

The Social Consequences of Economic Inequality for Canadian Children: A Review of the Canadian Literature

Systematic Reviews

Executive Summary

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Executive Summary

The purpose of this review is to summarize, analyze and evaluate the Canadian quantitative literature examining the social consequences of economic inequality for children. Education, health, social justice and employment outcomes are examined.

Searches applying a broad range of applicable search terms to 12 major databases initially yielded 828 articles potentially relevant to one or more of the above four outcomes categories. Subsequent examination of article abstracts reduced the number to 45. Further examination of the full texts of these articles reduced the total number reviewed to 34. Articles were excluded if: they did not use quantitative empirical methodologies; they did not sample Canadian populations; they did not examine measurable outcomes of income inequality; or, if they proved irrelevant to the question, despite being captured by the searches.

Articles were included if they used socio-economic status (SES) rather than income as their measure of economic inequality. Including only articles examining income inequality in isolation would have excluded 14 of the studies here. In most articles measuring SES, income is a component of that variable; however in a few it is not. The full summaries of the studies describe the components of the SES variables.

In the analysis below, the four outcomes categories are subdivided: educational outcomes are divided into academic and social/behavioural outcomes; and health outcomes are subdivided into emotional and physical health outcomes. Many articles examine outcomes in more than one of the four main categories or subdivided categories. The findings in this executive summary are presented thematically - different findings from the same article are discussed under different headings. However, the full article summaries present each article 'intact.' The rationale for this decision is efficiency. The reader needs to know the methodology and constructs used in each article to interpret the findings; repeating these methodologies every time a finding is reported would be unduly redundant. Therefore, some full article summaries subsumed by one outcomes category, for example 'Health,' may examine outcomes in other categories as well, for example 'Education.'

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The table below shows the thematic coverage of each article.

Outcomes Theme	Article
Social Justice	Eisler and Schissel (2004); Trocme, Knoke and Blackstock (2004); Kuo and Roysircar (2004); Schissel (2001); Bagley and Mallick (2000)
Education-Academic/Cognitive	Entorf and Minoiu (2005); De Civita, Pagani, Vitaro and Tremblay (2004); Dooley and Stewart (2004); Maggi, Hertzman, Kohen and D'Angiulli (2004); Hou and Ram (2003); Kohen, Brooks-Gunn, Leventhal and Hertzman (2002); Schiller, Khmelkov and Wang (2002); Willms (2002) Kornberger, Fast and Williamson (2001); Ma & Klinger (2000); Pyryt and Lytton (1998); Lipman, Offord and Boyle (1996)
Education-Social/Behavioural	Romano, Tremblay, Boulerice and Swisher (2005); Kerr (2004); Hou & Ram, (2003) Kohen, Brooks-Gunn, Leventhal and Hertzman (2002); Saloman & Stroebel (1996) ;Nakahaie, Silverman and Lagrange (2001); Lipman, Offord and Boyle (1996)
Health-Emotional	Letourneau, Hungler and Fisher (2005); Kerr (2004); Abernathy, Webster & Vermeulen (2002); Ma (2002); Beiser, Hou, Hyman and Tousignant (2002); Lippman, Offord & Boyle (1996)
Health- Physical	Phipps, Burton, Osberg, and Lethbridge (2006); Guttmann, Dick and To (2004); Shields, Jolly, Moses and Jeddy (2004); Seguin, Xu, Potvin, Zunzunuegi & Frolich (2003); Dubois and Girard (2003) Abernathy, Webster & Vermeulen (2002); Singh, Darroch and Frost (2001); Hardwyck & Patychuk (1999)
Employment	Oreopolous(2003); Thiessen and Blasius (2001)

Results

Justice/social justice outcomes

Five studies address social justice outcomes. Bagley and Mallick (2000) indicate children in chronic poverty are more likely to be physically, sexually or emotionally victimized by age 17. Eisler and Schissel (2004) also describe the effects of economic inequality on physical and emotional victimization, and discover that while poor children are at greater risk of victimization than their wealthy peers, the degree and type of risk varies by geography, gender and race. Race also informs Trocme, Knoke and Blackstock's (2004) examination of child welfare reports, where they find socio-economic indicators partially account for Aboriginal children's overrepresentation in foster care,

and becoming 'suspected' and 'substantiated' problem cases. Schissel (2001) describes race and gender effects on different gambling behaviours, a form of regressive taxation in which he finds poor male Aboriginals and poor female non-Aboriginals disproportionately participate. Kuo and Roysircar (2004) find that higher socio-economic status (SES) increases the chances for successful acculturation to Canada, and less associated stress, among Chinese immigrants.

