

# Parent-child associations for physical activity and weight and projected body mass index

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Parents can influence how active their children are and their likelihood of being overweight or obese. For the first time in Canada, this influence has been directly measured. New evidence shows that a child's level of physical activity rises by 5 to 10 minutes for every 20 minute increase in the physical activity of a parent. Children with an obese parent were more than twice as likely to be overweight or obese compared with children whose parent was not. With close to 60% of the adult population expected to be overweight or obese by 2030, these findings could have important implications for childhood health in the future.

These are some of the findings from three papers published today in *Health Reports*, which provide new insights on the relationship between parent and child physical activity and weight, as well as future projections of body mass index (BMI) among Canadian adults.

The percentage of Canadian children and adults who are overweight or obese has increased steadily over the past 40 years. Currently, almost one-third of children are [overweight or obese](#). Fewer than 10% of children meet the current guidelines of 60 minutes of [moderate-to-vigorous-physical activity](#) (MVPA) per day. These trends put children at greater risk of developing chronic conditions such as diabetes as well as cardiovascular disease and cancer later in life.

New findings based on the Canadian Health Measures Survey confirm that parents play a key role in the weight and fitness of their children.

Using data from accelerometers worn by children and their parents, the first research study in today's edition of *Health Reports* found that for every 20 minute increase in the MVPA of a parent, the MVPA of their child rose by 5 to 10 minutes. Likewise, for every 1,000 steps that a parent walked a day, their child walked 200 to 350 additional steps. Moreover, regardless of the level of physical activity of the parent, enrolling a child in lessons or league or team sports was associated with a 5 to 15 minute increase per day in the MVPA of the child, depending on how much time was spent in lessons or league or team sports.

This study also shows that parent and child sedentary time (for example, watching television, playing video games) were also related. Each additional hour of sedentary behaviour by a parent was associated with an 8- to 15-minute increase in the sedentary time of a child.

Parental influence also extended to body weight. In the second study, comparisons of the body mass index (BMI) of children and biological parents revealed that a child's weight rose as their parent's weight increased. Specifically, girls were more than twice as likely to be overweight or obese with an overweight parent and more than three times likely to be so with an obese parent compared with girls whose parent was of normal weight. Boys were almost twice as likely to be overweight or obese with an obese parent. These relationships held even after accounting for factors such as child age, their level of physical activity, hours of screen time and fruit and vegetable consumption as well as the age and sex of the parent.

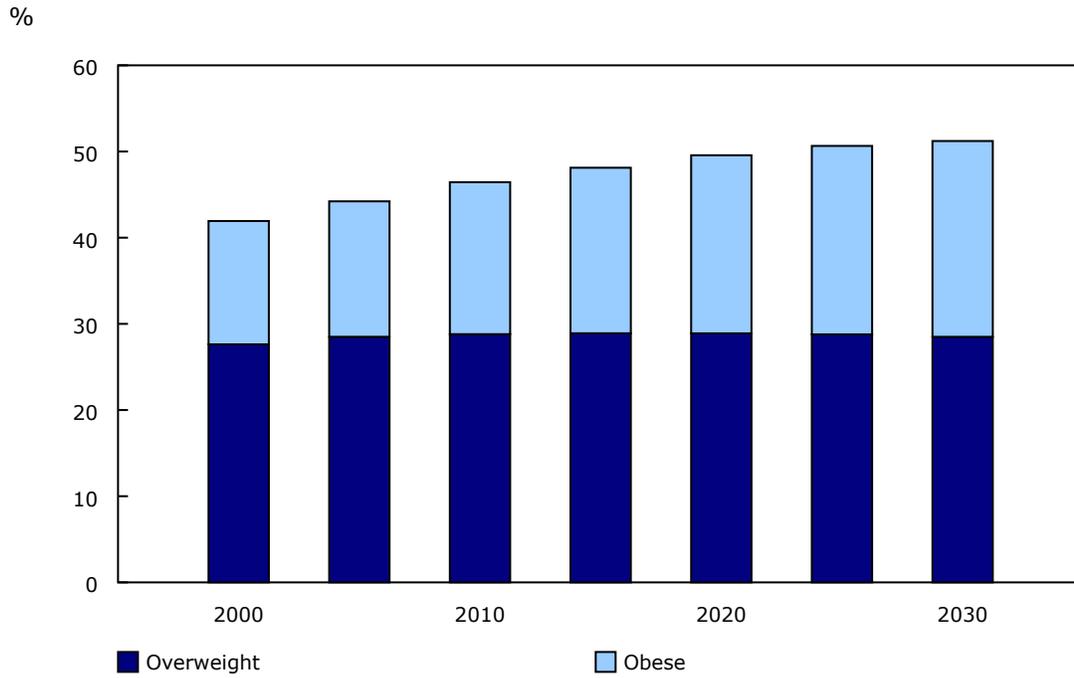
These findings have important implications for today and for the future. Based on current trends of BMI, the third article estimates that approximately 60% of Canadian adults are expected to be overweight or obese by 2030. The rate is projected to be higher among males than females. These projections are estimated from Statistics Canada's Population Health Model designed to project the future health of the Canadian population to support evidence-based policy making.



