

## Article

*Living with disability series*

# Social participation of children with disabilities



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# Social participation of children with disabilities

by Krista Kowalchuk and Susan Crompton

**H**aving friends, participating in group activities and joining clubs are ways in which children become engaged with their society, and these activities represent an essential aspect of their social and personal development.<sup>1</sup> Being engaged in extracurricular activities is also related to a number of other direct benefits for a child, including better academic results and reduced emotional and behavioural problems.<sup>2</sup> However, participating in these activities is not always easy for some children, especially those who have a disability.<sup>3</sup>

Child development is a complicated process that becomes more complex when a child has a disability. In all aspects of their lives, children with disabilities may need help in order to ensure as much equality and accessibility to daily activities as possible. While we know a lot about education, assistive aids and adaptive technology, medical treatments, and transportation, researchers have not devoted as much attention to issues pertaining to social participation.<sup>4</sup>

Social participation—which we will also call social engagement—refers to relationships with family members, peers, community members, local institutions and, at the broadest level, with society. Earlier research has found that children with disabilities are less involved than their non-disabled counterparts, in that they participate less in social

activities.<sup>5</sup> As public awareness of the importance of inclusion grows, children with disabilities are increasingly accommodated in extracurricular activities.

This article will identify the factors that influence the social engagement of children with disabilities aged 5 to 14 who live with their parents. The focus is on participation in social activities outside the family home and outside regular school hours. Social engagement is measured by participation in organized sports; in organized non-sport activities (lessons, clubs and community groups); and in virtual networks with their peers (phone, chatrooms, email). Following the literature, the factors we examine include the effect of the child's condition on their day-to-day functioning, the child's own social competencies, family functioning, parental support, and environmental barriers.

### **A little about the study population**

In 2006, the Participation and Activity Limitation Survey (PALS) identified about 125,000 children aged 5 to 14 living with their parents who had disabilities. Almost two-thirds of these children were boys (65%); over half of them were "tweens" between 10 and 14 years old (57%); over four in ten children (44%) had a degree of disability that was classified as severe or very severe.

The types of disabilities these children had, as reported by their parents, covered a wide range of physical as well as non-physical limitations, with the most common types being learning disabilities (71%), chronic physical limitations like diabetes, asthma or heart disease (62%), speech conditions (46%), and chronic non-physical limitations such as autism or attention deficit disorder (42%).<sup>6</sup>

Rather than focus on specific disabilities, this article will address the three major categories of disability: physical disabilities only (19% of children in the study population), non-physical disabilities only (24%), and both physical and non-physical disabilities (57%) (Chart 1).

A child's participation in activities outside the regular structure of home and school is a key measure of their social engagement. Children can be engaged socially and meet new friends through a variety of activities. In this study, we examine children's engagement using three separate indicators of social participation: organized sports and physical activities ("sports"); lessons, clubs and community groups ("non-sport activities"); and interaction with peers online via e-mail, in newsgroups or chatrooms, and on the telephone ("networks") (see "What you should know about this study" for complete information).

This article draws on the child component of the 2006 Participation and Activity Limitation Survey. The target population comprises 3,100 respondents, representing just under 125,000 children aged 5 to 14 with disabilities who live with their parents (lone-parent or two-parent families). Data were collected from the person most knowledgeable about the child, generally a parent. Strictly speaking, because the child's parent/guardian answered the survey on the child's behalf, all statistics actually refer to those children with disabilities whose parent responded to the questionnaire. For the sake of brevity, however, this article will refer to "children."

## Definitions of terms

**Children with disabilities/activity limitations:** Children aged 5 to 14 living with their parent(s), whose respondent parent reported that they had difficulties with daily living activities, or that a physical or mental condition or health problem reduced the kind or amount of activities the child could do. The answers to the disability questions represent the respondent's perception of the situation and are therefore subjective.

**Physical disabilities:** Hearing; seeing; mobility; agility; chronic physical conditions, including asthma and allergies, heart condition or disease, kidney disease, cancer, diabetes, epilepsy, cerebral palsy, spina bifida, muscular dystrophy, migraines, arthritis or rheumatism, paralysis of any sort, missing limbs or digits, complex medical care, other not specified.

**Non-physical disabilities:** Speech/communication; learning; developmental; emotional/psychological; chronic non-physical conditions, including autism, fetal alcohol syndrome, ADD or ADHD, and Down syndrome.