The latter four studies illustrate the double and triple disadvantage that occurs when poverty interacts with other ascribed characteristics. Poor aboriginal youth appear especially vulnerable, even compared to poor non-Aboriginals (Eisler and Schissel, 2004; Trocme, Knoke & Blackstock, 2004; Schissel, 2001). The different risks faced by males and females are exacerbated by low incomes (Eisler and Schissel, 2004; Schissel, 2001). Immigrant youth have greater need of high socio-economic status to buffer them from risks not faced by non-immigrants (Kuo and Roysircar, 2004).

Educational Outcomes – Academic/Cognitive

Twelve studies examine academic educational outcomes, which include academic/cognitive, and behavioural/social development. As has often been shown, there is little doubt that higher income or SES is associated with better academic outcomes. SES seems to operate most strongly at the family level. Ma & Klinger (2000) show grade six students' scores in reading, writing, mathematics and science moderately increase at every ascending level of family SES. Willms (2002) shows 15-year-olds' PISA reading scores increasing along the socio-economic gradient, a claim supported by Entorf and Minoiu (2005) who show that for every 10 points a Canadian student's score increases on their measure of SES, her PISA score increases by 13.5 points. Schiller, Khmelkov and Wang (2002) similarly find parental education is correlated with higher achievement on the TIMSS3. Dooley and Stewart (2004) show mean scores increase with family income on the revised Peabody Picture Vocabulary Test (PPVT-R), reading, and dramatically, in math.

Conversely and complementarily, De Civita, Pagani, Vitaro and Tremblay (2004) assert children in persistently poor welfare-dependent and working families have respective risks 228% and 59% greater of academic failure by grade six than never-poor children. And child poverty accounts for 21% of the risk of poor school performance in Lipman, Offord and Boyle (1996). Hou and Ram (2003) similarly attribute lower scores on the PPVT-R and Mathematics Computation Tests to belonging to a low-income group.

Nonetheless, interpretation here demands caution. The SES measure does not include income in Schiller, Khmelkov and Wang (2002), Ma and Klinger (2000), or Willms, all of whom use various combinations of parental education, ownership of educational items, participation in cultural activities, and occupations to impute SES. Although all these indicators are widely recognized as positively related to income, they are not identical.

Two studies ask if employment/income status affects academic outcomes. De Civita *et al.* (2004) find that while all persistently poor children are at greater risk of failure by grade six, those of welfare-dependent families are more at risk than those from working-poor families. Similarly, Kornberger, Fast and Williamson (2001) find welfare-dependent

pre-school children score lower than children of the working poor on the PPVT-R. Both groups however, score below the non-poor norm.

Some researchers question the effects of living and attending school in poor or rich neighbourhoods, as opposed to poor or rich families. Pyyt and Lytton (1998) report that the mean income of an elementary school accounts for 39-45% of the difference in test scores between schools, a figure that dwarfs the 3-6% difference teaching styles appear to make. According to Ma and Klinger (2000) higher school mean SES increases test scores between 65% and 10%, over and above family SES.

Maggi, Hertzman, Kohen and D'Angiulli (2004) believe highly competent children in Vancouver elementary schools may be having their progress impeded if living in low-SES neighbourhoods characterized by more at-risk children, and possibly overburdened teachers, though this study should be treated with caution. In examining pre-school students, Kohen, Brooks-Gunn, Leventhal and Hertzman (2002) find children in high-poverty neighbourhoods have lower mean scores on the Peabody Picture Vocabulary Test (PPVT) than their peers in affluent neighbourhoods, though these neighbourhood effects disappear when variables are added. They also show that children from poor households in poor neighbourhoods score lower than children from poor households in affluent neighbourhoods.

