous or higher-risk activities.
- Inform people that there are many ways to become active without becoming muscular, walking being just one example.

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## References

- <sup>1</sup> Canadian Fitness and Lifestyle Research Institute. (1998). Positive beliefs. *Progress in Prevention*, Bulletin no. 26.
- <sup>2</sup> Canadian Fitness and Lifestyle Research Institute. (1996). Popular physical activities. *Progress in Prevention*, Bulletin no. 3.
- <sup>3</sup> Canadian Fitness and Lifestyle Research Institute. (1997). Physical activity and osteoarthritis. *The Research File*, Reference no. 97-10.

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# Negative beliefs about physical activity

1997 Physical Activity Monitor

	Leads to injuries			Causes continuing pain and stiffness		
	Do not agree at all	Agree a little	Agree at least somewhat	Do not agree at all	Agree a little	Agree at least somewhat
<b>TOTAL, ADULTS (18+)</b>	14%	30%	56%	29%	28%	42%
women	14	30	57	33	25	42
men	13	31	56	25	32	43
<b>18–24</b>	–	30	63	23	29	48
women	–	31	60	–	–	53
men	–	–	64	–	33	44
<b>25–44</b>	12	29	59	29	32	38
women	11	29	60	36	29	36
men	13	28	58	23	35	42
<b>45–64</b>	14	33	53	34	28	38
women	16	29	56	38	24	38
men	12	37	51	29	32	40
<b>65+</b>	23	31	45	26	–	55
women	–	31	45	–	–	58
men	–	–	–	–	–	–
<b>EDUCATION LEVEL</b>						
Less than secondary	15	28	57	19	20	61
Secondary	11	27	61	25	27	49
College	13	33	54	33	29	38
University	15	33	52	36	34	30
<b>HOUSEHOLD INCOME</b>						
< \$20,000	15	26	60	19	25	55
20,000–39,999	12	33	55	26	27	46
40,000–59,999	12	29	59	28	33	38
≥ \$60,000	14	32	54	34	31	35

– Data unavailable because of insufficient sample size.

	Leads to injuries			Causes continuing pain and stiffness		
	Do not agree at all	Agree a little	Agree at least somewhat	Do not agree at all	Agree a little	Agree at least somewhat
<b>EMPLOYMENT STATUS</b>						
Full-time worker	13%	30%	56%	32%	32%	35%
Part-time worker	–	30	59	26	31	43
Unemployed	–	–	67	–	–	47
Homemaker	–	–	61	33	–	48
Student	–	26	65	–	28	50
Retired	19	33	49	29	19	52
<b>COMMUNITY SIZE</b>						
< 1,000	17	26	57	30	22	49
1,000–9,999	16	32	52	32	28	40
10,000–74,999	12	31	57	29	30	42
75,000–299,999	–	31	62	26	32	42
≥ 300,000	16	30	54	29	31	41
<b>FAMILY COMPOSITION</b>						
Living with a partner	13	31	55	31	30	39
with children at home	12	31	57	33	34	33
without children at home	15	31	55	29	26	45
Widowed, divorced, separated	20	29	51	31	21	48
with children at home	–	–	57	–	–	42
without children at home	21	30	49	31	19	50
Never married	11	28	61	23	29	48
with children at home	–	–	–	–	–	–
without children at home	11	28	61	23	29	47
<b>ENERGY EXPENDITURE</b>						
Active (≥3 KKD <sup>1</sup> )	13	29	58	29	28	43
Moderately active (1.5–2.9 KKD)	14	35	51	30	33	37
Somewhat active (0.5–1.4 KKD)	13	26	61	28	30	42
Sedentary (<0.5 KKD)	–	30	57	23	17	60

<sup>1</sup> Kilocalories/kilogram of body weight/day; an energy expenditure of 3 KKD is equivalent to walking one hour every day.

– Data unavailable because of insufficient sample size.

	<i>Makes people too muscular</i>		
	<i>Do not agree at all</i>	<i>Agree a little</i>	<i>Agree at least somewhat</i>
<b>TOTAL, ADULTS (18+)</b>	43%	30%	27%
<i>women</i>	42	29	28
<i>men</i>	44	31	25
<b>18–24</b>	35	30	35
<i>women</i>	33	23	44
<i>men</i>	38	38	–
<b>25–44</b>	46	32	22
<i>women</i>	45	33	21
<i>men</i>	46	31	23
<b>45–64</b>	43	31	26
<i>women</i>	44	29	27
<i>men</i>	42	34	24
<b>65+</b>	41	21	39
<i>women</i>	38	–	38
<i>men</i>	–	–	–
<b>EDUCATION LEVEL</b>			
<i>Less than secondary</i>	35	24	41
<i>Secondary</i>	37	32	31
<i>College</i>	45	30	25
<i>University</i>	49	34	17
<b>HOUSEHOLD INCOME</b>			
< \$20,000	34	26	40
20,000–39,999	33	30	36
40,000–59,999	45	36	20
≥ \$60,000	55	30	15

– Data unavailable because of insufficient sample size.

	<i>Makes people too muscular</i>		
	<i>Do not agree at all</i>	<i>Agree a little</i>	<i>Agree at least somewhat</i>
<b>EMPLOYMENT STATUS</b>			
<i>Full-time worker</i>	46%	34%	20%
<i>Part-time worker</i>	41	30	29
<i>Unemployed</i>	–	–	45
<i>Homemaker</i>	42	–	–
<i>Student</i>	35	28	36
<i>Retired</i>	39	24	38
<b>COMMUNITY SIZE</b>			
<i>&lt; 1,000</i>	43	31	26
<i>1,000–9,999</i>	45	28	28
<i>10,000–74,999</i>	42	28	30
<i>75,000–299,999</i>	42	34	24
<i>≥ 300,000</i>	44	33	23
<b>FAMILY COMPOSITION</b>			
<i>Living with a partner</i>	45	31	25
<i>with children at home</i>	46	34	21
<i>without children at home</i>	44	29	27
<i>Widowed, divorced, separated</i>	43	24	32
<i>with children at home</i>	50	–	–
<i>without children at home</i>	42	21	37
<i>Never married</i>	37	31	32
<i>with children at home</i>	–	–	–
<i>without children at home</i>	37	31	33
<b>ENERGY EXPENDITURE</b>			
<i>Active (≥3 KKD<sup>1</sup>)</i>	47	28	25
<i>Moderately active (1.5–2.9 KKD)</i>	44	33	23
<i>Somewhat active (0.5–1.4 KKD)</i>	38	33	29
<i>Sedentary (&lt;0.5 KKD)</i>	33	31	35

<sup>1</sup> Kilocalories/kilogram of body weight/day; an energy expenditure of 3 KKD is equivalent to walking one hour every day.

– Data unavailable because of insufficient sample size.