**Severity of disability:** PALS constructed a scale measuring the overall severity of disability according to the intensity and frequency of the activity limitations reported by respondents. The disability severity scale is divided into four levels: mild, moderate, severe and very severe.

**Significant difference:** Before concluding that two estimates are different, one must determine if the difference between them is statistically significant and is not due to random sampling error. One way to determine this is by creating confidence intervals for the estimates using each estimate's coefficient of variance. If their confidence intervals do not

overlap, then there is 95% certainty that the estimates are significantly different.

## Social participation

In a recent study, Canadian researchers argued that it is important to remember that participation in many activities is not necessarily a better measure of social engagement than participation in fewer activities.<sup>1</sup> They point out that a child may take part in one activity very frequently, whereas another child may be involved in a variety of activities but do so infrequently.

The three social participation indices developed for this study respect this argument. Each index includes two to three different types of activities and children were classified as participants if they had taken part in any of them in the 12 months preceding the survey, regardless of frequency. (Frequency ranges from every day to less than once a month.)

**Organized sports and physical activity/sports:** Takes part in organized sports with coach or instructor; takes part in other physical activities with coach or instructor, e.g. dance, gymnastics.

**Lessons, clubs and community groups/non-sport activities:** Takes lessons or instruction in non-sport activities, e.g. music or art; takes part in activities of clubs or community groups, eg. Scouts, church groups.

**Virtual peer network/network:** Takes part in Internet chatrooms or newsgroups; uses e-mail to keep in touch with friends; talks on the phone with friends.

## The models

Previous research suggests that a number of factors can influence the social engagement of a child with a disability. In order to isolate the individual factors that are associated with social participation, logistic regression models were developed for each of the social activities. These models allowed us to estimate the odds that a child with a given characteristic was a *participant* compared to a *non-participant* in an activity, while removing the effect of other confounding factors. The odds ratios were estimated through a weighted regression that used PALS survey weights, with variance estimation done through survey bootstrapping. Statistical significance was calculated at  $p < 0.05$ .

# GST What you should know about this study (continued)

In the models, the factors examined are divided into the following categories:

**Child's condition:** measured by type of disability and severity of the disability.

**Effect of child's condition on functioning:** measured by whether child uses help for everyday activities; child's condition creates a disadvantage at school; child's condition creates a disadvantage in areas such as transportation and leisure activities; the parent feels that the school accommodates their child's condition or health problem.

**Child's social competencies:** measured by whether the child gets along with other children (excluding siblings); child looks forward to going to school; and age and sex (since children generally exhibit different social capacities depending on their stage of development).

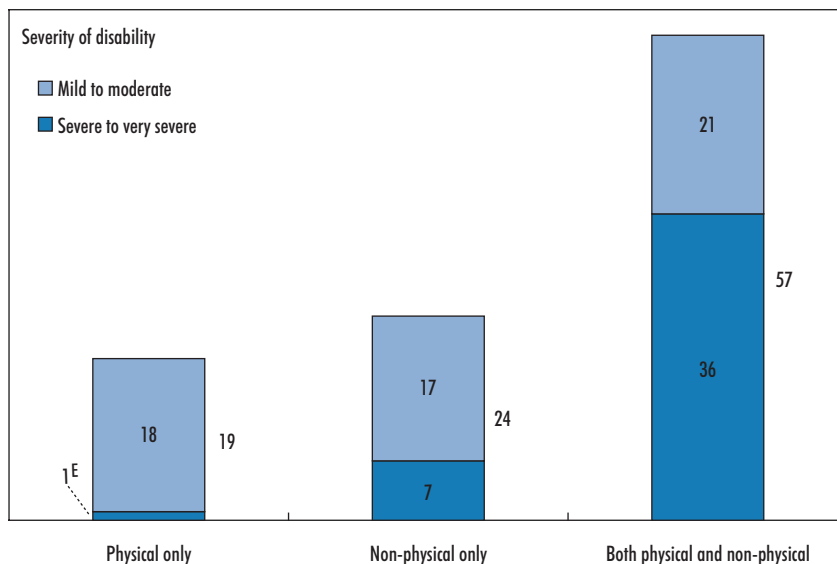
**Family support:** measured by parental involvement in child's classroom (contact with teacher; attended events like plays or science fairs that child participated in; helped with class trips); parental involvement in child's school (helped elsewhere in school, e.g. library, computer room; attended parent council meetings; fundraising; other); household income; family's place of residence; family type.