Educational Outcomes- Social/ Behavioural

Family and neighbourhood level income and SES also affect behavioural outcomes, as evidenced in eight studies. Neighbourhood unemployment and affluence appear to contribute to incidences of undesirable behaviour in expected directions (Kohen *et al.*, 2002) and family SES seems to be negatively associated with incidences of physical aggression, and weakly but positively associated with pro-social behaviour (Romano, Tremblay, Boulerice and Swisher, 2005; see also Saloman & Stroebel, 1996). Family income is weakly negatively associated with hyperactivity, conduct disorder and property offenses (Hou & Ram, 2003; Kerr, 2004); however, low income's predictive power vis-à-vis conduct disorder and other behavioural problems strengthens considerably when examining only six to 11-year-olds, and excluding 12 to 16-year-olds (Lipman *et al.*, 1996). Resistance to school is a behavioural problem often attributed to lower social classes in the extant literature, however, Nakahaie, Silverman and Lagrange (2001) find few differences between the social classes' levels of resistance to school, except among the very disadvantaged, in particular children of unemployed or unskilled parents.

Although the correlations between income and/or SES and diminished educational outcomes in the above studies are clear, the mediating variables associated with low income often appear to be the root causes of difficulties. Dooley and Stewart (2004) show that the 'consumption' of enriching activities allowed by money accounts for only part of the variance in test scores predicted by economic status. Willms (2002) argues parenting styles, maternal mental health, and family cohesiveness offset vulnerability due to low SES, and shows, despite lower aggregate *mean* scores, many *individual* low-SES students perform quite well on the PISA. Similarly Romano *et al.* (2005) argue 'good parenting skills' and positive 'family functioning' negate the deleterious effects of low SES, as do higher levels of self and social (i.e. parent) control (Nakahaie *et al.*, 2001) and higher maternal aspirations for their children's education (De Civita *et al.*,

2004). Neighbourhood-level poverty appears to lose its power to negatively affect children in strong and stable families (Kohen *et al.*, 2002; Romano *et al.*, 2005; see also Oreopolous, 2003).

Health Outcomes – Emotional

Six studies indicate low-income children live with heightened risk of emotional difficulties (Kerr, 2004; Abernathy, Webster & Vermeulen, 2002; Ma, 2002; Beiser, Hou, Hyman and Tousignant, 2002; Lippman, Offord & Boyle, 1996). However, in many studies, positive family characteristics mitigate or erase these negative effects of low income/SES (Kerr, 2004; Abernathy *et al.*, 2002; Hou & Ram, 2003; Beiser *et al.*, 2002).

Furthermore, low income appears to affect different sub-groups' emotional health differently. Using National Longitudinal Survey Canadian Youth (NLSCY) data, Ma (2002) finds family SES has no significant effect on immigrant emotional health, but a weak effect on non-immigrant mental health. By contrast, Beiser *et al.* (2002) use the same data set to determine economic deprivation threatens immigrant children's health over and beyond negative family functioning, the variable which accounts for all the negative emotional outcomes in the non-immigrant population. This difference between 'SES' and 'income' may account for this contradiction. Only low income children ages 6–11, not 12–16, are at increased risk of psychiatric disorders in Lipman *et al.* (1996). Letourneau, Hungler and Fisher (2005) offer the barest preliminary evidence that Aboriginal children in poverty may be at greater emotional risk than non-Aboriginals.

Health Outcomes- Physical

Eight studies show physical health risks of low income/SES. Low-income youth smoke more frequently, do less physical activity, spend more days sick, assess their health more negatively and have less access to doctors than high-income youth (Abernathy *et al.*, 2002). Phipps, Burton, Osberg, and Lethbridge (2006) show poor Canadian children are more frequently and severely obese than non-poor children. Interestingly, Abernathy *et al.* (2002) also report that low-income children who are active, overcome the low-income disadvantage in emotional health.

The youngest children may be especially vulnerable to low-income physical health risks. Guttmann, Dick and To (2004) find 35% of infants hospitalized in the year previous to their study hailed from families of low income adequacy, whereas 20% of non-hospitalized infants came from these families. Low-income children were 1.7 times more likely to be hospitalized in the previous year than adequate-income children. Similarly, mothers with incomes below 60% of the Statistics Canada Low Income Cut Offs (LICOs) rate their infants' health as 'less than excellent' 1.8 times as frequently as mothers of sufficient income. The rate falls to 1.5 times for mothers living between 60-99% of the LICOs (Seguin, Xu, Potvin, Zunzunuegi & Frolich, 2003). Dubois and Girard (2003) find that high-SES mothers are more than twice as likely as low-SES mothers to follow all three accepted infant-feeding recommendations: they breastfeed exclusively at birth; they do not introduce other foods before 4–6 months; and they delay introduction of cow's milk until 9–12 months.

