

RESEARCH SUMMARY

QUÉBEC EN FORME
VIS TON ÉNERGIE



Picture: Marie Demers

PRESENTED BY QUÉBEC EN FORME IN COLLABORATION WITH ACTIVE LIVING RESEARCH, A NATIONAL PROGRAM OF THE ROBERT WOOD JOHNSON FOUNDATION.

Detailed Research Results

The proximity of parks is linked to their increased use as well as increased physical activity in certain populations, especially children.

The presence of parks and the area they cover in a community are linked to a greater volume of physical activity.

In parks, people tend to be more active on walking trails, in play areas and at sports facilities.

How a park is viewed, in terms of aesthetics, the state it is in and its safety, can affect its use and the physical activity that is practiced in it.

Organized programs and supervision can increase park and playground use and increase physical activity, especially for children.

Park rehabilitation can increase use of certain types of facilities (play areas and skateboard areas, for example) and increase vigorous physical activity for children.

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NUMBER 3, MARCH 2011

PARKS, PLAYGROUNDS AND A PHYSICALLY ACTIVE LIFESTYLE

Regular physical activity increases lifespan and well-being, helps children and adults to maintain a healthy weight and can also reduce the risk of obesity and its effects on health. Parks and playgrounds provide a wide range of possibilities for physical activity and can help many Quebeckers adopt a more physically active lifestyle.

There is mounting evidence that parks and playgrounds promote physical activity, although not all the data completely support this conclusion. Research also shows that parks could be improved in order to provide more opportunities for various segments of the population to reach the recommended levels of physical activity.

This is a summary of the facts regarding the role of parks in shaping healthy lifestyles in various population groups, including children, seniors, low-income families, ethnic groups and other population groups with a high risk of physical inactivity.

We also address the need to expand the research into physically active lifestyles, parks and playgrounds in view of current concerns, using more sophisticated study models.

The proximity of parks is linked to their increased use as well as increased physical activity in certain populations, especially children^{15, 16}.

Main Research Results

- The proximity of parks is linked to their increased use as well as increased physical activity in certain populations, especially children^{1, 2}.
- When there are more parks in a community, and a greater area is covered by parks, physical activity is increased^{3, 4}.
- Low income populations and certain ethnic groups have limited access to parks and other recreational facilities. This disparity explains, in part, the lower volume of physical activity in these populations⁵.
- In parks, people tend to be more active on the walking trails, at play areas and at sports facilities^{6, 7}.
- How a park is viewed, in terms of aesthetics, the state it is in and its safety, can affect its use and the physical activity that is practiced in it^{8, 9}.
- Organized programs and supervision can increase park and playground use and increase physical activity, especially for children¹⁰.
- Park rehabilitation can increase use of certain types of facilities (play areas and skateboard areas, for example) and increase vigorous physical activity for children^{11, 12}.

A systematic review of the literature summarized the facts regarding the connection between the proximity of parks and physical activity. Eight of the 13 articles that examined this connection concluded that the proximity of a park has a positive effect on physical activity¹⁷.

In Québec, a study conducted in Montréal established a link between the number and proximity of parks and the frequency with which 8 to 10 year old children walked. Children living in neighbourhoods with more parks, green spaces and playgrounds are likelier to use active transportation. For each additional park located within a radius of 750 metres from their home, walking to school increased by 50% for girls, and recreational walking increased by 60% for boys.

Detailed Research Results

Although there is very little data that deals specifically with physical activity in parks, observational studies show that most people go to a park for sedentary activities. A research team studied the physical activity behaviour in the parks of two cities and found that in both parks, more than half the visitors were sedentary and children were more inclined to walk or engage in vigorous physical activity than adults¹³. However, studies based on self-reported physical activity data maintain that park visits are definitely more physically active. A study of seniors who used a park found that the majority (69%) report moderate to vigorous activity¹⁴. Overall, these results suggest that while people engage in outdoor physical activities and go to parks frequently, these activities could be increased.

The same observation held true throughout the rest of Canada. In the city of London, Ontario, the daily volume of physical activity of 811 students, between the ages of 11 to 13, during the last two years of elementary school was positively affected by the recreational facilities in their neighbourhoods, showing that increased access to recreational facilities seems to be essential for promoting physical activity in children. Children who had access to at least two recreational facilities in their neighbourhood spent almost 17 minutes more participating in physical activities after school than those who did not have such access¹⁹. In a study of 5,471 grade 5 students, researchers in Nova Scotia found a link between physical activity and a greater access to playgrounds, parks and other recreational facilities in their home neighbourhoods. In addition, these children were less likely to be overweight or obese than those who did not have such access²⁰.



