

**Perceived Discrimination, Belonging and the Life
Satisfaction of Canadian Adolescents with
Disabilities**

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Perceived Discrimination, Belonging and the Life Satisfaction of Canadian Adolescents with
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United Nations Convention on the Rights of the Child

Article 23: States Parties recognize that a mentally or physically disabled child should enjoy a full and decent life, in conditions which ensure dignity, promote self-reliance and facilitate the child's active participation in the community.

Introduction

This paper conducts an empirical investigation of correlates of the self-reported life satisfaction of Canadian adolescents with disabilities. In conceptualizing 'disability,' it is possible: 1) to focus on physical or psychological impairments of the individual -- for example, deafness or blindness; 2) to focus on limitations in the individual's ability to carry out normal activities (e.g., climbing stairs, getting dressed); or, 3) to focus on the extent to which an individual can participate in community life (e.g., make and keep friends). In moving from the first to the third conception of 'disability,' emphasis is shifted from individual deficits to social/environmental context and it is this conception which we pursue here. In keeping with the spirit of Article 23 of the United Nations Convention on the Rights of the Child, we are particularly interested in how social interactions affect the self-reported well-being of Canadian youth with disabilities.

Recent research (Foley et al., 2012) uses qualitative methods (focus groups of children with a variety of conditions) with the goal of identifying well-being from the point of view of a child with a disability. One of the most important themes to emerge is that children with disabilities want 'to feel belonged.' That is, they find social exclusion more troublesome than physical restrictions.

A large literature on adult well-being, though not specifically adults with disabilities, similarly emphasizes the importance of social relationships (e.g., Helliwell and Putnam, 2004; Helliwell, et al., 2010; Jetten et al., 2009). The literature on child well-being is much smaller (though see Casas, et al., 2007; Hueber, 1991 or 2004; Huebner et al., 2004), but again suggests that social relationships, especially within families are key (e.g., Burton and Phipps, 2008; Holder and Coleman, 2009; Ma and Huebner, 2008; Nickerson and Nagle, 2004 and 2005).

Relatively little is known about the self-reported life satisfaction of youth with disabilities, though a small body of existing work suggests they experience lower well-being than their non-disabled peers (e.g., Boyce, et al., 2009; Edwards et al., 2003; Emerson et al., 2011; Snowdon, 2012). There is also evidence that children with disabilities face stigma (Cooney et al., 2006) discrimination and social exclusion (Lindsay and McPherson, 2012) and are more likely to

be the targets of bullying (Osberg, Phipps and Zhang, 2012) than other children of the same age and in otherwise similar circumstances.

In this paper, we use a large, nationally representative microdata in which 12 to 17 year old youth are themselves survey respondents to provide further evidence about the importance of social interactions for the self-assessed well-being of Canadian youth with disabilities. We ask three principal research questions:

- 1) Is disability status associated with lower self-reported life satisfaction for Canadian adolescents?
- 2) Do Canadian adolescents with disabilities perceive discrimination as a result of their conditions and, if so, by how much does this reduce reported life satisfaction?
- 3) Is feeling a generalized sense of belonging to a self-defined local community a potential buffer against negative implications of disability-related discrimination for life satisfaction? That is, are the negative consequences of perceiving discrimination smaller for young people with disabilities if they are part of a social group?

Data

We use microdata from the Statistics Canada Community Health Survey (CCHS). The CCHS is a large, annual cross-sectional survey designed to estimate health status and determinants. It is representative of the Canadian population aged 12 and over, except individuals in the military, living in institutions, on reserve or in other Aboriginal settlements, or in extremely remote areas. These exclusions represent less than 3 percent of the population. Our focus is on adolescents aged 12 to 17. For 12 to 15 year old youth, the Statistics Canada interviewer obtained parental consent prior to the interview. No interviews were carried out if parents did not agree to respect the privacy of the youth respondent. For example, if the parent wanted to be present during the interview, the interviewer would read the question and the teen would respond directly on a computer. Parents/guardians answered questions about basic demographic characteristics of the household as well as income and food security. In cases where a respondent was unable to complete the survey, for either mental or physical reasons, proxy interviews were carried out to collect basic data. However, in such cases, personal questions were not asked. This is relevant for our analysis insofar as teens with the most severe disabilities will not be included. We dropped 452 observations for this reason.

