

Perceptions of Parents, Mental Health, and School Among Canadian Adolescents from the Provinces and the Northern Territories

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Abstract: The authors examined whether perceptions of parents and personal mental health significantly influenced perceptions of school achievement and enjoyment in a large sample of Canadian adolescents. Responses from more than 10,000 Canadian adolescents in the Health Behaviour in School-Aged Children (HBSC) survey were used to create a Parental Support Index, a Mental Health Index, and a School Index. They found a significant, medium-sized effect between the parent index and the school index. They found a similar but smaller effect for mental health. The findings were consistent for adolescents across the 10 southern provinces. However, among adolescents from the two northern territories the Parental Support Index was not significant whereas demographic factors and mental health played a larger role in predicting scores on the School Index.

Résumé: On a examiné si les perceptions des parents et de la santé mentale personnelle à influencé les perceptions de succès et plaisir scolaire dans un échantillon des adolescent Canadienne. Les réponses des plus de 10,000 adolescents Canadiennes inclus dans le survey HBSC on été utilisés pour crée des indexes de: Support Parental, Santé Mentale, et Écolière. Nous avons trouvé un effet significatif de moyenne grandeur entre l'index parentel et l'index d'école. Nous avons trouvé une effet similaire mais plus petite pour santé mentale. Ces resultats étaient semblable pour les adolescents des dix provinces. Mais pour les adolescents des deux territoires l'index des parents n'était pas significatif, et les facteurs démographiques et la santé mentale on joués un rôle plus important dans la prédication de l'index d'écolière.

Keywords: *adolescents; mental health; Canadian provinces and norther territories*

One of the most important relationships during adolescence is the parent-child relationship. Shifts in this relationship during adolescence are often stereotyped as being founded on an increased level of independence and conflict between the parent and the child. Indeed, more than 100 years ago researchers noted, "[during adolescence] the wisdom and advice of parents and teachers is over-topped, and in ruder natures may be met by blank contradiction" (Hall, 1904, p. 79). The findings in this area of research were recently summarized in a meta-analysis that revealed that parent-child conflict does indeed increase at the beginning of adolescence before reaching a peak in middle adolescence and then declining in later adolescence (Laursen, Coy, & Collins, 1998). Yet despite these findings of increased levels of conflict, an abundance of research supports the idea that parents continue to play a significant role in the development of their adolescent children (e.g., Ben-Zur, 2003; Hill & Holmbeck, 1987; Midgett, Ryan, Adams, & Corville-Smith, 2002; Steinberg & Levine, 1997). In particular, parents appear to play a significant role in the academic development and achievement of adolescents. The purpose of this article is to examine the relationship between adolescents' perceptions of parental care and involvement and adolescents' perceptions of school.

The topic of the influence of parental involvement on children's academic success and enjoyment has received significant attention in the literature. A recent meta-analysis of parental involvement and students' academic achievement found "a small to moderate, and practically meaningful relationship between parental involvement and academic achievement" (Fan & Chen, 2001, p. 1). Although the exact mechanisms underlying this relationship are not yet fully understood, one important component of this relationship among adolescents appears to be adolescents' attributions and perceptions of parental care and parental involvement with their schooling (Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997).

Using Baumrind's (1991) definitions of parenting styles, Steinberg, Elmen, and Mounts (1989) found that adolescents of authoritative parents felt that they were treated more warmly, democratically, and firmly. These perceptions were then thought to increase the adolescents' positive attitudes toward school and their own scholastic abilities. In a large sample of American families, Voydanoff (2004) found a similar positive relationship between adolescent academic achievement and nurturing parenting, as well as an inverse relationship between achievement and harsh parenting. In another sample of American adolescents, Paulson (1994) found that adolescent reports of parental style and parental involvement significantly predicted academic achievement. Likewise, high school grade point average (GPA) was positively correlated with Korean American adolescents' perceptions of parental warmth and love, and to a lesser extent their perceptions of parental involvement in their schooling (Kim & Rohner, 2002). Studies of German and Spanish adolescents have yielded similar results (Juang & Silberiesen, 2002; Pelegrina, Garcia-Linares, & Casanova, 2003). Taken together, these studies suggest a degree of cross-cultural

and/or ethnic stability in the relationship between warm, attentive parenting and adolescent academic achievement, although there does remain some dissenting results. Contrary to these results, Heaven, Mak, Barry, and Ciarrochi (2001) found that parental care and overprotection did not have a significant predictive relationship with adolescent attitudes to school and self-rated academic performance.