Picture: Marie Demers

In the United States, a recent study of 3,000 youths between the age of 5 and 20 in the city of Atlanta compared data on their daily commuting with the proximity of recreational facilities²¹. As can be seen in Figure 1, children who had access to at least two recreational facilities in their neighbourhood were two or three times more likely to walk over a two-day period than those who did not have such access. According to another study, the proximity of parks and a high frequency of active transportation (walking and cycling) are closely linked to greater recreational facility use for children and teenagers²².

The presence of parks and the area they cover in a community are linked to a greater volume of physical activity^{24, 25}.

The number of parks and playgrounds and the area they cover are connected to physical activity. A study of more than 500 seniors from 56 neighbourhoods in Portland, Oregon, shows that adults who have access to more recreational facilities walk more²⁶. In a mid-size city in Ontario (approximately 100,000 residents), the number and size of parks located less than a kilometre from a person's home was a good predictor of the physical activity practiced by the neighbourhood's 384 adult residents²⁷. A study of the teenagers from six cities showed that those who had more parks less than one mile from their home were more active than teenagers who had access to fewer parks nearby²⁸. Each additional park within a half-mile radius was linked to 17 extra minutes of moderate to vigorous physical activity outside of school over a six-day period²⁹.

Another study that examined the area occupied by parks in a community shows that the percentage of the area covered by parks is a significant predictor of physical activity in children³⁰. For every percentage point of increased park area, we observe a 1.4% increase in physical activity. While the total area of parks in a community can have a positive influence on physical activity, there is no consensus on the role that is played by the size of the park. One study shows that big parks are not used for physical activity any more than small parks³¹. However, another study indicates that adults are more likely to walk in parks when they were perceived as being bigger³².

In parks, people tend to be more active on walking trails, in play areas and at sports facilities^{33, 34}.

Park sites can have a wide variety of characteristics such as walking trails, sports fields, green spaces for free play, playgrounds and pools that provide users with many opportunities to be active. Data based on observations has helped to determine the physical activity and variations in expending energy in 26 parks in Tampa, Florida, and Chicago, Illinois³⁵. Results from both cities show that parks with soccer fields, courts for tennis racquetball, basketball and volleyball, as well as playgrounds, are associated with more moderate to vigorous physical activity and an increased total expenditure of energy produced by the activity carried out in these parks.



FIGURE 1. Children who have access to at least one park near their home are more inclined to take a walk over a two-day period²³.

In a mid-sized city in Ontario, a research team studied the planning and 28 community and recreational facilities in 33 parks and reached the conclusion that the parks with the most facilities were more likely to be used for physical activity than those that offered fewer facilities. Regarding the facilities related to physical activity, parks with paved walking trails were 26 times more likely to be used for physical activity than those without paved walking trails³⁶. Another study of four different types of parks shows a greater amount of moderate to vigorous physical activity is practised in parks with courts, playgrounds, sports fields and hiking trails³⁷. The proximity of certain types of facilities or equipment has also been linked to higher levels of physical activity for teenagers. Young girls living less than a mile from parks with a playground, a basketball court, a multifunctional hall, and facilities for walking and swimming had higher levels of physical activity outside of the school environment. Living near a park equipped with lights and projectors was linked to 20 extra minutes of moderate to vigorous physical activity, outside of the school environment, school over a six-day period²⁹.

How a park is viewed, in terms of aesthetics, the state it is in and its safety, can affect its use and the physical activity that is practiced in it^{39, 40}.

Data from one study shows that parks are more likely to promote physical activity when visitors find them aesthetically pleasing, for example, with trees along the trails rather than open spaces⁴¹.

A qualitative evaluation of 28 neighbourhood parks in Montréal showed that parks that rated poorly in terms of state and upkeep, as well as civic problems, such as vandalism, were located in neighbourhoods where health was poorer (defined by life expectancy, cancer incidence and mortality rates due to cardiac disease).

Parks in typically healthy neighbourhoods tend to have more facilities that promote physical activity than those in less healthy neighbourhoods⁴².

According to a population study on park use, fear of crime is seen as a deterrent that limits the use of local parks⁴³. The study also found that participants felt that improving safety was the best way to increase park use. In another study, the adults who saw signs of disorder in their neighbourhood, such as graffiti, garbage on the ground and unkempt yards, in addition to viewing their neighbourhood as unsafe at night, were less likely to encourage their children to use the local playgrounds⁴⁴. Adults who felt that their neighbourhood was safe were 60% more likely to encourage their children to use the local playgrounds⁴⁵.