Two cycles of the CCHS contain all of the information we require. In order to achieve a sufficient sample of youth with disabilities, we pool data from 2002 and 2005. Under the assumption that these are random draws from the sample population, survey weights are normalized to sum to one in each year. Survey weights are used for all analyses.

Our final sample consists of 11,997 youth; 2,153 of whom report activity restrictions.

Measures

Our measure of life satisfaction is derived from answers to the question: “How satisfied are you with your life in general: very satisfied; satisfied; neither satisfied nor dissatisfied; dissatisfied; or very dissatisfied?” This question is one of the first asked in the survey.

The measure of belonging available in the CCHS is derived from answers to the question: “How would you describe your sense of belonging to your local community? Is it: very strong; somewhat strong; somewhat weak; or very weak?” This question is also asked near the beginning of the survey just after the life satisfaction question and is a very general question about belonging. An important point is that the belonging question is *not* asked in the section on activity limitation, and so does not necessarily relate to the community of others with the same condition (e.g., the Deaf community). It is left up to the respondent (i.e., the teen) to define his/her ‘community.’

We measure activity limitation from questions about whether the respondent has: “difficulty hearing, seeing, communicating, walking, using stairs, bending or learning due to a *long-term* physical or mental health condition,” where long-term is defined as lasting or expected to last for six months or more. Individuals are first asked if they have ‘any difficulty with activities’ (sometimes, often or never); then if they experience reduction in the kind/amount of activities they can do at home (sometimes, often, never), at school (sometimes, often, never), or elsewhere, for example transportation or leisure (sometimes, often, never). We categorize an individual as ‘often limited’ if he/she answers ‘often’ to any these questions; ‘sometimes limited’ if he/she answers ‘sometimes’ to any of these questions. As well, we construct an index ranging from zero (with no activity limitations) to 8, for a youth reporting/he/she is ‘often limited’ in answer to each of the four questions above.

Respondents who ‘sometimes’ or ‘often’ had activity limitations were then asked: “Because of your condition or health problem, have you ever experienced discrimination or

unfair treatment?" If yes, "In the past 12 months, how much discrimination did you experience: (a lot, some, a little, none at all)?"

Given our particular interest in the potential for generalized belonging to buffer discrimination perceived by children with disabilities, we also construct a set of interaction variables using the discrimination and belonging questions. Specifically, we construct four cells: 1) low-discrimination and high belonging; 2) low discrimination and low belonging; 3) high discrimination and high belonging; 4) high discrimination and low belonging.

"Low Discrimination" includes adolescents without activity limitations as well as those with activity limitations who said they had never experienced discrimination, had experienced discrimination in the past but not in the past year or had experienced only a 'little' discrimination in the past year. "High discrimination" includes only children with activity limitations who reported that they had experienced 'some' or 'a lot' of discrimination.

"High belonging" includes adolescents who report their sense of belonging to the community as being 'somewhat strong' or 'very strong' whereas 'low belonging' includes those who report belonging to be 'weak' or 'very weak.'

Although the main body of our analysis focuses on 'activity limitations,' we also repeat analyses using the alternative measure of 'participation restrictions.' We use the measure of participation restriction as an alternative way of assessing the relative importance of physical versus social aspects of disability for adolescent life satisfaction. Specifically, respondents were asked: "Because of any physical condition, mental condition or health problem, do you have difficulty: 1) making new friends or maintaining friendships (yes, no); 2) dealing with people you don't know (yes, no); 3) with personal care (yes, no); 4) moving about the house (yes, no).

Statistical Methods

We estimate OLS models using life satisfaction (LS) as our dependent variable, for all 12 to 17 year olds and separately for activity-limited adolescents. All models are estimated for pooled boy/girl samples as well as separately for boys and girls in order to explore potential gender differences.

All Youth (including those without disabilities)

In Model 1, we address the basic question of whether Canadian youth with disabilities report being less satisfied with life than otherwise similar teens without such limitations. Thus, our key explanatory variable is the activity limitation index, Lim .

$$(1) \quad LS_i = \alpha + \beta Lim_i + \eta X_i + \varepsilon_i$$

The vector X includes other correlates of child life satisfaction found to be important in the literature (e.g., Burton and Phipps, 2008; Huebner, 2004 or Huebner, et al., 2004). Specifically, we control gender (in the boy/girl pooled models), age, family income (adjusted for inflation and for differences in need for families of different size¹), ethnicity (non-white); and, parental education.

