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Family Transformations and the Well-being of Children: Recent Evidence from Canadian Longitudinal Data.

Abstract:

This paper uses longitudinal data to examine negative child outcomes among young children in Canada. In following a cohort of children as they move through their early elementary school years, a slight decline in hyperactivity is documented, as is a slight increase in internalizing difficulties. After introducing a longitudinal dimension to our analysis, both family structure and income poverty are found to have a weaker effect on child outcomes than was initially anticipated. The current analysis also demonstrates the utility of LISREL's "weighted least squares" estimation procedure in the development of structural equation models while working with ordinal and/or censored variables.

Introduction

Young children are completely dependent upon others for their well being. The ability to cope with economic uncertainty and/or family change varies by age, with childhood clearly a vulnerable stage of the life cycle. Correspondingly, the well being of children is often jeopardised by the difficulties as experienced by the adults in their lives. In this context, two interrelated trends are of considerable concern to those interested in the well being of children, including (i) the poverty rate of families with children has remained at a persistently high level - well into the economic recovery of the 1990s, and (ii) a large and growing proportion of children are living in families headed by lone parents or in stepfamilies.

According to 1998 data from the National Longitudinal Survey on Children and Youth (NLSCY), slightly more than one in four Canadian children (aged 0-11) are not living with both biological parents, with about one in six living in a lone parent family and one in twelve living in a stepfamily. This has direct ramifications for the well being of children, as a growing proportion have either experienced the dissolution of their parents union or are born into families with only one biological parent. In addition,

living in a non-intact family (i.e. lone parent or stepfamily household) is highly associated with income poverty. For example, according to Statistics Canada's low income cut-offs - widely considered Canada's "unofficial" poverty lines - in 1998 some 56.3% of children in female lone parent families fell into income poverty, as opposed to 12.2% of children living with two parents. Overall, while low-income rates have finally started to decline toward the latter 1990s, 19.0% of Canadian children in 1998 experienced low-income, which continues to remain higher than the 15.2% documented a decade earlier (Statistics Canada, 2000).

Both income poverty and family instability have been found to be associated with a higher likelihood of negative child outcomes, whether our emphasis is placed on the emotional, psychological or intellectual well-being of young children (Wilson, 1987; Lichter, 1997; Lipman, Orford and Boyle, 1994; Mayer, 1997; Duncan and Brooks-Gunn, 1997). Yet while several studies have noted the impact of both income poverty and family instability, there is clearly a lack of consensus (both in Canadian and international research) as to their relative impact in explanation. As merely one example, in working with cross sectional data from the first cycle of Canada's National Longitudinal Survey on Children and Youth (NLSCY), Dooley et al. (1998) have suggested that low income is of relatively minor importance in predicting an assortment of childhood behavioural problems, whereas family structure and lone parent status are found to be much more important. In direct contrast, Curtis et al. (1996) have drawn the opposite conclusion when working with a similar data set on Ontario children, as low income was found to have a relatively strong effect on childhood difficulties whereas family structure was estimated as being of negligible importance.

Consequently, the current study seeks to further examine this issue, given the recent availability of longitudinal data from the NLSCY. In the study of child

outcomes, a series of age appropriate indicators are available on both internalising and externalising disorders (reported hyperactivity, depression/anxiety and academic difficulties). In so doing, the current analysis also demonstrates the utility of LISREL's "weighted least squares" estimation procedure in the development of structural equation models while working with ordinal and/or censored variables.

Prior Studies

Several studies have examined the impact of both familial change and income poverty on child outcomes, both in Canada and in the broader North American context. Useful in this regard has been the establishment of high-quality longitudinal surveys, with detailed information collected on both family change and the economic conditions faced by children over time. In one of the most comprehensive empirical studies yet published on the impact of income poverty on child outcomes, Duncan and Brooks-Gunn (1997) have published the collaborative efforts of over a dozen different research groups.. While the primary purpose of their research was to examine how income is related to children's well-being, these research groups also examined, without exception, the relevance of family structure, both before and after controlling for differences in income.