Risky sexual behaviour also contributes to undesirable health outcomes. The rate of genital Chlamydia is 2.9 times greater among teens in the lowest-income quintile Toronto neighbourhoods than the highest (Hardwyck & Patychuk, 1999). Chlamydia is also a particular risk among low-income street youth in seven urban centres, with particular risk to females, Aboriginals and the homeless (Shields, Jolly, Moses and Jeddy, 2004).

Teen motherhood may not be a health risk per se, but is widely regarded as undesirable. The teen birth rate steadily rises along the economic gradient of Hardwyck and Patychuk's (1999) neighbourhood quintiles; it is nearly four times the rate in the lowest-income neighbourhood as the highest. Singh, Darroch and Frost (2001) show Canada's least educated give birth in adolescence far more often than the most educated (42% vs. <10%) though the causal relationship here may be reversed. Also, females in the lowest economic category reported having first intercourse before age 20 significantly, though not greatly, more often than those in the highest category.

Unlike educational outcomes, and emotional health outcomes, the studies do not provide evidence that risks to physical health are mediated by other variables associated with economic or socio-economic status. There seems to be some advantage to children of older mothers in Dubois and Girard (2003) beyond SES; but we do not find the systematic diminishing of importance of the economic variables through family structure and family characteristics variables that we do when examining other outcomes.

Employment outcomes

Only two studies reviewed here address employment outcomes. Thiessen and Blasius (2001) find working class are more likely to perceive their fathers' work as dangerous and dirty, whereas middle-class youth perceive their fathers' jobs as 'respected' 'rewarding' and 'exciting.' Similar, though weaker, findings hold for mothers' jobs. The most interesting finding is that working-class youths' expectations for their own jobs do not appear hindered by their socio-economic status. While gender predicts aspirations, most youths, regardless of class, expect jobs typically associated with the male middle class.

Congruently, Oreopolous (2003) finds that growing up in large housing projects in Toronto's poorest neighbourhoods compared to projects in low/middle income neighbourhoods does not significantly affect eventual income level. The variance in incomes within the sample of the poorer neighbourhoods is similar to that of the more affluent neighbourhoods; and it is wide. Furthermore, sibling incomes are strongly correlated but neighbours' incomes are not; therefore, family factors, not neighbourhood factors, appear to be the strongest indicator of eventual labour-market outcomes.

Limitations

Interpretation of findings should be undertaken with caution. All research reviewed here has limitations. Many studies depend on surveys, often the NLSCY. Survey data, even when drawn from the NLSCY, are often cross-sectional, so direction of causality cannot be assumed, though income and SES are likely prior to social outcomes in most cases. Furthermore, many surveys, including the NLSCY, are vulnerable to interviewer and

subject effects, i.e. respondents self reporting on sensitive topics may not wish to report accurately, may not be able to report accurately, or may not wish to report accurately to their particular interviewers. All surveys, and especially voluntary surveys, suffer from selection bias. The NLSCY has been criticized for under-representing immigrants/refugees and excluding on-reserve Aboriginals, arguably two of our more vulnerable populations. Finally, most 'cognitive' measures are scores on single tests, which are rather narrow measures of cognition. Some argue all tests merely evaluate reading comprehension.

Conclusion and Policy Implications

The research reviewed here indicates the strong relationship between low income and/or socio-economic status and deleterious social outcomes. However, the effects of economic inequality are clearly mitigated and mediated by other variables, and act differently on different populations. Among the possible policy implications of the findings are:

- Policy interventions may be best aimed at improving family functioning or family environments, especially with regards to behaviour and emotional health, and somewhat to academic achievement.
- Direct income transfers may be most beneficial as a means of improving physical health outcomes.
- The targets of policy interventions should be carefully considered. Low income appears to affect boys and girls, Aboriginals and non-Aboriginals, immigrants and non-immigrants, welfare-dependent and non-welfare dependent, young children and older children and adolescents, differently.
- There may be benefits to increasing access to opportunities for physical activity among lower income children.
- In many cases, parental-education levels as much as income levels may be affecting outcomes. Where this is so, access to educational opportunities is potentially a key to long-term amelioration of negative social outcomes.