In Model 2, we add the index of disability-specific discrimination interacted with disability status. Since a youth without a disability cannot experience discrimination connected with a disability, $LimXDiscrim$ will equal = 0 for children with no limitations ($Lim=0$); it can also take a zero value for children who have a disability but who do not perceive any discrimination.

$$(2) \quad LS_i = \alpha + \beta Lim_i + \gamma LimXDiscrim_i + \eta X_i + \varepsilon_i$$

Model 3 simply adds the belonging score to the model.

$$(3) \quad LS_i = \alpha + \beta Lim_i + \gamma LimXDiscrim_i + \delta Belonging_i + \eta X_i + \varepsilon_i$$

Model 3 includes activity limitation, discrimination and belonging as three separate potential correlates of life satisfaction. That is, an extra unit of discrimination is assumed to have the same implications for all. However, the well-being consequences of facing discrimination related to a disability may be smaller for young people who have a strong sense of belonging to a self-defined community as for those who lack a sense of belonging. Thus, in Model 4, we examine potential interactions between belonging and discrimination by allocating each youth

¹ Family income is reported by the parent rather than the youth. We adjust for differences in needs for families of different sizes using an 'equivalence scale' constructed as the square root of family size. Thus, for example, a family of four with an income of \$80,000 would be judged to have the same standard of living as a single individual with an income of \$40,000 (i.e., $\$80,000/2$).

into 1 of 4 categories: 1) high level of disability and low belonging; 2) high level of disability but also high sense of belonging; 3) low disability but low belonging; and 4) low discrimination and high belonging. Category 4 is our base case (which includes youth without disabilities), excluded from the regression below.

$$(4) \quad LS_i = \alpha + \beta Lim_i + \gamma_1 HighDLowB_i + \gamma_2 HighDHighB_i + \gamma_3 LowDLowB_i + \eta X_i + \varepsilon_i$$

Youth with Disabilities

Estimation models discussed above allow comparisons across otherwise similar youth with and without disabilities and any potentially related discrimination. We also re-estimate Models (1) through (4) separately for youth with activity limitations. This provides an understanding of how having more restrictions compares with having fewer restrictions; how perceiving more discrimination as a result of a disability compares with perceiving less; and, perhaps most importantly, how the effects of discrimination differ for activity-limited youth who have a strong sense of belonging compared to those who do not.

As an alternative approach to assessing the importance of the social aspects of disability for the well-being of adolescents with disabilities, we estimate one further specification in which the index of frequency of activity restrictions, discrimination and belonging are replaced with indicators of participation restrictions. The variable indicating that the youth has difficulty making new friends or maintaining friendships; and, the variable indicating that he/she has trouble dealing with strangers indicate social restrictions rather than physical participation restrictions such as having difficulties with personal care or difficulties moving around the house.

$$(5) \quad LS_i = \alpha + \gamma_1 Friends_i + \gamma_2 Strangers_i + \gamma_3 PersonalCare_i + \gamma_4 Movement_i + \eta X_i + \varepsilon_i$$

Results

Descriptive Findings

A perhaps surprisingly high number of Canadian youth report activity limitations. As indicated in Table 1, 12.4 percent of Canadian youth aged 12 to 17 report sometimes experiencing activity limitations; a further 5.3 percent report often experiencing limitations.

There is no statistically significant difference in reported prevalence of activity restriction by boys compared to girls.

Table 2 compares self-assessed life satisfaction and belonging for Canadian youth by activity limitation status. Youth with activity limitations report markedly lower rates of life satisfaction: 46.6 percent of non-limited adolescents report being 'very satisfied' with life whereas only 35 percent of activity limited youth feel 'very satisfied.' Moreover, while girls in this age group are, on average, less satisfied with their lives than boys, this is particularly the case among girls with activity restrictions. For example, while non-limited boys are 2.4 percentage points more likely to report themselves as 'very satisfied' than girls, the difference is 5.4 percentage points between boys and girls with activity limitations. Although very few Canadian youth report themselves as dissatisfied with life, there are more than twice as many youth with activity restrictions who do so (0.7 percent of not limited boys and girls compared to 1.9 percent of those with activity limitations; 0.6 percent of girls without limitations compared to 2.8 percent of girls with limitations).