A team of researchers looked at perceptions regarding safety in parks and their use before and after a major rehabilitation of these parks in Los Angeles, and found that visitors felt that the parks were safer after their rehabilitation, but that this had no effect on the level of use, whether it was measured objectively or using self-reported data from the users⁴⁶. Despite the first evidence linking parks' aesthetics, state and safety to their use and the health of residents in the neighbourhoods where the parks are located, there have been few studies on whether this is linked to the physical activity practiced in the parks. This is an important avenue of research that needs to be explored.

Organized programs and supervision can increase park and playground use and increase physical activity, especially for children⁴⁷.

Parks provide areas for organized recreational programs as well as informal activities. Activity programs in parks can encourage their use, stimulate social interaction between visitors and facilitate several types of active recreation. One study of municipal parks in Los Angeles shows increased use in the parks that offer more supervised activity programs⁴⁸. However, the research is not conclusive concerning the link between organized programs in parks and physical activity. A study on parks in Tampa, Florida and Chicago, Illinois, showed that visitors who were engaged in informal activities were more likely to walk or engage in vigorous physical activity than those who were taking part in an organized program⁴⁹. Additional research is needed in order to better understand the role of programs, supervision and organized activities as a means of promoting physical activity in the parks. Moreover, the interaction between a park's physical and social characteristics in connection with physical activity is also an important area of research to be explored.

Park rehabilitation can increase use of certain types of facilities (play areas and skateboard areas, for example) and increase vigorous physical activity for children^{50, 51}.

Most of the research on the connection between parks and physical activity is based on a cross-sectional study model, and more definitive results from experiences in the field are necessary in order to estimate the impact of park rehabilitation on their use and the physical activity that takes place in them. Fortunately, studies that are in progress or that have been completed are beginning to bridge this gap. One of them examined looked at the use of, and physical activity in, refurbished playgrounds in school yards in the city of Cleveland, Ohio, compared with playgrounds that had not been refurbished⁵². The results show that renovations increase use, by both adults and children. The children, especially boys, were more inclined to engage in vigorous physical activity in the refurbished playgrounds⁵³. A quasi-experimental study of playgrounds in a school environment also showed that refurbishing resulted in small, but significant increases in children's physical activity during recess, even after factoring in the individual and scholastic variables⁵⁴. Playground renovations have a greater effect on young children⁵⁵.

Another study examined the role of skateboard areas, community centres and park rehabilitation on the use of these facilities and physical activity⁵⁶. The results showed that with the exception of a new skateboard park, the renovated facilities were associated with a decrease in use.

However, use of the skateboard park was six times greater. Researchers noted that the decrease in use of the other facilities may be due to the decreased opening hours and the decrease in programs offered, which led them to conclude that improvements to a park's physical structure was not enough to encourage park use and physical activity.



Picture: Marie Demers



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Conclusions and Implications

Parks and playgrounds are significant assets for promoting physical activity and health in large segments of the population, although the potential of parks to increase physical activity has not yet been completely harnessed. Facts have shown that the availability and proximity of parks is generally linked to increased physical activity in various populations. A greater number of parks increases the probability of being physically active; moreover, parks with certain characteristics such as walking trails, playgrounds and sports facilities may encourage increased physical activity within their perimeter. However, low-income populations and certain ethnic groups have a more limited access to parks and other recreational facilities.

Recent research suggests that the state of the parks and their upkeep, as well as the policies and programs in connection with the parks, can have an influence on their use and the levels of physical activity that takes place in them. However, few studies have examined the effect that improvements to parks have on their use and the physical activity that takes place in them. Consequently, how physical activity is influenced by the policies and programs in connection with the parks and the supervision that is provided remains unclear. Future research should examine these gaps, so that park personnel, those who design the parks, authorities and the groups in charge of policies, as well as pressure groups, can accentuate the lever effect of parks in creating a more physically active nation.

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Adapted from a report prepared by Jacqueline Kerr, Ph.D., San Diego State University and University of California, San Diego, with support from Active Living Research. Activelivingresearch.org

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Revision
Ad Hoc Solutions linguistiques Inc.

Graphic design
Acolyte communication

Québec en Forme publication: Winter 2011

For more information concerning the local groupings of partners and projects supported by Québec en Forme