A review of this collaborative research provides some insight as to the relative importance of both family structure and income poverty in conditioning childhood difficulties. Overall, both income poverty and family structure are repeatedly found to have an impact on childhood difficulties, although perhaps in a narrower and less consistent manner than might have initially been anticipated (Duncan and Brooks Gunn, 1997; McLanahan, 1997). Clearly a variety of additional factors are also relevant to the analysis of child outcomes, as for example, both non-intact families (lone parent and stepparent families) and low income families are more likely to involve a parent with low

educational attainment, who is unemployed or underemployed, and is younger and lacking life experience (Elder, 1974; McLeod and Shanahan, 1993; McLanahan and Sandefur, 1994; Lichter, 1997; Treachman et al., 1997; Hanson et al., 1997). While simple bivariate relationships indicate that the children of both low income and non-intact families experience greater childhood difficulties than other children, the results coming out of more comprehensive efforts to model child outcomes demonstrate the importance of several other factors in explanation.

Income poverty is expected to contribute to childhood difficulties, to the extent that parents are unable to provide for the most fundamental requirements of healthy childhood development, including the basic nutritional and health requirements of the young, a safe neighbourhood and family environment, and adequate recreational and educational facilities (Mayer, 1997; Brooks Gunn et al., 1997; Massey, 1996). A wide assortment of studies have demonstrated the impact of material deprivation on both internalising and externalising problems of young children (Hanson, McLanahan and Thomson, 1997), and on their academic success and cognitive development (Duncan, Yeung, Brooks-Gunn and Smith, 1998). Low income not only implies a higher likelihood of inadequate housing and difficult living conditions, but in many cases a home environment that constrains somewhat the normal psychological and/or intellectual development of the young. For example, difficult economic circumstances can have a direct impact on the potential cognitive development of children, as low income parents are less able to “purchase” the many products and services that assist the young in their learning, including books, magazines, computers, travel, etc., (Guo and Harris, 2000). Similarly, low income families are less able to afford the many recreational activities that middle and high income groups often take for granted in assisting their children in terms of their physical, emotional and intellectual development.

In a broader sense, income poverty often implies multiple problems, that in combination can contribute to the level of stress that parents experience in raising children. This stress in turn can potentially reverberate throughout the family to the detriment of all family members. For example, in both Canada and the United States, low income status often implies a situation whereby parents have little choice but to rely on food banks and public charity in covering necessities, live in poor housing and at times dangerous neighbourhoods, experience unemployment, potentially racial and/or ethnic discrimination, not to mention poor health and a higher likelihood of being disabled. Dealing daily with these multiple problems leads to greater psychological stress, as income poverty has been documented as correlated with less adequate emotional health of parents, a higher likelihood of parental depression, a lower level of family functioning, and in turn, less responsive and/or more punitive parenting styles (Conger et al., 1994; Conger et al., 1997; McLoyd and Wilson, 1991; Dodge et al., 1994; Guo and Harris, 2000). In combination, such stress potentially jeopardises the psychological and behavioural outcomes of children.

While income poverty is relevant to child well being, so too are recent trends in marital instability, non-marital fertility and family structure. Typically highlighted in this context is the impact of conflict in marital relationships, and its repercussions in terms of emotional and behavioural problems in children (Finchman et al., 1994; Coiro and Emery, 1998). Mutually hostile marital patterns in families with children often predicts childhood difficulties (Katz and Gottman, 1993; Wallerstein, 1991), in a manner that can be quite independent of income category. As a growing proportion of children witness the divorce or separation of their parents, a substantial number also witness the hostility and conflict that often accompanies marital dissolution. Parents obviously differ in terms of their success in shielding children from such conflict, although in extreme cases, the

children of marital dissolution have witnessed violence within the home and/or child abuse. In this regard, it is appreciated that under some circumstances, and especially when children are in highly conflictual families, divorce can be advantageous to children's well being. As emphasised by Amato and Booth (1997:238) "the worse situation for children to be in is either a high-conflict marriage that does not end in divorce or a low conflict marriage that does end in divorce".