Youth with activity limitations also report feeling less belonging to their self-defined communities -- 78.7 percent of non-limited youth report a strong or very strong sense of belonging compared to only 72.1 percent of activity-limited youth. Non-limited girls are more likely to feel a strong sense of belonging than boys (80.6 percent compared to 77 percent). However, girls with activity restrictions have much lower feelings of belonging to the community than girls without restrictions; thus, there is no gender difference in reported belonging by activity limited boys and girls.

Table 3 presents more details about the sample of youth with activity limitations, 70 percent of whom report being only sometimes limited while 30 percent report being often limited. The average limitation score (on a scale from 1 to 8) is 2.3 with a standard deviation of 1.5). Table 3 further reports that 12.1 percent of activity limited youth have at some time experienced discrimination connected to their disability: 5.1 percent report having experienced 'some' or 'a lot' of discrimination in the past year; 4.1 percent have experience 'a little' discrimination last year; 2.3 percent did not experience discrimination in the last year, but have done so at some point in the past.

When we consider interactions between belonging and discrimination, Table 3 indicates that 69.9 percent of youth with activity restrictions report having both low discrimination and

high belonging; 26 percent report low discrimination but low belonging; 3.3 percent have high discrimination but also high belonging; fortunately, only 1.8 percent report both high discrimination and low belonging.

The final panel of Table 3 changes the focus from activity limitation to participation restriction. For the sample of adolescents reporting activity restrictions, the most common participation difficulty is dealing with strangers (6 percent of activity limited boys and 7.6 percent of girls). The second most common reported difficulty is with making new friends or maintaining friendships (3.7 percent of boys and 5.6 percent of girls). Very few activity-limited youth report difficulties with personal care or moving about the house.

Table 4 shows covariates means by activity limitation status (none, sometimes, often). Differences to note are that: 1) children with activity limitations are, on average, slightly older, but; 2) parental education and family income are somewhat lower in families of youth with disabilities, which may, in part, be the result of the child's condition (Burton and Phipps, 2009; Chen et al., 2015; Corman, et al., 2005; Gould, 2004; Powers, 2003).

Econometric Estimates for all Youth (including those without disabilities)

Table 5 presents OLS estimates for our full sample of Canadian youth, including boys and girls both with and without activity limitations. The first important point is that compared to otherwise similar youth with no activity limitations, reported life satisfaction is lower the higher is the reported level of limitation (see Model 1). For example, moving from a score of 0 (no limitations) to the maximum score of 8 is associated with life satisfaction being 0.432 points lower on the scale from 1 to 5 (70 percent of 1 standard deviation).

Model 2 indicates that youth with disabilities who perceive discrimination related to their condition have lower life satisfaction, controlling the extent of the disability. An increase from 0 to 3 in the discrimination score (from no discrimination to maximum discrimination) is associated with a 67 percent of one standard deviation reduction in life satisfaction. The size of the activity limitation association falls slightly in magnitude when discrimination is added to the model, but not significantly so.

Finally, controlling both the extent of limitation and the extent of perceived discrimination, youth who feel a greater sense of belonging to their local community are more satisfied with life (see Model 3). If belonging moves from 1 (lowest score) to 4 (highest), life

satisfaction is 75 percent of one standard deviation higher. Notice that the size of these effects is large by comparison with other covariates included in the models. For example, a one point increase in the generalized belonging score is 3 times the size of the association between life satisfaction and living with a lone-parent, of being non-white, or of having a chronic condition.

Model 4 replaces the continuous score for activity restriction with categorical variables ('sometimes' or 'often' restricted). This allows for non-linearities in effects (i.e., a one-point increase in activity restriction from 0 to 1 may not be the same as a one-point increase from 7 to 8). Results re-inforce our earlier conclusions about the size and significance of activity limitations as a correlate of the life satisfaction of Canadian youth. Model 4 also replaces the discrimination and belonging scores with three additional categorical variables modeling interactions between these two experiences so that we can test whether young people who have a strong sense of belonging are at least partially protected from the negative consequences of disability-related discrimination. The base case is no or low discrimination and high belonging.

Not surprisingly, reporting high levels of discrimination together with low levels of belonging has a very large negative association with life satisfaction -- approximately 1 point on the 5-point life satisfaction scale (or, more than 1.5 times the standard deviation). On the other hand, perceiving high levels of discrimination but at the same time feeling a strong sense of belonging to their self-defined community has no statistically significant association with life satisfaction, controlling the extent of the activity limitation. In other words, the generalized measure of belonging buffers the high perceived discrimination.