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**Chart 1**  
**Projections of overweight and obese adult women in Canada, 2000/2001 to 2030**

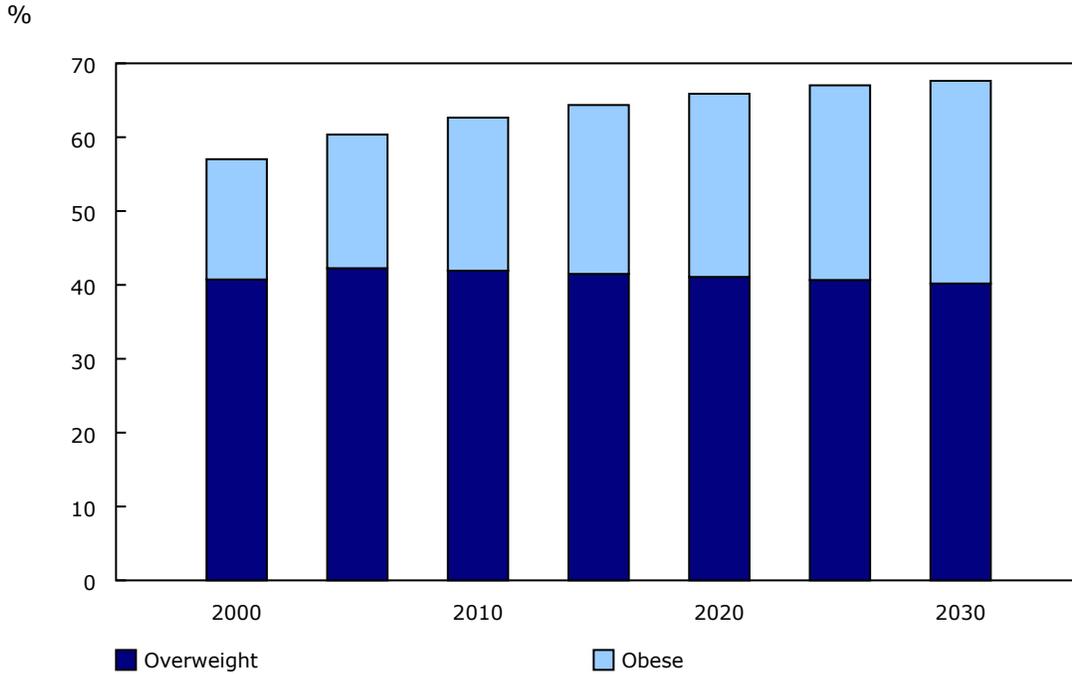
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Source(s): Population Health Model projections for 2000/2001 through 2030.

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**Chart 2**  
**Projections of overweight and obese adult men in Canada, 2000/2001 to 2030**



Source(s): Population Health Model projections for 2000/2001 through 2030.

Click on the following links to learn more about the impact of [childhood obesity](#) and how parents can [encourage children to be active](#).

**Note to readers**

The data on physical activity and body mass index (BMI) are from the first three cycles of the Canadian Health Measures Survey (2007 to 2009, 2009 to 2011 and 2012 to 2013). The Canadian Health Measures Survey is an ongoing Statistics Canada survey that collects reported and measured health data from the household population aged 3 to 79.

The sample for the analysis of physical activity consisted of 1,328 biological parent-child (aged 6 to 11) pairs. Data on physical activity and sedentary behaviour were collected using a questionnaire and by accelerometer, a device that measures and records acceleration in all directions through a count and step value for each minute.

The analysis of BMI was restricted to children aged 6 to 10 to minimize the potential effect of puberty, yielding a sample of 1,563 parent-child pairs with valid measured BMI. The projections of adult BMI are from the [Population Health Model \(POHEM\)](#), a microsimulation tool developed at Statistics Canada; POHEM-BMI projects trends in body mass index.

**Definitions, data sources and methods: survey number 5071.**

"Parent-Child association in physical activity and sedentary behaviour", "Parent-Child association in body weight status" and "Development of a population-based microsimulation model of body mass index" are now available in the June 2017 online issue of *Health Reports*, Vol. 28, no. 6 (**82-003-X**).

To enquire about "Parent-Child association in physical activity and sedentary behaviour," contact Didier Garriguet ([didier.garriguet@canada.ca](mailto:didier.garriguet@canada.ca)), Health Analysis Division.

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