Overall, the children of high conflict marriages that end in divorce or separation are expected to experience greater childhood difficulties than children without such a history. On the other hand, the negative ramifications of a low conflict marriage that ends in divorce or separation is likely moderated to the extent that both parents can continue to be involved in a child's life. In this regard, the increased frequency of lone parenthood has had its impact on the well being of children, as non-custodial parents frequently lose regular contact with their children and/or fail to maintain financial support (Amato and Booth, 1997; Beaujot, 2000; Marcil-Gratton, 1998; Peron et al., 1999). Children raised in lone parent families obviously receive less parental supervision, an observation which is especially true with fathers. To the extent that fathers discontinue the transferral of financial, human and social capital to their children, this loss of regular contact and support is expected to be a net negative for children, except in cases where the absent parent would have been harmful to the child.

While remarriage often leads to a significant improvement in the financial situation of children, it does not always lead to a significant gain in terms of parental supervision. While step parents potentially contribute to children both in terms of their time and financial resources, it has also been documented that non-biological parents tend to be less involved with step children than is the case with biological parents, and in fact, potentially disrupt relations with the absent parent (Amato, 1998). While clearly most

children in stepfamilies are doing well, greater difficulties have been reported in terms of family relationships, along with lower levels of emotional support and higher levels of erratic punishment for children (Cheal, 1996). In some cases, the concept of stepparent may be too strong, since the adult is seen as the parent's partner rather than a parent (McLanahan, 2000). McLanahan (1997:37) concludes that "children raised in stepparent families do just about as well (or as poorly) as children raised in single-parent families". This is true in spite of the fact that the economic situation of stepfamilies tends to be better, on average, than the economic situation of lone parent families, a finding which suggests that income is not the only factor accounting for the negative effects of a parent's absence.

Irrespective of this observation, it is noteworthy that some of the past literature on child outcomes has gone so far as to argue that any apparent causal link between family structure and child outcomes best be understood as spurious, that is, a by-product of the poverty that so often characterises lone parenthood (Herzog and Sudin, 1973; Kurdick and Suncen, 1988). While more recently this idea has been largely abandoned, and replaced by a more sceptical assessment as to the consequences of both income poverty and family dissolution, this argument continues to hold some weight in terms of the many public discussions of child outcomes and family change. In this context, Cherlin (1999) has warned against the tendency of "going to extremes" in terms of overplaying or entirely underplaying the relevance of family structure and instability in explanations of child welfare. He argues that public discussions of demographic issues are often conducted in a troubling pattern in which one extreme position is debated in relation to the opposite extreme, which in the current context, leads to a serious overstatement or understatement of the impact of divorce or single parenthood on children. The reality is complex, as reflected in an empirical literature that is far from

consistent as to the relative importance of family structure and income poverty in the explanation of child outcomes.

In shifting our emphasis to Canadian research, several studies have examined child psychosocial morbidity, without arriving at any clear consensus as to the relative impact of family structure and income poverty. For example, in working with the Ontario Child Health Study of the 1980s, Munroe Blum et al. (1988) found that while the children of lone parent families were at an increased risk to both psychological and academic problems, this association was found to be no longer significant with the introduction of a control for low income. In re-examining this same data set more recently, Curtis et al. (1996) found both family structure and low income to be significantly related to childhood difficulties, albeit the effect of family structure was found to be much weaker than that of low income. On the other hand, in examining longitudinal data on childhood anxiety, hyperactivity and aggressive behaviour in Quebec, Pagani et al.(1997) arrived at the opposite conclusion, as family structure appeared to be much more important than low income. Similarly, in working with the first cycle of Canada's National Longitudinal Survey on Children and Youth (NLSCY), Dooley et al.(1998) have documented a persistent and strong effect of family structure, with the effect of low income status relatively weak if not insignificant across a range of child outcomes.

McLanahan (1997) has recently suggested that family structure may be more important than poverty in determining behavioural and psychological problems, whereas poverty may be more important in determining educational attainment. While theoretically it is not entirely clear as to why this should be the case, McLanahan summarises a sizeable body of empirical research that seems to be increasingly pointing in this direction. In this context, the current study separately examines the effect of

family structure and low income on an assortment of indicators, including reports on the academic performance as well as behavioural and psychological difficulties. With the release of the first three cycles of the NLSCY, an extremely useful Canadian data set now available for this purpose, which includes longitudinal information on several economic and demographic controls, not to mention dozens of indicators on child outcomes.