Table 5 also reports Model 4 estimated separately for boys and girls. The same pattern of results for activity limitation, discrimination and belonging is evident,² though the magnitude and statistical significance of several co-variates differ. For example, higher family income is associated with higher life satisfaction for boys but not girls; being non-white or living in a lone-mother family is negatively associated with life satisfaction for girls but not boys.

Econometric Estimates for Activity Limited Youth

In Table 6 we restrict the sample to youth with activity limitations, controlling now for frequency of restrictions. Among activity restricted youth, we find more frequent restriction to

² However, an F-test for gender interacted with each of our 3 variables of interest indicate there is no statistical difference in results for boys and girls.

be associated with lower life satisfaction. Perceived discrimination again has a strong, negative association; and, adding perceived discrimination to the model eliminates the effect of frequency of restriction. Belonging to one's community again has strong and positive associations with life satisfaction. Finally, when we replace both belonging and discrimination with the interaction variables, we once again see that activity limited youth who report high discrimination but also high levels of belonging do not have lower levels of life satisfaction than activity limited youth who do not report any discrimination.

In terms of covariates, one interesting point is that the size of association between family income and life satisfaction of boys is 3 times as large for the activity-limited sample. This is consistent with research documenting economic costs associated with child disability in Canada (Burton and Phipps, 2009).

Participation Restrictions

Finally, in Table 7 we present an alternative way of understanding the 'social face' of disability. Once again restricting the sample to youth with activity limitations, we replace the frequency of limitation, discrimination and belonging variables with youth reports of participation restrictions. Note that not all youth with activity limitations report problems of participation. Table 3 reports that 5.6 percent of girls and 3.7 percent of boys report problems with friends; 7.6 percent of girls and 6.0 percent of boys report problems interacting with strangers. Troubles with personal care are reported by only about 1.3 percent of youth with activity restrictions and problems moving around the house are very rare.

Regression results reported in Table 7 are very clear that it is the social forms of participation restrictions that have important negative associations with life satisfaction for youth with activity limitations. For girls, problems with friends are most important; for boys, problems with strangers are most important. This is the most notable difference between boys and girls evident in our work and is consistent with other research suggesting peer relationships are a more important correlate of life satisfaction for girls than boys (Ma and Huebner, 2008).

Discussion

A first obvious limitation of our research is that while the CCHS provides a large and representative sample of Canadian youth with sufficient observations to enable a comparison

between adolescents with and without disabilities, it is nonetheless cross-sectional so we are only able to study correlations. A second important limitation is that the Canada Community Health Survey does not provide specific detail about the nature of the activity restriction (e.g., cerebral palsy versus autism) though this seems likely to matter for the questions under study. A similar frequency of limitation stemming from a different condition may result in different experiences of stigma/discrimination and/or ability to participate in different activities (e.g., Solish, Perry and Minnes, 2010).

Given the importance of belonging for the life satisfaction of young Canadians with disabilities, in future research we would like to further study what contributes to a strong sense of belonging for youth with disabilities. Relationships with parents are extremely important for the well-being of all adolescents (Nickerson and Nagle, 2004 and 2005), but this may be particularly the case for youth with disabilities who spend more time engaged in social and recreational activities with adults than with peers (Salish, Perry and Minnes, 2010). Strong relationships with peers are also important for young people, but can be difficult to achieve for adolescents with disabilities. Simply attending a group activity does not mean a youth with a disability will feel that he/she belongs. Indeed, children with disabilities who are in mainstreamed educational settings sometimes report greater stigma and negative social comparisons than children with the same conditions in segregated settings. Thus, children with disabilities sometimes prefer social groups comprised of peers more similar to themselves (e.g., Cooney, et al., 2006; Diez, 2010). In other words, 'sticking together' may help disabled teens cope with stigma and form lasting friendships (Salmon, 2012).