Current Study

The primary goal of the current study was to replicate the previous findings of a meaningful relationship between adolescents, their parents, and school in a large sample of Canadian adolescents. We addressed this goal by conducting a regression analysis on self-report data from a large sample of 10,000 Canadian adolescents. We predicted that adolescent self-reports of positive parental care and involvement would significantly increase the likelihood of adolescents reporting positive views of school and their own scholastic achievement.

Along with parental care and involvement, we also chose to examine the potential impact of four other variables. Age and gender are two variables that can play a significant role in influencing adolescent attitudes (Adams & Gullotta, 1989). We expected that because of its important role in development, age would significantly influence the relationship in either direction. We did not predict any significant sex differences. A third potentially moderating variable is socioeconomic status (SES). Several studies have shown a strong positive correlation between higher SES and increased adolescent scholastic achievement (Mullis, Rathge, & Mullis, 2003; Ryan & Adams, 1999). In line with these studies, we predicted that higher self-reported SES would correlate positively with greater reported levels of school enjoyment and achievement. The final variable of interest was mental health. Adolescent mental health can play a significant role in mediating relationships with parents (Essau, 2004) and school (Aluja & Blanch, 2004). Generally speaking, adolescent mental health problems are typically associated with lower levels of academic performance (Aluja & Blanch, 2004). We therefore predicted that lower levels of self-reported mental health (i.e., greater levels of mental health problems) would be associated with lower reported levels of school enjoyment and achievement.

Given the significant geographic and cultural diversity of Canada, we decided to conduct supplementary analyses to determine whether there were any regional differences in the patterns among the variables. We decided to separately examine data from Western Canada (British Columbia, Alberta, Saskatchewan, Manitoba), Ontario, Quebec, the Maritimes (New Brunswick, Nova Scotia, PEI, Newfoundland/Labrador), and the Northern Territories (Yukon and Northwest Territories). Previous research suggests that there exist regional differences in school demographics and funding (Ministry of Industry, 2001), curriculum (Chambers, 1999), and student support (Ma, 2002).

Method

Participants

The data for the current study were drawn from the Canadian records from the 1998 World Health Organization *Health Behaviour in School-Aged Children Survey* (HBSC). The 1998 HBSC is a cross-sectional survey from elementary and high schools in 35 countries. The survey consisted of a questionnaire completed in the classroom setting and the information from the questionnaires was extracted for the current analysis. The goal of the HBSC is to identify youth health indicators and the factors that influence them. The Canadian data were collected in the first half of 1998. The Canadian sample was designed according to the international HBSC protocols that have been employed since 1985 (see Currie, 1988, for a more complete validation of the HBSC survey). A cluster design was used with the school class as the basic cluster, the distribution of the students reflected the distribution of Canadians in Grades 6 to 10, and the sample was designed to be self-weighting. Within each province, samples were selected to represent distributions of schools by size, location, language, and religion. Of the students selected for the current study, 74.2% completed the questionnaire, and their demographic profile was representative of Canadians in the same age range. Youth in private and special needs schools, street youth, and the incarcerated were excluded. Because this was a nationally representative sample, the participant demographics (e.g., race, socioeconomic status) varied widely.

Approximately 10,000 Canadian adolescents from the HBSC survey were used in the current study, ranging in age from 12 to 19 years.

Measures

Three indices were constructed using items from the HBSC survey: mental health, parental support, and school. To construct each index, the individual variables within a particular index were converted to a common scale (e.g., changing 0 – 4 to 1 – 5) and then summed. Higher scores indicated more frequent (and less problematic) behavior for that index.