**Environmental barriers:** measured by existence of societal barriers, which includes programs or services not available, facilities not accessible, inadequate transportation, too expensive; existence of personal barriers, which includes child's condition limits participation, child needs someone's help to participate, do not have specialized aids or equipment necessary, child or family is too busy.

1. Law, M., King, G., King, S., Kertoy, M., Hurley, P., Rosenbaum, P., Young, N., Hanna, S., and Petrenchik, T. (2006). *Patterns and predictors of recreational and leisure participation for children with physical disabilities*. CanChild Centre for Childhood Disability Research.

## GST Chart 1 Over half of school-age children with disabilities have both physical and non-physical disabilities

% of children aged 5 to 14 with disabilities and living with their parents



Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

Just under two-thirds (63%) of 5- to 14-year-old children with disabilities were engaged in some kind of organized sport or other physical activity, such as playing soccer, taekwondo, swimming or dancing. Most of these children were doing something at least once a week<sup>7</sup> (Chart 2).

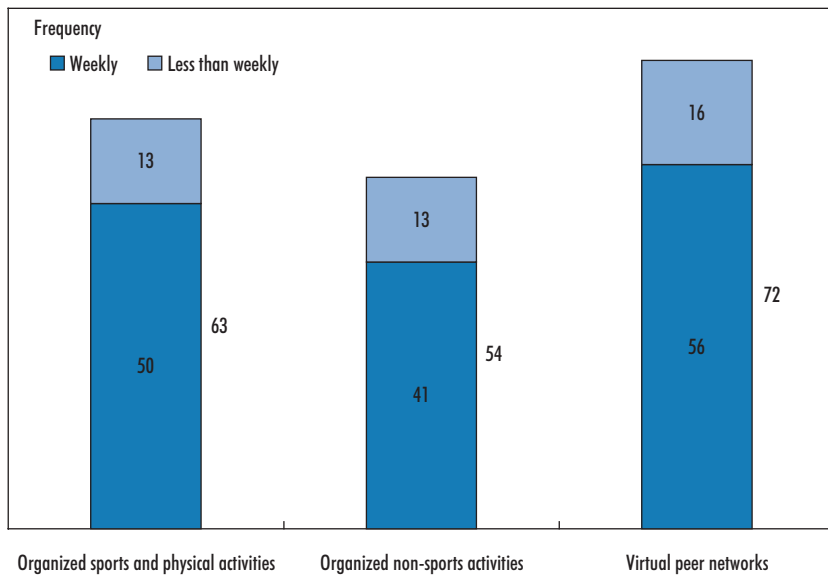
Over half (54%) of children with disabilities took lessons in some type of non-sport interest, or belonged to clubs or community groups; a large majority of participants did something every week. And almost three-quarters of children with disabilities (72%) were linked to networks with their peers, with three-quarters of participants online or on the phone with friends at least once a week.

### Type of disability associated with non-sport activities, severity with peer networks

To identify children with disabilities who are more likely to participate in social activities, the first factors to

**Chart 2 The majority of children with disabilities take part in some kind of extracurricular social activity**

% of children aged 5 to 14 with disabilities and living with their parents



Source: Statistics Canada, Participation and Activity Limitations Survey, 2006.

examine are the type and severity of the child’s disability. If children with limitations are unable to join in particular events or activities, they may be excluded from engaging socially with their peers and others. And though it is often thought that children with physical disabilities are excluded more often than those with non-physical limitations, other obstacles can act as barriers for children with cognitive or developmental disabilities; for instance, if a child’s disability causes him to act impulsively or impairs her communications skills, they are often not accepted into the peer group.<sup>8</sup>

The PALS data show that a child with both physical and non-physical disabilities is significantly less likely to take part in organized sports. Only 59 % of these children were participants, compared with 70 % of children with physical limitations only (Table 1).

Similarly, children with both physical and non-physical limitations

were less likely to be engaged in non-sport activities like taking lessons or belonging to clubs or community groups, situations which may demand more sophisticated social skills. They were also less likely to have virtual networks with their peers (Table 1).

The severity of their limitation is related to children’s participation in two of three social activities. Only 43% of kids with a very severe degree of disability were connected to peer networks, compared with 86% of children with mild limitations. The gap was smaller but still statistically significant for organized sports, at 45% versus 70%.

