Breaking the Cycle of Adversity in Vulnerable Children and Families: A Thirty-Five Year Study of At-Risk Lower Income Families

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Abstract. Family poverty and childhood adversity follow an intergenerational cycle. Children raised under conditions of social and economic disadvantage are likely to raise their own children under similar conditions. To break this cycle, we need to understand why it occurs and why children's health and development are threatened by disadvantaged conditions of child rearing. We also need to identify protective processes, such as a healthy and supportive parent-child relationship, that may lead to positive health and development under conditions of risk. The longitudinal findings presented in this paper are a summary drawn from the published results of the Concordia Longitudinal Risk Project: an ongoing, three generational, 35-year study of Montréal families from lower income neighborhoods. The original sample comprised over 4,000 school-aged children. Many of these participants are now parents, and their children have been recruited into the study. Among the long-term processes we examine are family violence, fathers' presence versus absence in the home, and impact of parental mental health problems on children's health and development. Drawing from an in-depth assessment of parent-child interactions from infancy to preadolescence, we show how family interaction patterns over time can help to achieve positive outcomes for children**.** Based on statistical modeling techniques and hierarchical regression, we illustrate the ways in which family poverty and adversity during the childhood of one generation lead to conditions of risk for poverty and adversity in the next, via stressful rearing conditions, family violence, mental and physical health problems, and long-term behavioural problems. From the opposite perspective, we identify the environmental, social, educational and behavioural factors that predict positive outcomes for many children, despite disadvantaged conditions. We also highlight the vital role that parents play in this process and how negative intergenerational patterns may be broken by positive parenting, cognitive stimulation, and environmental support across childhood.

The long-term outcomes of early adverse environmental conditions and maladaptive behavioural histories have been found to be important and meaningful for health and development across the life-course (Moffitt, Caspi, Rutter, & Silva, 2001; Putallaz & Bierman, 2004). Childhood disadvantage and behavioural history may also play important roles in the intergenerational transfer of health and developmental risk from parent to child. The potential pathways from problematic childhood behaviour in one generation to risk for the next are the subject of a growing literature (Capaldi, Conger, Hops, & Thornberry, 2003; Serbin & Karp, 2004). Recent studies confirm the intergenerational continuity of problem behaviour (e.g. Van Meurs, Reef, Verhulst, & Ven Der Ende, 2009), although the mechanisms may involve multiple sociological, economic, biological and behavioural factors (Conger & Donnellan, 2007).

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In order to study the complex processes involved in the transfer of psychosocial, developmental and health risk from parent to child, it is important to identify the early behaviours and conditions for one generation which may subsequently contribute to adverse family environments for the next. For example, some research has focused on the childhood behaviour patterns that predict later negative social and economic outcomes in adulthood, a process referred to as the "cumulative and interactive continuity" of maladaptive behaviour (Caspi, Bem, & Elder, 1989; Caspi, Elder, & Bem, 1987). When the person becomes a parent, this process impacts family functioning and home environment for a new generation of children. Aggressive behaviour, and also the more unusual pattern of childhood aggression combined with social withdrawal, have been shown to predict lower adult status and functioning in educational and occupational contexts, even when controlling for socioeconomic status and income in the individual's family of origin (Kokko & Pulkkinen, 2000; Kokko, Pulkkinen, & Puustinen, 2000; Ronka, Kinnunen, & Pulkkinen, 2000).

Social withdrawal, and internalizing problems more generally, have been shown to predict a variety of outcomes related to lower socioeconomic status and mental health problems in adulthood, although findings are mixed regarding the long term impact of withdrawn behaviour in childhood (Caspi et al., 1997; Denissen, Asendorpf, & van Aken, 2008; Gest, 1997). From a longitudinal and intergenerational perspective, parents' earlier maladaptive behaviour may predict adverse child rearing environments for a new generation. Information concerning such predictors of rearing environments should allow for a better understanding of the complex processes whereby "high-risk" individuals transfer risk to the next generation.