Method:

The NLSCY was designed to measure child development and well being, with the long-term goal of developing a national database on the life course of Canadian children from infancy into young adulthood. With the first cycle of this survey (in 1994) information was collected on a probability sample of 22,831 children under age 12. This sample as based on the sampling frame of the Canadian Labour Force Survey excluded a very small number of Canadians, those who are living in the Yukon or Northwest Territories, residents of institutions and persons living on Indian reserves (under 2% of the population). Due primarily to reasons of cost, 16,903 children of this initial sample were eventually selected for the NLSCY longitudinal sample. With this latter sample, about 90% of the children were successful traced and re-interviewed through to the third cycle, with information gathered on 14,688 children in 1998. In the current study, 4,209 children (aged 4-7 in 1994) were selected from this larger longitudinal sample of Canadian children, being successfully interviewed across all three cycles of the NLSCY. In selecting this cohort of children, a series of age appropriate indicators on child outcomes are available - measured in a consistent manner in both 1994 and 1998.

Building on previous research into the psychological health of Canadian children (Tremblay et al., 1992; Offord et al., 1992; Offord et al., 1987), the measurement items selected for the NLSCY are meant to tap the multiple components of healthy child development, with information gathered from the parent (typically the mother) classified

as most knowledgeable about the selected child. On the basis of dozens of items, the NLSCY developed a series of additive scales, meant to measure the many internalising and externalising disorders that characterise the daily experience of a significant number of Canadian children. For the purposes of the current paper, our analysis is narrowed somewhat, as the primary emphasis of the current study will be limited to three specific child outcomes: (i) hyperactivity (inattention, impulsive and symptomatic motor activity), (ii) emotional disorder (feelings of anxiety and depression) and (iii) academic difficulties (as parents report on their children's reading, writing and mathematics abilities). Consequently, without being exhaustive in terms of the study of child outcomes, the current study will simultaneously consider the relative impact of both low income and family structure on internalising and externalising disorders of children, as well as indirect evidence on their cognitive development.

While the NLSCY involved the development of several additive scales, it is appreciated that such scales do not weight individual items by their relative importance (i.e. the implicit assumption is that all factors load equally on whatever construct is being measured). As an alternative, the current paper relies upon structural equation models (SEM) in order to bring greater precision in terms of both measurement and subsequent analysis of childhood difficulties. There are several methodological reasons why structural equation models have grown in popularity as an extension of the general linear model, including their ability to directly incorporate and integrate confirmatory factor analysis with more comprehensive explanatory models (Kline, 1998; Mueller, 1996; Hoyle, 1995). This is not a minor issue, as shortcomings in measurement can have serious repercussions in a multivariate analysis, potentially attenuating or even exaggerating hypothesised relationships in an unpredictable manner (Bollen 1989). In

working with structural equation models (SEM), the current paper examines each of the aforementioned child outcomes separately.

For the purposes of the current analysis, LISREL (and its accompanying pre-processor PRELIS) are employed, beginning with the calculation of the appropriate moment matrixes. In working with a series of ordinal scales, the current study does not commit the error that has characterized some recent applications of SEM (Guo and Harris, 2000), i.e. it does not exclusively rely upon product moment correlations and maximum likelihood estimation. In following the recommendations of Joreskog et al. (2000), the current analysis takes advantage of the data screening procedures of PRELIS and its ability to handle both ordinal and censored variables. More specifically, PRELIS is capable of computing not only product-moment correlations, but also polychoric correlations (including tetrachoric), and polyserial correlations (including biserial). These matrices can then all act as the appropriate input for weighted least squares estimation in LISREL. In addition, PRELIS is also capable of deriving estimates of the asymptotic variances and covariances of such correlations, which correspondingly assists in the production of appropriate weight matrices for weighted least squares estimation (Joreskog et al. 2000). Fortunately, in working with the NLSCY, a relatively large sample allows for the estimation of moments of forth order with reasonable precision.