Parental Support Index. The Parental Support Index was composed of five items ($\alpha = .70$). All of the items were on a Likert-type scale of 4 (*very easy/always*) to 0 (*don't have the person/never*). The five items were: "If I have problems at school, my parent(s) are ready to help me?" "My parent(s) are willing to come to the school to talk to teachers?" "My parent(s) encourage me to do well at school?"; and "How easy is it for you to talk to a) your mother? or b) your father? about things that really bother you."

Mental Health Index. The Mental Health Problems Index was composed of nine items ($\alpha = .73$). All of the items were on a Likert-type scale of 4 (*seldom or never*) to 0 (*most days*). The nine items were “how often have you experienced: left out of things?, helpless?, unsure of yourself?, feeling low (depressed)?, a bad mood (irritable)?, feeling nervous (uneasy)?, difficulties getting to sleep?”; and “how often have you taken medicine or pills for difficulty sleeping? nervousness?”

School Index. The School Index was composed of 12 items ($\alpha = .82$). All the items were on, or were transformed to, a Likert-type scale of 5 (*strongly agree/positive*) to 1 (*strongly disagree/negative*). The 12 items were: “What do your teachers think about your work in school compared to your classmates’ work?”; “How do you feel about school at present?”; “In our school, students take part in making rules?”; “Students are not treated too severely/strictly in this school?”; “The rules in this school are fair?”; “Our school is a nice place to be?”; “I feel I belong at this school?”; “I am encouraged to express my own views in class(es)?”; “Our teachers treat us fairly?”; “When I need extra help I can get it?”; “My teachers are interested in me as a person?”; “My teachers do not expect too much of me at school.”

The remaining variables were measured as follows: age was measured in years, sex was coded with males = 1 and females = 2, and SES was measured by the following item: how well off do you think your family is (1 = not at all well off, 3 = average, 5 = very well off).

Results

A total of 10,072 participants were included in the primary analyses. The data were first screened for univariate and multivariate outliers as suggested by Tabachnik and Fidel (1996). Due to significant univariate violations of skewness and kurtosis, the school, mental health, and parental indices were log transformed. At the multivariate level, Mahalanobis values were calculated, and any values greater than 1.15 (chi-square $df = 5$) were removed from the data set. It should be noted that all of the following analyses were repeated with the original intact data set to determine if our data screening resulted in any serious changes to the results. Compared to the screened data, the original data did not yield any nontrivial changes in the patterns, effect sizes, or significance of the results. Nevertheless, all reported values represent the screened values.

The means and standard deviations for the variables are presented in Table 1. The correlations among the variables are presented in Table 2. All of the variables were significantly correlated with each other except for sex and gender. The zero-order correlation between the school and parenting indices was .349, which represents a medium effect size (Cohen, 1988).

Table 1
Means and Standard Deviations of Indices (Untransformed) and
Variables for Canadian Adolescents ($N = 10,072$)

Variable	<i>M</i>	<i>SD</i>
Age	14.0	1.5
Sex	1.5	.5
Socioeconomic status	2.6	1.0
Mental Health Index	9.0	5.4
Parental Support Index	10.2	3.6
School Index	30.1	7.6

Note: Mental Health Index ranges from 0 – 36, Parental Support Index ranges from 0 – 20, School Index ranges from 1 – 60.

Table 2
Correlations Between School Index and Age, Sex, Socioeconomic Status,
Mental Health Index, and Parental Support Index for
Canadian Adolescents ($N = 10,072$)

Variable	1	2	3	4	5	6
1. School index	—	.19***	-.09 ***	.19***	.25***	.34***
2. Age		—	.01	.13***	.06***	.18***
3. Sex			—	.07***	.15***	.06***
4. Socioeconomic status				—	.11***	.22***
5. Mental Health Index					—	.33***
6. Parental Support Index						—

*** $p < .001$.

The data were then analyzed using a hierarchical regression (see Table 3). In the first step, status variables such as age, gender, and SES were entered (Cohen & Cohen, 1983). In the second step, the first self-report variable, the Mental Health Index, was entered. The Parenting Index was entered in the final step to observe any changes in Mental Health due to its addition, and to ensure that the maximum amount of spurious variability was accounted for in its relationship with the School Index. The model remained significant at each step, and each subsequent step in the regression resulted in a significant increase in the amount of variance explained. The overall adjusted R^2 of the final regression model was significant, $F(5, 10,066) = 368$, $p < .001$, with a medium effect size of $R^2 = .185$ (Cohen, 1988).