It is useful to know whether the type of disability or the degree of its severity has a stronger association with a child’s probability of being socially engaged. To isolate the effects of individual factors, logistic regression models were developed to estimate the odds that a child with a given characteristic was a *participant* rather than a *non-participant* in a given

social activity. (See “What you should know about this study” for more information about the regression models.)

After controlling for the effects of other factors (including severity of disability), the model results show that the type of disability was not associated with participation in organized sports or in peer networks. But for non-sport activities, children with a non-physical disability had significantly lower odds of being involved than those with physical disabilities only (Table 2).

The severity of the child’s condition is not associated with their odds of participation in sports or non-sports activities, once other factors (including type of disability) are controlled for. The exception is peer networks: compared to children with a mild degree of disability, those with a very severe disability had less than half the odds of being online or on the phone with friends and other peers.<sup>9</sup>

**Child’s day-to-day functioning related to involvement in sports and peer networks**

Some conditions create a specific disadvantage for a child. For example, some children may have to receive help with everyday activities; for others, their condition may often cause difficulties accessing transportation or leisure activities, or it may impose certain restrictions at school.

According to PALS, children who have such disadvantages were just as likely as others to participate in non-sport activities, but they were significantly less likely to be involved in organized sports and peer e-networks (Table 1). However, after controlling for other factors in the model, the effect of the child’s condition on day-to-day functioning was no longer associated with participation in organized sports.

Results of the model show that children who received help in order to do daily activities had significantly lower odds of being involved in virtual

**Table 1 Children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006**

	Child participates in social activities		
	Organized sports and physical activities	Organized non-sports activities	Virtual peer network
<b>Children with disability (Total)</b>	<b>63</b>	<b>54</b>	<b>72</b>
<b>Child's condition</b>			
<b>Type of disability</b>			
Physical only †	70	64	86
Non-physical only	69	53	76
Both physical and non-physical	59*	52*	66*
<b>Severity of disability</b>			
Mild †	70	57	86
Moderate	67	55	80
Severe	65	54	71*
Very severe	45*	49	43*
<b>Effect of child's condition on functioning</b>			
<b>Child's condition causes disadvantages at school</b>			
None/a few †	67	56	78
Often/always	58*	52	63*
<b>Child's condition causes disadvantages in transportation or leisure</b>			
None/a few †	67	56	77
Often/always	49*	47	52*
<b>Child receives help with everyday activities because of condition</b>			
No †	66	54	81
Yes	54*	53	44*
<b>Overall, the school accommodates the child's condition</b>			
Mainly agree †	63	54	71
Strongly agree	65	56	77
<b>Child's social competencies</b>			
<b>Child looks forward to going to school</b>			
Sometimes/not often †	61	54	76
Most of the time	65	55	72
<b>Child gets along all right with friends and classmates (not siblings)</b>			
Usually †	61	52	66
Very well	65	56	78*
<b>Age group</b>			
Age 5 to 9 years old †	68	53	60
Age 10 to 14 years old	60	55	82*
<b>Sex</b>			
Boy †	63	51	69
Girl	64	61*	80*
<b>Family support</b>			
<b>Parent has high level of involvement in child's classroom activities</b>			
No †	41	42	68
Yes	69*	57*	74
<b>Parent has high level of involvement in school-level activities</b>			
No †	60	49	73
Yes	69*	62*	72
<b>Family structure</b>			
Lone-parent family †	59	46	76
Two-parent family	65	57*	71

**Table 1 Children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006 (continued)**

	Child participates in social activities		
	Organized sports and physical activities	Organized non-sports activities	Virtual peer network
	percentage		
<b>Family income</b>			
Under \$30,000 †	54	48	70
\$30,000 to \$59,999	54	50	73
\$60,000 to \$89,999	67*	57	74
\$90,000 or more	76*	61	72
<b>Place of residence</b>			
Rural Canada †	56	57	78
Urban Canada	65*	54	71
<b>Environmental barriers</b>			
<b>Societal barriers to participation</b>			
No †	68	55	76
Yes	46*	52	63*
<b>Personal barriers to participation</b>			
No †	71	56	79
Yes	49*	50	60*

† reference group

\* statistically significant difference from reference group at  $p < 0.05$

Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

peer networks (Table 2). However, attending a school that did a good job of accommodating their condition did significantly increase the odds of being “connected,” after all other factors were controlled for.