The appendix includes a description of items selected from the NLSCY for the current analysis. In establishing temporal order, all of the information on child outcomes are measured in 1998, whereas the explanatory variables are measured either in 1994 or summarise the situation over the 1994-1998 period. In examining child outcomes, several factors are considered, including a child's experience with low income, his or her family structure (female lone parent, step or intact families), the number of children in the family, the age and education of parents, the child's gender, as well as family functioning

(defined in terms of the quality of family relationships). Five items are used to measure the latent construct “family functioning”, in documenting the degree of constructive and supportive family relationships (Epstien et al., 1993). All other predictor variables are included as single indicators, on the assumption that they are without measurement error. In an effort to benefit from the longitudinal data available, the impact of family structure is measured in terms of the living arrangements of children across all three cycles of the NLSCY, as for example, whether or not children lived with a female parent family across cycles, in a step family, or alternatively in an intact family or some other living arrangement. The effect of low income was measured in a similar manner, estimated by identifying children who experienced low income across all the cycles, as opposed to those who did not experience it at all or only in a transitory manner. In estimating the effect of low income, Canada’s non-official poverty lines were used, as defined by Statistics Canada, adjusted only for inflation.¹

Results

In examining longitudinal data on child outcomes, of considerable interest is whether or not childhood difficulties, as identified relatively early in the life course of children, should predictably increase or decrease with chronological age. Past research on this topic has demonstrated how difficulties are often quite transitory or temporary, with considerable variation in terms of age of onset and/or developmental course (Mash and Dozois, 1996). In considering child outcomes for the cohort of children selected in the current study (aged 4-7 in 1994), Table 1 presents mean scores on the initial additive scales (hyperactivity, emotional disorder and academic difficulties) for both 1994 and

¹ Most recently, Statistics Canada revised its past practice of generating low income rates based solely on the pre-tax income of individuals and families. The current practice is to generate two separate sets of low income cutoffs, with low income rates based alternatively on pre-tax and after tax income. For the current study, we continue to rely on Statistics Canada’s pre tax low income

1998. Briefly, a slight decline in reported hyperactivity is complemented by a slight upturn in emotional disorder (depression and anxiety). In terms of academic difficulties, the mean scores as reported in 1994 and 1998 appear to be roughly equivalent. Overall these trends are not out of line with expectations given what is known of the age of onset and subsequent developmental course of childhood disorders (Barkley, 1998; Hechtman, 1990; Lewinsoh et al., 1993).

(TABLE 1 HERE)

In shifting our emphasis somewhat to also consider the relevance of both family structure and low income, Table 2 presents mean scores for this same cohort of children, delineating children in terms of family type and low-income. In so doing, Table 2 simplifies the situation somewhat, as summary statistics are presented for children who lived in the same family type across all three cycles (i.e. in either an intact, step or female lone parent family).² Similarly, in terms of low income, mean scores on the initial additive scales are presented for children who experienced no incidence of low income over the 1994-1998 period relative to those who fell below the low-income cut-off for the full period. While the resultant statistics do not provide details corresponding to families who shift family type or fall into or out of low income over time, they do demonstrate quite well why many analysts are concerned with both family structure and low income in shaping the well being of Canadian children.

(TABLE 2 HERE)

cutoffs (1992) adjusted solely for inflation over time. For further details on these low income cutoffs (including actual dollar values) see Statistics Canada (2000).

² While it would have been interesting to seek out further detail in terms of those children who witnessed a change in their family type over the 1994-1998 period, insufficient numbers and a variety of possible shifts in living arrangements disallows for any further breakdown in the current context.).

Without exception across child outcomes, children living in lone parent families are reported to experience the highest levels of childhood difficulties, followed by children living in step families (with reported scores that fall somewhere in between the other two family types). Children in both female lone parent families (and to a lesser extent in step families) are more likely to be exhibiting signs of hyperactivity, emotional distress and anxiety, as well as school related problems – a generalisation that is true in both 1994 and 1998. With regard to low income, the difficulties of children in families that consistently experience income poverty is also evident, again without exception, across child outcomes. Table 2 also demonstrates what appears to be a slight widening in the relative disadvantage of certain Canadian children, in following those that experience persistent income poverty or live in non-intact families over the 1994-1998 period.