Table 3
Summary of Hierarchical Regression Analysis for Variables Predicting
Canadian Adolescents' Ratings on the School Index ($N = 10,072$)

Variable	<i>b</i>	<i>SE b</i>	β
Step 1			
Age	.012	.001	.172
Sex	-.021	.002	-.093
Socioeconomic status	.012	.001	.105
Step 2			
Age	.012	.001	.160
Sex	-.03	.002	-.129
Socioeconomic status	.009	.001	.082
Mental health index	.097	.004	.251
Step 3			
Age	.009	.001	.122
Sex	-.030	.002	-.131
Socioeconomic status	.045	.001	.038
Mental Health Index	.066	.004	.171
Parental Index	.198	.007	.265

Note: $R^2 = .05$ for Step 1, $\Delta R^2 = .06$ for Step 2 ($p < .001$), $\Delta R^2 = .06$ for Step 3 ($p < .001$). All adjusted unstandardized betas $p < .001$.

Regional Analyses

The data for western Canada ($n = 2,808$) had the same patterns between the variables as in the general analysis. The data for Ontario ($n = 3,407$) was also similar but did not have significant relationship between the School Index and age. This led to a lower initial adjusted R^2 value of .025 (as compared to .05 to .08 for the other provinces) and thus an overall adjusted R^2 value of .13 (as compared to .2 to .21 for the other provinces). Quebec ($n = 2,344$) and the Maritimes ($n = 1,275$) did not have a significant relationship between SES and the School Index in the final step of the regression, instead they showed a slightly larger β for age (.19 and .14, respectively, compared to .12 in the general analysis). The overall adjusted R^2 values of the Quebec and Maritimes regressions were not significantly different than for the general analysis.

The data for the Northern Territories ($n = 182$) were quite different from the general and provincial data. Among Northern Territories' adolescents the Parental Support Index was not significantly related to the School Index ($\beta = -.037$). Furthermore, in the final step of the Northern Territories regression, age, sex, SES, and the Mental Health Index had a much larger β s than in the final step of the general regression ($= .20, = -.26, = .20, \text{ and } = .22$, respectively; overall adjusted $R^2 = .219$). Given these unusual

findings, we decided to examine the bivariate correlations for the Northern Territories' sample (see Table 4). These correlations reveal a markedly different pattern between the correlations than in the general analysis (Table 2). The demographic variables had larger correlations with the School Index, while the correlation between the School Index and the Parental Support Index was smaller. Age had a larger correlation with the Parental Support Index. SES had a larger correlation with age, the Mental Health Index, and the Parental Support Index.

To further understand the differences between the territory and provincial children, we compared their self-reported SES, Parental Support Index, and Mental Support Index scores. There was a significant difference between the self-reported SES of provincial adolescents ($M = 2.60, SD = .97$) and the self-reported SES of territory adolescents, $M = 2.33, SD = .91, t(11,108) = 3.95, p < .001$; however, the effect size was very small ($r = .04$). Adolescents from the territories reported a significantly lower score on the Parental Support Index ($M = 8.6, SD = 4.3$) than did adolescents from the provinces, $M = 10.3, SD = 3.6, t(195) = -5.35, p < .001, r = .36$. There were also significantly lower scores on the Mental Health Index for territories adolescents ($M = 7.2, SD = 6.0$) compared to the scores of provincial adolescents, $M = 9.1, SD = 5.4, t(196) = -4.15, p < .001, r = .28$.