Relations between maladaptive behaviour and later outcomes. Relations between early maladaptive behaviour and later family circumstances have begun to be examined in the literature, especially utilizing longitudinal designs following participants from childhood into parenthood and across generations (e.g. Scaramella, Neppl, Ontai, & Conger, 2008). Maladaptive behaviour patterns in childhood may influence the later life and functioning of individuals and their families through a variety of mechanisms and pathways. They have been found to be closely related to difficulties with school functioning and performance, and ultimately to low levels of educational attainment (Rapport, Denney, Chung, & Hustace, 2001; Risi, Gerhardstein, & Kistner, 2003; Serbin et al., 1998).

Maladaptive behavioural styles may also contribute to early sexual activity and premature parenthood (Bardone et al., 1998; Conger, Neppl, Kim, & Scaramella, 2003; Serbin, Peters, McAffer, & Schwartzman, 1991), to low occupational attainment (Kokko et al., 2000), to marital or family discord (Capaldi, Kim, & Shortt, 2004; Kinnunen & Pulkkinen, 2003) and consequent parental separation, and ultimately to family economic distress and poverty (Bardone, Moffitt, Caspi, Dickson, & Silva, 1996; Kokko & Pulkkinen, 2000). Negative outcomes in terms of educational attainment, timing of parenthood, family structure, and income may have particular importance for child rearing, with respect to the environment in which an individual becomes a parent and raises the next generation. In other words, social and behavioural patterns in childhood may have long-term implications for the conditions under which a subsequent generation is raised.

In addition, early patterns of aggressive behaviour and conduct disorder in girls and boys are predictive of later violent behaviour, and this includes violence and abuse that takes place within domestic and family contexts (Ehrensaft, Moffitt, & Caspi, 2004; Ehrensaft, 2008). While there have been numerous studies relating patterns of childhood aggressive behaviour to criminality and violent offending in adolescence and adulthood, studies are beginning to emerge on the connection between aggression and violence within the home and intimate couple and family relationships (Bardone et al., 1996; Ehrensaft & Cohen, 2011; Smith, Ireland, Park, Elwyn, & Thornberry, 2011). It has been demonstrated that, particularly among men, early aggressive behaviour is a strong predictor of partner violence (Capaldi & Clark, 1998). Moreover, and compounding the risks for couple and family violence, results from studies suggest that aggressive individuals involve themselves with similarly aggressive romantic partners (Andrews, Foster, Capaldi, & Hops, 2000; Capaldi et al., 2003; Temcheff et al., 2008). Aside from direct behavioural continuity, an indirect path from aggressive behaviour in childhood to family violence has been suggested. This path would occur such that childhood aggression predicts other negative life outcomes such as lowered educational attainment, family poverty, and parenting in the context of parental separation or absence, which compromise parenting and family relations and are all documented risk factors for family violence (Temcheff et al., 2008).

Intergenerational transfer of risk. Returning to parenthood and some of the conditions that threaten the environments within which children are raised, there has been a growing interest in studying the transfer of risk from one generation to another. Longitudinal and intergenerational studies provide the framework needed to explain how parents' characteristics and behaviours are transferred to children, as well as examine the processes underlying intergenerational continuities.

Parenting may be affected by a host of risk factors, such as mental health, poverty, and behavioural problems (Stack, Martin, Serbin, Ledingham, & Schwartzman, 2011; Serbin et al., 2011). For example, mothers experiencing cumulative risk factors, such as high levels of economic stress, single parenthood, have been shown to model aggression, view it as an appropriate means of problem-solving, and make more hostile emotional appraisals of ambiguous interpersonal situations when interacting with their children (Dodge, Pettit, & Bates, 1994; Root & Jenkins, 2005). In turn, children from low socioeconomic families tend to show higher levels of aggression at school (Root & Jenkins, 2005). Results from these studies imply that mothers from high-risk backgrounds may not have developed effective problem-solving skills during their own childhoods, and may therefore have difficulty teaching appropriate strategies to their children (Stack et al., 2011).