**In general, children’s social competencies are not associated with social engagement**

Much of children’s social interaction takes place in the classroom; consequently, that is where most children learn how to behave toward one another and to develop and maintain social relationships. Thus, it seems reasonable to measure children’s social competencies by how well they interact with others and whether they enjoy going to school (where they will see many of their friends).<sup>10</sup> Since a child’s age and sex are generally related to social confidence, we will examine these characteristics first.

The child’s age and sex were not related to higher levels of participation in organized sports. But girls were more likely than boys to be involved in non-sport activities and in virtual peer groups. Also, “connectedness” was much higher for 10- to 14-year-olds (82%) than 5- to 9-year-olds (60%). These relationships remained significant after controlling for other factors (Table 1).<sup>11</sup>

Children with disabilities who looked forward to going to school most of the time were no more or less likely to participate in all three extracurricular activities than those who were not so keen to be in class. Similarly, children who got along very well with other kids were no more or less likely to be involved than those who did not get on so easily. The exception is in virtual peer networks: children who related very well to others were more likely to be active, at 78% versus 66% (Table 1).

But once other factors are taken into account, getting along with other children is no longer significant for maintaining e-networks, although it is associated with lower odds of participating in sports. In contrast, children who enjoy going to school had significantly lower odds of being “connected” to peers (Table 2).

**Family support is strongly related to participation in organized sports and non-sport activities**

The psychological support that parents provide to their children is an important factor in predicting how socially engaged those children will be. By encouraging their child to pursue his interests, parents can give a child confidence and play a key role in developing their level of engagement.<sup>12</sup> Still, it is important to point out that too much parental involvement might be detrimental: a 2006 report notes that parents of

disabled children tend to interfere during play with other children and may create conflict within the friendship.<sup>13</sup>

PALS data show that children whose parents had a high level of classroom commitment were more likely to participate in both organized sports and non-sport activities (classroom involvement includes having contact with the child's teacher, attending events like plays or science fairs that the child participated in, and helping with class trips). The parent's degree of commitment remained significant after other factors in the models were controlled for; children with a parent who was active in the classroom had three times higher odds of taking part in sports, and almost two times higher odds of being involved in non-sport activities (Table 2).

Having a parent who volunteered at the school level was also associated with higher social participation,

although the relationship was not as strong (this type of involvement includes helping elsewhere in school such as in the library or computer room, attending parent council meetings, fundraising, and other activities). Children whose parents were volunteers at the school level had significantly higher odds of participating in organized sports and in non-sport activities.

In contrast, parental classroom and school-level support was not significantly associated with a child's virtual engagement with their peer network.

### Family income and urban residence are strongly linked to sports participation

Living in a two-parent family may provide instrumental support to a child with disabilities. Two parents may find it easier to facilitate social engagement, for example, by driving the child to events, providing needed

assistance to the child when she joins in activities, and so on. But marital status was not significantly associated with social participation, once other factors were controlled for.

In contrast, family income is another type of instrumental support and it is strongly related to engagement in organized sports. When family income was over \$90,000, children were much more likely to participate in organized sports than if it was under \$30,000 (76% compared to 54%) (Table 1). Income remained strongly related to sports participation, even after other factors were taken into account: the odds of participating were about two to three times higher for children with disabilities living in families with incomes over \$60,000. On the other hand, a family's income had no association with the odds that their child was engaged in non-sport activities or virtual peer networks (Table 2).



**Table 2 Odds ratios of children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006**

	Odds ratios of being participant versus non-participant		
	Organized sports and physical activities	Organized non-sport activities	Virtual peer network
	odds ratios		
<b>Child's condition</b>			
<b>Child's type of disability</b>			
Physical only †	1.0	1.0	1.0
Non-physical only	0.9	0.6*	0.6
Both physical and non-physical	0.7	0.6*	0.6
<b>Severity of disability</b>			
Mild †	1.0	1.0	1.0
Moderate	0.9	1.0	0.9
Severe	1.0	1.0	0.8
Very severe	0.7	1.2	0.4*
<b>Effect of child's condition on functioning</b>			
<b>Child's condition causes disadvantages at school</b>			
None/a few †	1.0	1.0	1.0
Often/always	0.9	1.0	0.8
<b>Child's condition causes disadvantages in transportation or leisure</b>			
None/a few †	1.0	1.0	1.0
Often/always	0.9	0.7	0.8
<b>Child receives help with everyday activities because of condition</b>			
No †	1.0	1.0	1.0
Yes	1.1	1.3	0.4*
<b>Overall, the school accommodates the child's condition</b>			
Mainly agree †	1.0	1.0	1.0
Strongly agree	1.1	1.0	1.5*