Discussion

As predicted, overall Canadian adolescent reports of parental care and involvement significantly influenced self-reported school enjoyment and achievement. As expected, all three initial demographic variables were significantly correlated to the School Index. Older individuals reported slightly higher scores on the School Index, indicating an increase in school achievement and/or enjoyment with age. This may be due to the increased social and emotional maturity as well as familiarity with the secondary school environment. Given the stereotypical development of male adolescent antisociality (Adams & Gullota, 1989), we were somewhat surprised by the association between males and higher scores on the School Index. The significantly higher levels of school dissatisfaction and/or achievement among girls may be related to the "loss of voice" experienced by adolescent girls at school. Adolescent girls experience a drop in self-esteem that coincides with a reported drop in their ability to express themselves in the school setting (Harter, 1998). This drop in self-expression appeared to be independent of mental health issues.

Given the larger effects found in American samples (e.g., Mullis et al., 2003), another surprise in our data was the small size of the relationship between SES and the School Index. Our results suggest that SES may not play as significant a role in moderating Canadian adolescents' reports of school achievement and enjoyment. The predictive value of SES in predicting academic achievement is lower in many

Table 4
Correlations Between School Index and Age, Sex, Socioeconomic Status, Mental Health Index, and Parental Support Index for Canadian Adolescents from the Northern Territories ($n = 182$)

Variable	1	2	3	4	5	6
1. School Index	—	.27***	-.26***	.32***	.28***	.19**
2. Age		—	.03	.19***	.15*	.39***
3. Sex			—	-.07	.08	-.02
4. Socioeconomic status				—	.33***	.30***
5. Mental Health Index					—	.39***
6. Parental Support Index						—

* $p < .05$. ** $p < .01$. *** $p < .001$.

Western countries, including Canada, than it is in the United States (Heyneman, 2004; Willms, 2004). The influence of SES decreased with the addition of mental health and parenting, suggesting that its impact on adolescent school experiences works partly through those two variables, as suggested by previous research (Heyneman, 2004).

As predicted, the relationship between adolescents' self-reported mental health was positively and significantly related to perceptions of school, when initially entered into the regression, and after the Parental Support Index was added. Adolescent mental health therefore appears to uniquely contribute to adolescent perceptions of school. This finding agrees with the previous literature that suggests a positive relationship between adolescent mental health and self-reports of school achievement and enjoyment (Aluja & Blanch, 2004).

Finally, as predicted, adolescents' reports of parental care, warmth, and involvement were significantly and positively related to reports of school achievement and enjoyment. Parental relationships exerted a significant influence on Canadian adolescents' perceptions of school that was above and beyond sex, age, SES, and mental health. Indeed, of all the independent variables, parental support had the largest effect on school experience. The current effect size is in line with the average effect size found by Fan and Chen's meta-analysis (2001). It therefore appears safe to conclude that Canadian adolescents are similar to other Western adolescents in having a strong link between their perceived relationship with their parents and their perceptions, attitudes, and performance in and toward school.

It is important to note the general pattern of results did not hold true for the entire sample. There were some variations in the importance of the demographic variables among the provincial regions (i.e., Ontario, Quebec, and the Maritimes). These variations were relatively minor and did not significantly change the patterns between the Mental Health, Parental Support, and School indices. On the other hand,

Canadian adolescents from the Northern Territories showed a very different pattern of relationships among the variables.

Perhaps the most striking such difference was the lack of a significant relationship between perceptions of parental care and involvement and perceptions of scholastic performance and enjoyment among adolescents from the Northern Territories. The low correlation between these two variables may have been influenced by cultural factors. The territories have a much higher percentage of rural and aboriginal residents than the provinces (Canadian Council on Social Development, 1998). An example of one such possible cultural factor comes from a study of adolescent schooling in northern Alberta (a provincial area that is close in proximity and culture to the territories). The study reports teachers claiming that the Aboriginal parents were not as involved as non-Aboriginal parents (Goddard & Foster, 2002). This lack of parental participation could be caused by differences in the valuation of education, current curriculum, and/or unequal access to schoolteachers and resources, as is the case for some Alaskan Inuit (Ongtooguk, 2004). An alternate explanation for the low correlation between parental support and scholastic experience may be the large degree of autonomy Inuit adolescents in the territories are allowed by their parents (Kwarteng, 2006). Our results are different from a midwestern sample of American Indians who showed a stronger ($r = .32$) correlation between maternal warmth and scholastic achievement and enjoyment (Whitbeck, Hoyt, Stubben, & LaFromboise, 2001).

