



# WellSpring

Sharing physical activity knowledge

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## Friendship networks and children’s physical activity

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### Introduction

Physical activity (PA) is important for the psychological, motor, and physical development of children.<sup>1</sup> As such, current guidelines in Canada recommend that children accrue 60 minutes of moderate-to-vigorous PA per day.<sup>2</sup> However, only 33% of children and adolescents in Canada meet these guidelines.<sup>3</sup> Identifying correlates of children’s PA can help inform interventions and programs designed to get children moving.

### Friendship networks

Because children are with their friends for a large part of the day (e.g., at school, in the neighborhood, during organized activities), friends are thought to influence their health behaviours. For instance, a summary of the literature reported that friends influence the PA of children through positive messaging around PA, modeling of PA, and co-participation in PA.<sup>4</sup> Most of these studies, however, employed measures of children’s perceptions of their friends’ behaviour, which may be biased.

### The study

This study examined children’s friendships using a novel method called social network analysis that focuses on connections among people and the social networks formed from these connections. Specifically, children from 27 schools in Edmonton and Fort McMurray, Alberta identified their within-school and within-grade friendships and which of these friends were considered “best” friends.<sup>5</sup> All children wore time-stamped pedometers for nine consecutive days. Thus, pedometer-measured PA data was obtained for all participants and their school friends. This is a more precise measure of friends’ PA than questionnaire assessments. The time-stamped aspect of the pedometers also permitted examination of PA within and outside of school, as well as non-school days (i.e., holidays and weekend days).

### S U M M A R Y

Children spend a lot of time with their friends at school, in the neighbourhood, and during organized activities. As a result, friends may influence the behaviour and choices of one another.

This WellSpring highlights a study undertaken in elementary schools within Edmonton and Fort McMurray, Alberta that aimed to understand how friendships may influence the physical activity participation of children.



The study examined whether friends were more similar in their PA compared to children who were not friends; whether differences existed by child gender and for different periods of the week; and whether “best” friends were more similar in their PA compared to other friends.

### Key findings

On average, girls identified 3.89 friends, with 2.27 considered best friends, whereas boys identified 3.45 friends, with 2.12 considered best friends. The children took 798 steps/hour across the week, with 804 steps/hour on school days, 807 steps/hour on non-school days, and 807 steps/hour before and after school.

Maps of the friendship networks for each school showed some clustering of PA among friendship groups (see the Figure 1 for an example of one friendship network).

For overall PA across the week, girls had similar PA levels to their wider friendship network. Specifically, the difference in PA between friends was approximately 20 steps/hour lower than the the difference in PA between non-friends. In addition, girls had similar levels of PA to their best friends on school days and before and after school, whereas they had similar levels of PA to their other friends on non-school days.

Among the boys, only reciprocated best friends (i.e., both children indicated one another as a best friend) had similar levels of PA.

*Do friendships  
positively  
influence  
PA levels of  
children?  
Answer: Yes!*

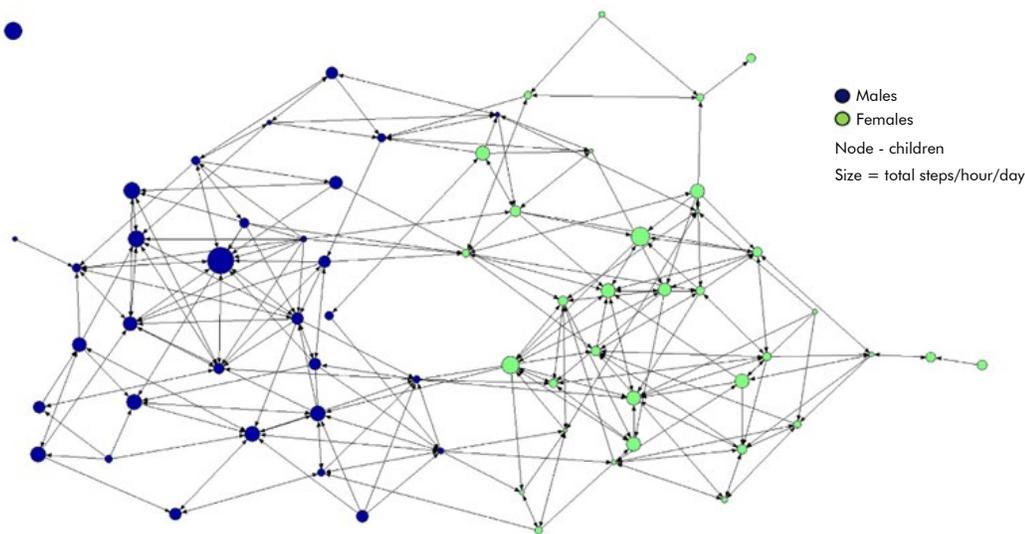


Figure 1. Example of a friendship network of grade 5 children from one school. Obtained from Stearns et al. (2018).

## What do these results tell us?

These findings suggest that, particularly for girls, friends have similar levels of PA. Or stated differently, there is clustering of PA among children's friendship groups. This could indicate that children select friends who are similarly active (**selection**) or that, over time, friends influence one another's PA (**influence**). Though we were not able to tease apart selection and influence effects, longitudinal research with both children and adolescents support the influence mechanism (friends influence the PA of one another) whereas less consistent evidence exists for selection.<sup>6-9</sup> Therefore, it is reasonable to assume that at least part of the similarity in PA observed among friends in this study is due to influence. This friendship influence may be due to children conforming to the physical activity norms in their friendship group, with girls being more active when physical ability and activity are valued among their friends.



*Alongside physical skill development, include relationship skill-building activities to help children develop healthy, high-quality relationships.*

## Practical implications and recommendations

Public health decision-makers, health promotion professionals, schools, and parents should be aware of the potential influence of friends on the PA of children, particularly for girls. The following are some ideas for schools, parents, and decision-makers to harness this influence to help empower children to lead more active lives.

### For schools:

- Target inactive friendship groups by asking them if there is an activity they would like to do together and assist with finding the resources required to support the activity (e.g., set up a dance club). This strategy would work to change the norms of inactive friendship groups.
- Incorporate relationship skill-building activities into PA programming to help children develop healthy, high-quality relationships alongside physical skill development.

### For parents:

- Assist children with initiating and organizing active play dates with peers, and with finding the space, equipment, and resources that may be required. These could include one-on-one activities, such as skating or swimming, or large group activities, such as kick-the-can.

- If a girl is a part of an inactive friendship group, she should be encouraged to find a PA that she and her friends enjoy doing together. Girls enjoy talking with their friends so light activities that can incorporate socializing, such as walking the dog or walking to school, are good activities to suggest. Another option is to assist with joining an organized sport to provide opportunities to make friends with active peers.

#### For policy-makers:

- Consider incorporating messaging into current guidelines and policies on the importance of friends for children's PA.

Healthy PA habits are not simply learned from adults such as parents, coaches, and teachers. For girls, in particular, friends may be an important source of influence, and there are several ways that schools, parents, and policy-makers can capitalize on this influence to help increase PA levels.

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## ABOUT THE AUTHORS



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