Conclusion

Our findings emphasize that Canadian youth with disabilities are a vulnerable group. On average, they report lower levels of life satisfaction than otherwise similar young Canadians without disabilities. Consistent with earlier research (e.g., Cooney, G., et al., 2006; Lindsay, S and McPherson A.C., 2012; Osberg, Phipps and Zhang, 2012; Pittet, et al., 2010), we find that Canadian adolescents with disabilities perceive discrimination connected with their conditions. Not surprisingly, perceiving discrimination is generally associated with lower life satisfaction. However, the point we wish to emphasize is that adolescents with disabilities who feel a strong sense of belonging to their self-defined community do not experience lower life satisfaction even

if when they experience 'a great deal' of discrimination. That is, strong group membership appears to be protective of well-being for Canadian adolescents with disabilities.

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Variable			
	Boys and Girls	Boys	Girls
Activity Limitation:			
Often (%)	5.3 (0.3)	5.4 (0.4)	5.2 (0.4)
Sometimes (%)	12.4 (0.4)	12.0 (0.6)	13.0 (0.6)
Never (%)	82.3 (0.5)	82.6 (0.7)	81.8 (0.7)
Number of Observations	11,997	6,292	5,705

Variable	Boys and Girls Not Limited	Boys Not Limited	Girls Not Limited	Boys and Girls with Activity Limitations	Boys with Activity Limitations	Girls with Activity Limitations
Overall Life Satisfaction:						
Very Satisfied (%)	46.63 (0.7)	47.72 (0.99)	45.37 (1.04)	35.07 (1.47)	37.65 (2.12)	32.26 (2.01)
Satisfied (%)	49.37 (0.7)	48.49 (1.00)	50.38 (1.05)	56.01 (1.52)	55.84 (2.15)	56.20 (2.13)
Neither Satisfied nor Dissatisfied (%)	3.33 (0.3)	3.09 (0.35)	3.61 (0.39)	7.01 (0.68)	5.45 (0.78)	8.72 (1.12)
Dissatisfied or Very Dissatisfied (%)	0.70 (0.2)	0.70 (0.2)	0.64 (0.14)	1.90 (0.41)	1.06 (0.44)	2.82 (0.70)
Belonging to Community:						
Very Strong or Somewhat Strong (%)	78.67 (0.86)	76.99 (0.86)	80.58 (0.86)	72.24 (2.0)	72.35 (2.0)	72.10 (1.97)
Number of Observations	9,804	5,178	4,626	2,193	1,114	1,079

Standard errors are reported in parentheses.

Table 3. Characteristics of Activity Limited Sample.			
Variable	Mean (s.e.)		
	Boys and Girls	Boys	Girls
Frequency of Activity Limitation:			
Sometimes (%)	70.1 (1.4)	68.8 (2.1)	71.6 (1.9)
Often (%)	29.9 (1.4)	31.2 (2.1)	28.4 (1.9)
Mean Limitation Score (1 to 8)	2.3(0.04)	2.3(0.06)	2.3 (0.06)
Disability-Related Discrimination:			
A Lot/Some last year (%)	5.1 (0.6)	5.9 (0.9)	4.2 (0.7)
A Little last year (%)	4.7 (0.6)	4.4 (0.8)	5.0 (0.9)
Some discrimination in past but none last year (%)	2.3 (0.4)	2.9 (0.7)	1.6 (0.5)
Mean Discrimination (0 to 3)	0.170 (0.015)	0.189 (0.023)	0.149 (0.019)
High Discrimination/Low Belonging (%)	1.8 (0.3)	1.9 (0.5)	1.7 (0.5)
High Discrimination/High Belonging (%)	3.3 (0.05)	4.0 (0.7)	2.5 (0.6)
Low Discrimination/Low Belonging (%)	26.0 (1.4)	25.7 (2.0)	26.2 (1.9)
Low Discrimination/High Belonging (%)	68.9 (1.4)	68.4 (2.0)	70.0 (2.0)
Nature of Participation Difficulty:			
Making/Keeping Friends (%)	4.6 (0.6)	3.7 (0.6)	5.6 (0.9)
Dealing with Strangers (%)	6.7 (0.7)	6.0 (0.9)	7.6 (1.1)
Personal Care (%)	1.3 (0.3)	1.4 (0.4)	1.3 (0.4)
Moving around House (%)	0.6 (0.2)	0.5 (0.2)	0.6 (0.3)
Number of Observations	2,193	1,114	1,079