In the multivariate results, it is particularly relevant to separate the relative effect of low income and/or family structure while simultaneously considering a variety of other relevant explanatory factors. Table 3 summarises the multivariate analysis through three separate structural equation models, each of which considers one of the aforementioned child outcomes. In simplifying the presentation, Table 3 does not include the factor loadings that measure second order multiple indicator latent constructs, with the relative success of each measurement model merely summarised in terms of variance extracted by that factor.³ As a commonly employed indicator of construct reliability, the variance extracted summarises the factor loadings of all items used in measuring latent constructs. Underlying the reported variances are factor loadings that without exception are significant and of sizeable magnitude (with standardised coefficients generally greater than .8). The convention typically followed in judging the construct reliability of a latent

³. The variance extracted by a measurement model can be expressed as: $\sum (l_i)^2 / ((\sum (l_i)^2) + \sum (e_i))$, where l_i are the standardized loadings for the indicators for a particular latent variable and e_i is the corresponding error terms (where error is 1 minus the reliability of the indicator, which is the square of the indicator's standardized loading

variable is that the variance extracted should be equivalent or greater than .7 – which is true of all the constructs involved in Table 2 (Steenkamp and Baumgartner, 1998; Bollen, 1989).

(TABLE 3 HERE)

In terms of the structural relationships, weighted least squares estimates of all remaining model coefficients are presented, as well as four separate tests of goodness of fit (chi square, AGFI, CFI, RMSEA). In acknowledging that chi square is a direct function of sample size, additional tests of overall fit are necessary as they provide direct evidence as to the acceptability of the model results as presented in Table 3. The reported value on the root mean square error of approximation (RMSEA) is particularly reassuring as an indicator of fit in that it is by and large unaffected by sample size. By convention, the RMSEA should be less than .05 (as is the case across all models in Table 3) whereas the AGFI and CFI should both be greater than .95 (Kline, 1998).

Virtually all of the coefficients as reported in Table 3 are in the expected direction, although many are non-significant in a manner that seems to contradict previous research. With regard to the relative importance of family structure and low income, the results in Table 3 are somewhat mixed as neither appear to have a particularly strong relationship with childhood difficulties. With regard to the impact of family structure, living in either a female lone parent family and/or in a step family appears to be of some relevance in predicting hyperactivity, and to a lesser extent, school difficulties – while contrary to expectations, non-significant in predicting childhood anxiety and/or depression. With regard to the impact of low income (experiencing low income over the full 1994-1998 period), the results indicate a relatively weak (yet significant) effect on hyperactivity, with a lack of significance in the other two models.

Most other relationships are consistent with expectations, although again, in a less consistent manner than might be expected. Both older and better-educated parents report fewer difficulties for their children, with parent's education of particular relevance in predicting academic success. Female children have a clear advantage, particularly in terms of hyperactivity and school difficulties, while number of children (or siblings) also appears relevant as a net positive in childhood. As would be expected, children living in households that report higher quality relationships among family members (family functioning) report fewer difficulties across child outcomes. Overall, the effect of many of these controls are either of comparable or greater importance than both family structure in predicting childhood difficulties. The relatively weak effect of low income is counter to expectations, especially since the current study introduced a longitudinal dimension into the analysis, in measuring the persistence of income poverty over the full 1994-1998 period.

Discussion and Summary

This study has examined conditions associated with childhood difficulties among a cohort of Canadian children as they have moved through their early elementary school years. In examining childhood difficulties, a slight decline in reported hyperactivity was documented along with a slight increase in emotional disorder (depression and anxiety). Overall, these changes are largely consistent with expectations, as for example, hyperactivity has repeatedly been noted for its relatively early age of onset (Barkley, 1998; Hechtmann, 1990) whereas the developmental course of "depression and related anxieties" mostly shows a moderate yet steady increase through to adolescence (Lewinsohn et al., 1993). In documenting a slight decline in reported hyperactivity, it is quite possible that the most serious problems of inattention and impulsive behavior are identified relatively

early, with the child's entrance into the school system, with modest gains suggesting some success as a result of intervention.

In more specifically considering child outcomes, yet this time for children delineated in terms of family structure and income poverty, the current paper also documents the simple fact that not all children have fared equally well over recent years. Children living in both step families and female lone parent families are more likely to experience difficulties than are children living in intact families, as are children who experience persistent income poverty. Yet while acknowledging this basic fact, the results from the multivariate analysis also demonstrate that we should not be too quick to overemphasize the effect of family structure and/or low income in this context. Clearly a variety of additional factors are also relevant to the analysis of child outcomes, as for example, both non-intact families and low income families are more likely to involve a parent with low educational attainment and who is younger and lacking life experience. In addition, it is also relatively clear that children who live in families with constructive and supportive relationships have an advantage over other children, regardless of their living arrangements and/or income category.