This decreased importance of parents may be related to the increase in the importance of demographic and mental health variables. Territories adolescents reported lower scores on the Mental Health Index, which agrees with previous reports of higher incidents of depression and suicide among territory adolescents—particularly Aboriginals (Health Canada, 1995). They also reported a slightly lower SES score than provincial adolescents. The small effect size of this SES difference suggests that absolute differences in SES do not explain its differing importance to scholastic achievement. Rather, SES may play a different role in the territories than it does in the provinces. Unlike adolescents with low SES from the provinces, adolescents from the territories with low SES face greater difficulties in accessing schools and school resources due to geographic remoteness and economy of scale issues that comparatively limit the availability of government-backed resources in the territories (Dickerson, 1992). This could explain why SES was more predictive of scholastic experiences in territories adolescents when compared to provincial adolescents.

The reasons for the increased importance of age and sex among the Northern Territories adolescents were not due to any significant differences in the average age or sex ratio. Rather, we believe that the cultural, geographic, and economic factors mentioned above may exacerbate the importance of maturity (age) and stereotypical sex issues (e.g., mental health). The perceived lack of parental support and involvement in their education may also exacerbate differences in maturity and mental health.

The unusual patterns between Northern Territories adolescents' perceptions of their parents, demographics, and school may have important practical implications.

Scholastic programs should be sensitive to the different pattern of relationships between scholastic experiences and demographics, mental health, and parenting among territories adolescents. More broadly, our results suggest that educators from the Northern Territories should be cautious when developing or importing scholastic programs that rely on conclusions based on data from adolescents outside of the Northern Territories. Furthermore, to be maximally effective among Northern Territories' adolescents, any new programs or modifications of existing programs should not only address the observed patterns of relationships described in the current study but ideally would also address the factors that underlie these relationships. What are the causal factors that underlie the unique relationships between parenting, demographics, and school in Northern Territories' adolescents? The correlational nature of the current study unfortunately precludes any such causal statements, making further research into understanding these causes a very high priority for any current or future scholastic programs aimed at Northern Territories adolescents.

Limitations

There are three primary limitations to the current study. The first is the sole reliance on self-report measures. The validity of self-report data must be treated with a degree of caution. However, data from within this area of research seems to suggest that in this particular context, adolescent self-reports can be valid predictors of actual relationships and effects (e.g., Paulson, 1994; Pelegrina et al., 2003). We are therefore quite confident in the accuracy of most of our measures—the self-reported relative SES being a possible exception. The fact that the mean SES rating is above 3 (the theoretical average rating) indicates that there may be some form of (modest) systematic bias within the measure or in how participants respond to the measure. The second limitation is the correlational nature of data that precludes making statements of causal directionality. The final limitation is the large sample size of most of the analyses. Although a large sample size allows for broad generalizability, it does have the potential to detect spurious statistically significant relationships (Cohen, 1988). Therefore, effect sizes should be used in combination with statistical significance to accurately interpret the results.

Conclusion

Research has shown that adolescents' academic performance and enjoyment appear to be related to parental influence. Using a sample of more than 10,000 Canadian adolescents we found that being older, male, and the belief that one was relatively well off financially increased ratings of school achievement and enjoyment. We also found that positive self-reports of mental health increased the same school ratings, as did ratings of parental warmth and involvement. We found that

these results were more or less consistent among adolescents from Canada's 10 provinces. However, a different pattern of results that emphasized demographic and mental health variables was found among adolescents from Canada's northern territories who had a smaller relationship between parenting and school, and a larger relationship between demographic variables and school. This suggests that general conclusions regarding parenting and school may not apply to these adolescents. Further research on this population may yield insights into the role of these parents in territory adolescents' education, and whether the role of those parents in their adolescents' school lives could, or should, be positively improved.

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