Table 4. Covariates by Limitation Status. Boys + Girls			
Variable			
	Never Limited	Sometimes Limited	Often Limited
Girl %	46.5(0.7)	48.9 (1.8)	45.5 (2.8)
Chronic %	45.3 (0.7)	74.6 (1.5)	77.4 (2.6)
Age:			
12/13 %	36.3 (0.7)	32.4 (1.7)	29.7 (2.6)
14/15 %	34.6 (0.7)	37.1 (1.7)	37.1 (2.8)
16/17 %	29.1 (0.7)	30.5 (1.7)	33.2 (2.7)
Non-White %	16.9 (0.6)	12.7 (1.3)	17.8 (2.5)
Lone-Parent Family %	17.1 (0.6)	23.3 (1.5)	19.9 (1.9)
Parental Education:			
Less than High School %	4.3 (0.3)	5.1 (0.8)	5.3 (1.2)
High School %	18.2 (0.6)	19.5 (1.4)	21.8 (2.5)
College/University %	77.5 (0.6)	75.5 (1.5)	72.9 (2.6)
Log Real Equivalent Income	10.376 (0.012)	10.318 (0.027)	10.270 (0.060)
Cycle:			
2002 %	46.6 (0.7)	49.3 (1.8)	45.9 (2.8)
2005 %	53.4 (0.7)	50.7 (1.8)	54.1 (2.8)
Number of Observations	9804	1561	632

Standard Errors in parentheses

Table 5. OLS Estimates of Correlates of Life Satisfaction. Canadian Adolescents Aged 12 to 17.						
	Boys and Girls				Boys	Girls
Variable	Model 1	Model 2	Model 3	Model 4	Model 4	Model 4
Mean Life Satisfaction (1 to 5)	4.39	4.39	4.39	4.39	4.41	4.36
Standard Deviation	(0.615)	(0.615)	(0.615)	(0.615)	(0.603)	(0.627)
Activity Limitation:						
Limitation Score (0 to 8)	- 0.054*** (0.008)	- 0.043*** (0.009)	- 0.039*** (0.008)	---	---	---
Dummy = 1 if 'Sometimes Limited'	---	---	---	- 0.119*** (0.025)	- 0.099*** (0.033)	-0.138*** (0.035)
Dummy = 1 if 'Often Limited'	---	---	---	- 0.143*** (0.039)	-0.072 (0.049)	-0.231*** (0.062)
Dummy = 1 if Limited X Discrimination Score (0 to 3)	---	- 0.137*** (0.049)	- 0.130*** (0.047)	---	---	---
Belonging Score (1 to 4)	---	---	0.155*** (0.012)	---	---	---
Dummy = 1 if High Discrimination /Low Belonging	---	---	---	- 0.977*** (0.238)	- 0.997*** (0.353)	-0.944*** (0.285)
Dummy = 1 if High Discrimination /High Belonging	---	---	---	-0.101 (0.076)	-0.127 (0.101)	-0.098 (0.108)
Dummy = 1 if Low Discrimination /Low Belonging	---	---	---	- 0.213*** (0.020)	- 0.197*** (0.027)	-0.231*** (0.031)
Girl	- 0.044*** (0.016)	- 0.045*** (0.016)	- 0.055*** (0.016)	- 0.051*** (0.016)	--	--
Age 12 to 13	0.062*** (0.018)	0.064*** (0.018)	- 0.049*** (0.016)	0.042** (0.018)	0.028 (0.024)	0.055** (0.026)
Age 16 to 17	-0.048**	-0.048**	-0.023	-0.028	-0.042	-0.015

	(0.021)	(0.021)	(0.020)	(0.020)	(0.028)	(0.030)
Non-white	-0.061** (0.044)	- 0.062*** (0.024)	-0.056** (0.023)	-0.054** (0.018)	-0.022 (0.031)	-0.097*** (0.036)
Chronic condition	- 0.057*** (0.016)	- 0.055*** (0.016)	- 0.049*** (0.016)	- 0.050*** (0.016)	-0.043** (0.022)	-0.054** (0.023)
Lives with lone parent	- 0.064*** (0.021)	- 0.064*** (0.021)	-0.053** (0.021)	-0.052** (0.042)	-0.009 (0.027)	-0.102*** (0.030)
Log Equivalent Family Income	0.029*** (0.011)	0.028*** (0.011)	0.029*** (0.011)	0.028*** (0.010)	0.037** (0.027)	0.015 (0.014)
Number of Observations	11,775	11,775	11,775	11,997	6,292	5,705

Other covariates included but not reported: cycle and parental education. Standard errors are reported in parentheses. Statistical significance is given by: * ten percent; ** five percent; and *** one percent.