After introducing a variety of relevant controls, the current analysis demonstrates how both family structure and low income have a somewhat inconsistent effect on child outcomes. While both family structure and low income were both found to have a somewhat weaker effect on child outcomes than initially anticipated, it is also worth noting that overall family structure appears to be the more important predictor of the two. While both were found to be non-significant in predicting "depression and related anxieties", low income was found to be significant solely in predicting "hyperactivity". While this latter observation directly contradicts McLanahan's (1997) suggestion that income poverty be particularly important in shaping "educational success", it is also

somewhat surprising given that the current study considers the effect of being income poor over an extended period (or the effect of “persistent” income poverty). In moving beyond cross sectional evidence, the current paper provides longitudinal support to the idea that the relationship between family structure and childhood difficulties not be considered as merely spurious due to the difficult economic circumstances that frequently characterizes non-intact families.

While the current study builds on previous Canadian research by moving beyond the use of simple additive scales on child outcomes, it is appreciated that potential measurement problems likely remain in the NLSCY. For example, to what extent are parental reports on the behavioral and psychological problems valid, or more generally, to what extent do they have “representative reliability” across families as classified by family type and/or income class. Might parents react to the stigma that so often is attributed to single parenthood or income poverty by downplaying the difficulties that their children experience? In addition, to what extent might the results of the current analysis have differed if we had measured income poverty through an alternate set of low income cutoffs (eg. deep poverty) recognizing the somewhat arbitrary quality of the many cutoffs currently in use.

As emphasized by Secombe (2000), the concept of poverty can be expanded to involve indicators such as parental unemployment, relative poverty, deep poverty, income loss, occupational status, low parental education, or some combination of variables referred to as socioeconomic status. Yet while acknowledging the limited scope of the current study, this is not to deny the utility of our attempt to clearly delineate the effect of income on child outcomes outside of what might be defined as a more general definition of status attainment and social inequality. In this context, it is quite interesting to observe what appears to be effectiveness by which Canadian families seem to somehow ensure that

their children get their basic necessities – most of the time. To what extent are the conclusions valid – or are we encountering serious problems in terms of measurement in the analysis of childhood difficulties.

Do the results tell us something about the altruism of Canadian parents – as for example, do parents who experience economic disadvantage devote an even greater proportion of their energy, time and resources to somehow compensate for low income. Are Canadians largely successful in shielding their children from marital conflict and family instability, to a greater extent than might have previously been believed. As economists increasingly appreciate the implicit presuppositions that underlie much of economic theory – including what some would label an unrealistic emphasis on the purely rational pursuit of economic self interest (Peters and Unur, 2001) - is it possible that we underestimate the ability of parents to somehow protect or shield their young from the worst in terms of economic conditions and family conflict. Further research is necessary in this context, both in terms of evaluating the reliability of those measures that are currently available as well as potentially working with additional information - including whatever might be available independent of a parent's assessment of their own child's situation.

Appendix Inventory of Variables

1. Child Outcomes:

Based on both the Montreal Longitudinal Study (Trembley et al., 1992) and the Ontario Child Health Survey (Boyle et al, 1987), the NLSCY developed a series of scales in the measurement of child outcomes. The current study includes:

- 8 items tapping the parent's reporting of hyperactivity in their children, including items that measure inattention, impulsivity, and symptomatic motor activity. Parents are asked to report on the degree to which their children: have problems sitting still, settling on specific tasks, are distractible; appear restless, fidget, appear hyperactive, have difficulties concentrating, and act impulsively.
- 8 items tapping the parent's reporting of feelings of anxiety or depression (emotional disorder) among their children. Parents are asked as to whether their children appear fearful, anxious, worried, depressed; nervous, distressed, tense, or cry a lot.
- Academic abilities: the parents of children of school age are asked to report on their child's reading ability, math abilities, writing abilities, as well as an overall assessment of academic ability. Since children of preschool age are not applicable with these items, the 1994 mean scores reported in the current paper include many missing cases for children aged 4-7 in 1994. This is not an issue in our multivariate analysis of outcomes for children aged 8-11 in 1998.