**Table 2 Odds ratios of children with disabilities aged 5 to 14, living with parents, participating in social activities, 2006 (continued)**

	Odds ratios of being participant versus non-participant		
	Organized sports and physical activities	Organized non-sport activities	Virtual peer network
<b>odds ratios</b>			
<b>Child's social competencies</b>			
<b>Child looks forward to going to school</b>			
Sometimes/not often †	1.0	1.0	1.0
Most of the time	1.1	0.8	0.6*
<b>Child gets along all right with friends and classmates (not siblings)</b>			
Usually †	1.0	1.0	1.0
Very well	0.7*	0.9	1.3
<b>Age group</b>			
Age 5 to 9 years old †	1.0	1.0	1.0
Age 10 to 14 years old	0.7*	1.2	3.3*
<b>Sex</b>			
Boy †	1.0	1.0	1.0
Girl	1.0	1.6*	1.9*
<b>Family support</b>			
<b>Parent has high level of involvement in child's classroom activities</b>			
No †	1.0	1.0	1.0
Yes	3.1*	1.7*	1.4
<b>Parent has high level of involvement in school-level activities</b>			
No †	1.0	1.0	1.0
Yes	1.4*	1.6*	1.1
<b>Family structure</b>			
Lone-parent family †	1.0	1.0	1.0
Two-parent family	0.7	1.3	0.7
<b>Family income</b>			
Under \$30,000 †	1.0	1.0	1.0
\$30,000 to \$59,999	1.0	0.9	1.0
\$60,000 to \$89,999	1.8*	1.2	1.2
\$90,000 or more	2.8*	1.3	1.1
<b>Place of residence</b>			
Rural Canada †	1.0	1.0	1.0
Urban Canada	1.7*	1.0	0.8
<b>Environmental barriers</b>			
<b>Societal barriers to participation</b>			
No †	1.0	1.0	1.0
Yes	0.6*	1.1	1.4
<b>Personal barriers to participation</b>			
No †	1.0	1.0	1.0
Yes	0.5*	0.8	0.8

† reference group

\* statistically significant difference from reference group at  $p < 0.05$

Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

Another element of instrumental support, especially for children with disabilities, can be the family's proximity to services. Children with disabilities who lived in urban areas had significantly higher odds of taking part in organized sports than those who lived in rural areas. This finding may reflect the greater availability, in urban centres, of programs and facilities that can accommodate children with disabilities. In contrast, the family's place of residence was not significant for either lessons, clubs and groups, or for maintaining e-networks.

### **Environmental barriers associated with lower participation in organized sports**

Barriers in the environment can play a key role in the level of social engagement available to a child with disabilities. For example, if an activity such as baseball or hockey is not adapted to accommodate a child, he may be prevented from participating. Similarly, if a child is without adequate transportation, she is often unable to attend events or activities.<sup>14</sup> And while children with physical limitations may lose opportunities to take part in physical activities, children with non-physical disabilities may be excluded from activities due to cognitive conditions that cause inappropriate interaction with peers.<sup>15</sup>

We identified two categories of environmental barriers: societal barriers that include programs or facilities not being available locally, transportation difficulties and high costs; and personal barriers directly related to the individual, which include the child needing special equipment or someone else's help to join an activity, and limitations caused by the child's condition.

As expected, PALS shows that children with disabilities were less likely to participate in organized sports if they encountered environmental barriers. Fewer than half of children who reported societal and personal

barriers took part, compared with over two-thirds of other children with disabilities.

After controlling for other factors, environmental barriers remained significant only for sports participation. That is, kids who faced both societal and personal barriers had lower odds of participating in organized sports.

Children were also less likely to maintain virtual peer networks if they faced environmental barriers to going online or talking on the phone; however, these factors did not remain significant once other variables in the model were taken into account.

### **Summary**

Greater efforts are being made to accommodate children with disabilities in many extracurricular activities such as organized sports, groups and clubs. But data from the 2006 Participation and Activity Limitation Survey show that, depending on the type of activity, as many as one-quarter to one-half of kids with disabilities never participate.