Table 6. OLS Estimates of Correlates of Life Satisfaction. Canadian Adolescents Aged 12 to 17 with Activity Limitations.						
	Boys + Girls				Boys	Girls
Variable	Model 1	Model 2	Model 3	Model 4	Model 4	Model 4
Mean Life Satisfaction (1 to 5) St Dev	4.24 (0.677)	4.24 (0.677)	4.24 (0.677)	4.24 (0.677)	4.30 (0.637)	4.18 (0.712)
Activity Limitation:						
Limitation Score (0 to 8)	-0.033** (0.014)	-0.019 (0.014)	-0.021 (0.014)	---	---	---
Dummy = 1 if Often Limited	---	---	---	-0.025 (0.043)	0.019 (0.056)	-0.086 (0.068)
Discrimination Score (0 to 3)	---	- 0.145*** (0.048)	-0.137*** (0.047)	---	---	---
Belonging Score (1 to 4)	---	---	0.138*** (0.029)	---	---	---
Dummy = 1 if High Discrimination/Low Belonging	---	---	---	-0.966*** (0.234)	-0.998*** (0.339)	-0.942*** (0.290)
Dummy = 1 if High Discrimination /High Belonging	---	---	---	-0.112 (0.076)	-0.116 (0.101)	-0.129 (0.111)
Dummy = 1 if Low Discrimination/Low Belonging	---	---	---	-0.180*** (0.048)	-0.162*** (0.063)	-0.199*** (0.073)
Girl	- 0.106*** (0.040)	- 0.112*** (0.039)	-0.114*** (0.040)	-0.112*** (0.039)	--	--
Age 12 to 13	0.083* (0.046)	0.093** (0.046)	0.056 (0.048)	0.064 (0.046)	0.016 (0.061)	0.113* (0.068)
Age 16 to 17	-0.066 (0.051)	-0.065 (0.050)	-0.042 (0.050)	-0.050 (0.048)	-0.089 (0.064)	-0.019 (0.073)
Non-white	-0.037 (0.063)	-0.049 (0.063)	-0.061 (0.062)	-0.046 (0.061)	0.105 (0.077)	-0.250 (0.092)
Lives with lone parent	-0.070 (0.051)	-0.074 (0.051)	-0.053 (0.052)	-0.051 (0.050)	0.017 (0.067)	-0.125* (0.075)
Log Equivalent Family Income	0.064*** (0.019)	0.059*** (0.019)	0.058*** (0.019)	0.058*** (0.019)	0.073*** (0.025)	0.041 (0.030)
Number of Observations	2,153	2,153	2,153	2,193	1,114	1,079

Other covariates included but not reported: cycle and parental education. Standard errors are reported in parentheses. Statistical significance is given by: * ten percent; ** five percent; and *** one percent.

Table 7. OLS Estimates of Associations between Life Satisfaction and Participation Restrictions for Activity Limited Sample.			
Variable	Boys and Girls	Boys	Girls
Mean Life Satisfaction (1 to 5)	4.24	4.30	4.18
Standard Deviation	(0.677)	(0.637)	(0.712)
Nature of Limitation:			
Friends	-0.293*** (0.113)	-0.171 0.138	-0.465*** 0.166
Strangers	-0.217*** (0.084)	-0.277*** 0.099	-0.117*** 0.133
Personal Care	-0.124 (0.249)	-0.079 (0.132)	-0.188 (0.512)
Moving around House	0.110 (0.217)	0.335 (0.253)	-0.027 (0.371)
Age 12 to 13	0.088* (0.046)	0.033 (0.058)	0.150** (0.069)
Age 16 to 17	-0.078 (0.049)	-0.108 (0.069)	-0.057 (0.071)
Non-white	-0.046 (0.063)	0.099 (0.080)	-0.237** (0.096)
Lives with lone parent	-0.072 (0.049)	0.008 (0.066)	-0.158** (0.073)
Log Equivalent Family Income	0.057*** (0.019)	0.075*** (0.025)	0.042 (0.028)
Number of Observations	2,193	1,114	1,079

Other covariates included but not reported: cycle and parental education. Standard errors are reported in parentheses. Statistical significance is given by: * ten percent; ** five percent; and *** one percent.