2. Child and Family Background Variables

i) Low Income:

A conventional measure of family economic well being, which classifies families according to whether or not they fall below Statistics Canada Low Income Cut-offs (1992 base – before tax). This measure is adjusted according to size of family and size of community in which the family lives. Based on the 1992 Survey of Consumer Finances, and adjusted for inflation, this is the most widely quoted measure of low income in Canada. Children are identified if they had experienced low income for all 3 cycles of the NLSCY.

ii) Family Structure:

Children are classified according to whether they live in a (i) lone parent family (one parent without a spouse or common law partner) for the full 1994-1998 period, or (ii) in a step-family (married or common-law couple residing in the same household, with at least one child living with them who is the biological or adopted child of one parent but not the other parent) for the full period. Children who are biologically related to both parents are also said to belong to a stepfamily, if at least one of these parents has a stepchild residing in the household.

- iii) Number of additional children (under 18 years) in the household (including siblings of step families) – reported in 1994.
- iv) Age of parent most knowledgeable – reported in 1994.
- v) Sex of child
- vi) Education of parent most knowledgeable – reported in 1994.
- vii) Family Functioning scale – reported in 1994.

Several items developed by researchers at the Chedoke-McMaster Hospital of McMaster University were used for the current study (Epstein,1993). The scale is aimed at providing a general assessment of family functioning and an indication of the quality of the relationships among family members. The unit of analysis for the scale is the family, and uses a Likert scale with the following items: (i) Individuals in the family are accepted for who they are, (ii) We are able to make decisions in order to solve problems, (iii) We confide in each other, (iv) We express feelings to each other, and (v) We feel accepted for who we are.

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Table 1. Child outcomes in 1994 & 1998 for children Aged 4-7 in 1994, Canada

	1994	1998
All Families (n=4209)		
hyperactive - inattention	4.8	4.5
emotional disorder	2.4	2.9
academic difficulties	2.7	2.8

Source: National Longitudinal Survey of Children and Youth, Cycles 1-3

Table 2. Child outcomes in 1994 & 1998, by Family Type and Low Income Experience for Children Aged 4-7 in 1994

Family type	1994	1998
Intact families (n=2898)		
hyperactive - inattention	4.5	4.2
emotional disorder	2.2	2.8
academic difficulties	2.6	2.6
Stepfamilies (n=400)		
hyperactive - inattention	5.2	5.3
emotional disorder	2.4	3.0
academic difficulties	2.7	3.1
Female Lone Parent (n=583)		
hyperactive - inattention	5.9	5.8
emotional disorder	3.0	3.5
academic difficulties	3.3	3.4
Low Income Experience		
No Low Income Spells (n=2814)		
hyperactive - inattention	4.6	4.3
emotional disorder	2.2	2.8
academic difficulties	2.5	2.6
Low Income Full Period (n=373)		
hyperactive - inattention	5.4	5.8
emotional disorder	2.7	3.5
academic difficulties	3.5	3.5

Source: National Longitudinal Survey of Children and Youth, Cycles 1-3

Table 3. Weighted Least Squares Standardized Coefficients in Predicting Child Outcomes 1998

	Hyperactivity (reliability =.916) ¹	Emotional Disorder (reliability =.890)	School Difficulties (reliability = .894)
female lone parent 1994-98	0.07 *	0.02	0.07 *
step family 1994-98	0.06 *	0.01	0.03 *
low income 1994-98	0.04 *	0.01	0.02
age of parent	-0.05 *	-0.06 *	-0.01
education of parent	-0.08 *	-0.01	-0.14 *
female child	-0.21 *	-0.06 *	-0.16 *
number of children	-0.05 *	-0.03 *	0.00
family functioning (reliability = .827)	-0.09 *	-0.09 *	-0.05 *
X square	505.2	681.1	568
df	106	106	62
AGFI	0.99	0.99	0.98
CFI	0.98	0.98	0.98
RMSEA	0.035	0.037	0.045

¹ The factor loadings for all items that are used in measuring latent constructs in the current paper are summarized via a measure of construct reliability - as the variance extracted by the measurement model.

* significant at the .05 level

Source: National Longitudinal Survey on Children and Youth, Cycles 1-3