A child's participation in activities outside the home and school is a key measure of his or her level of social engagement. This study found that about two-thirds of children aged 5 to 14 with disabilities and living with their parents took part in organized sports and physical activities; just over half were involved in non-sport organized activities like taking lessons, joining clubs and community groups; and a little less than three-quarters were engaged in virtual networks with their peers online and on the phone.

Regression models suggest that the child's type of disability was significantly associated only with participation in non-sport activities; similarly, the severity of their limitation was related only to maintaining virtual networks with peers. Parental support at school significantly increased a child's odds of participating in both organized sports and in non-sport activities, but not in virtual peer networks.

Other factors associated with the odds that a child would take part in social activities tended to vary with the activity. Having a higher family income, living in an urban area and getting along well with other children were related to sports participation. Environmental barriers and being between 10 and 14 years old were negatively associated with sports participation. Being a girl was positively associated with taking part in organized non-sport activities.

Possibly because virtual peer networks are not mediated by adult instructors and coaches, the factors associated with participation in this activity are somewhat different. Children had higher odds of being engaged in a peer network if they were a girl, 10 to 14 years old, and attended a school that does a good job of accommodating their condition.



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1. Law, M., King, G., King, S., Kertoy, M., Hurley, P., Rosenbaum, P., Young, N., Hanna, S., and Petrenchik, T. (2006). *Patterns and predictors of recreational and leisure participation for children with physical disabilities*. CanChild Centre for Childhood Disability Research.
2. Guèvremont, A., Findlay, L., and Kohen, D. (2008). Organized extracurricular activities of children and youth. *Health Reports* 19(3), 65-69. Statistics Canada Catalogue no. 82-003-XWE.
3. King, G., Law, M., King, S., Rosenbaum, P., Kertoy, M., and Young, N. (1999). *The participation of children with disabilities*. CanChild Centre for Childhood Disability Research.
4. Hanvey, L. (2003). *Social inclusion research in Canada: Children and youth*. Ottawa: Canadian Council on Social Development.

5. Harvey. (2003). Guèvremont et al. (2008). A 2008 Statistics Canada report showed that 86% of children and youth aged 6 to 17 participated at least once a month in at least one extracurricular activity, with organized sports being more common than non-sports activities such as lessons (music, art, drama, etc.) and membership in clubs or community groups.
6. Statistics Canada. (2007, December 3). Participation and Activity Limitation Survey. *The Daily*. Statistics Canada Catalogue no. 11-001-XWE. Almost three-quarters of all children with disabilities have been diagnosed with more than one disability.
7. Of course, many children were active in unorganized physical activities (i.e. did not involve a coach, instructor or supervisor) which are not included in this study's definition of sports. Two-thirds (66%) of disabled children aged 5 to 14 who lived with their parents took part in these unorganized activities, and of these children, 74% participated at least once a week.
8. Bortoli, A., and Brown, M. P. (2002). *The significance of attention during social engagement*. Document presented at the Australian Association for Research in Education Conference, Brisbane, Australia.
9. Law, M., Finkelman, S., Hurley, P., Rosenbaum, P., King, S., King, G., and Hanna, S. (2004). Participation of children with physical disabilities: relationships with diagnosis, physical function, and demographic variables. *Scandinavian Journal of Occupational Therapy*, 11(4), 156-162. In a study of children with physical disabilities, Canadian researchers found that the diagnostic category of the child's condition was not a significant influence on participation in daily activities, once adjusted for age, sex and physical function, and suggest that other personal, family and environmental characteristics are important predictors of participation.
10. Readers should recall that these responses are reported by the parent and not the child.
11. Bortoli and Brown (2002). Research has shown that the social networks of non-disabled children are made up primarily of friends of the same sex, while those of children with a disability (whether they are boys or girls) are composed mainly of female friends. One explanation is that girls generally have a higher likelihood than boys of being friends with a child who has a disability.
12. King, G., et al. (1999).
13. Thomas, P., Roller, S., Scharnhorst, A., Cunningham, S., and Warschausky, S. (2006). Study explores how children with disabilities make friends: How can parents and school personnel help? *Focus on Results*, (March). Michigan Department of Education.
14. Harvey, L. (2002). *Children with Disabilities and Their Families in Canada*, (November). Discussion Paper commissioned by the National Children's Alliance for the First National Roundtable on Children with Disabilities.
15. Thomas et al. (2006).