When adaptive parenting is threatened, the parent-child relationship is impacted and children are placed at risk for psychosocial disturbance (Duncan, Brooks-Gunn, & Klebanov, 1994; McLoyd, 1998). The child may be growing up in an adverse environment (e.g., poverty, stress, lack of parental warmth, hostility, neglect), a lack of resources may be central (ranging from parental resources and including the historical context and current situation), or child characteristics themselves (e.g., temperament, birth status, oppositional behaviour) may be the challenge and set the developmental course. In the face of adverse conditions, it is important to consider the processes of socialization and parenting variables (e.g., maladaptive behavioural styles, parenting

strategies) that influence whether children will emerge socially and emotionally competent. While parenting skills are not the only factor affecting children's emotional development, it appears that parenting behaviours, by themselves and in combination with other risk factors, have profound ramifications for children's social, emotional and cognitive functioning (Stack, Serbin, Enns, Ruttle, & Barrieau, 2010; Stack et al., 2011).

Background of the current project. Consistent with the literature described above, a major focus of the Concordia Longitudinal Risk Project has been to study the intergenerational transfer of psychosocial and health risk during the early and middle years of childhood, and to determine the processes, risk and protective factors that predict both negative and positive outcomes. The Concordia Project is a large, prospective longitudinal study of French-speaking, Montréal, Québec schoolchildren from low socioeconomic urban backgrounds initiated in 1976 by Jane Ledingham and Alex Schwartzman of Concordia University (Schwartzman, Ledingham, & Serbin, 1985). The project began with the screening of 4,109 Francophone school children in regular Grade 1 (years of birth: 1969 to 1970), Grade 4 (years of birth: 1966 to 1967), and Grade 7 (years of birth: 1963 to 1964) classes. Participation in the screening was voluntary, with over 95% of the students consenting to participate.

The children were rated on dimensions of aggression and social withdrawal by means of a French translation of the Pupil Evaluation Inventory (PEI; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976), which is a peer nomination instrument. The PEI consists of 34 items that load onto three factors: Aggression (20 items), Withdrawal (9 items), and Likeability (5 items). Scale items assess not only the behaviour of the child but also the reaction of peers toward the child. Scale scores on the PEI have been shown to be highly reliable (Pekarik et al., 1976; Schwartzman et al., 1985) and items within each scale are very highly inter-correlated. Sample items for the Aggression factor include "children who are mean and cruel towards other children" and "children who fight all the time and get into trouble." Items in the Withdrawal factor include "children who are too shy to make friends easily" and "children who usually don't want to play with others." The number of nominations received by each child within a class was summed to compute the Aggression and Withdrawal factors. Within each classroom, boys and girls were rated on the PEI in separate administrations. Children were asked to nominate up to 4 boys and 4 girls in their class (from class lists) who best matched each item on the PEI. Scores were standardized within sex and class in order to control for gender differences and class size in base rates of aggression and withdrawal. This procedure enabled appropriate comparisons of each child against relevant norms for gender and age. For a more extensive description of the original methodology and characteristics of the sample, see Schwartzman, Ledingham, and Serbin (1985). Following their identification, a subsample was selected for follow-up at approximately three-year intervals.

The Concordia Project addresses the life pathways of the original children, most of whom are now in their 40s. The original children were assessed at various stages of development, during childhood, adolescence, and adulthood (both before and after becoming parents). The Concordia Project provides an opportunity to examine a broad spectrum of life-course outcomes based on childhood patterns of aggression and social withdrawal. In addition, as many of the original participants are now adults with children of their own, the offspring of the original participants have been included within the

ongoing longitudinal project. The current paper draws from the extensive findings of the Concordia Project over the past 30+ years to focus on the long-term outcomes of childhood aggression within the family context, particularly girlhood aggression. A second focus is on the intergenerational transfer of developmental and health risk from parent to child.

Overview. The first part of the current paper examines child behaviour patterns that contribute to subsequent family poverty and disadvantaged child rearing conditions. The second part concerns the continuity of childhood aggression to violent behaviour in adulthood, including violence within the family context. The third part addresses intergenerational transfer of risk, specifically maternal histories of aggression and social withdrawal, and the environmental and parenting factors that predict children's health, and their behavioural and cognitive functioning. The fourth part of the present paper continues with an overview of family dynamics that relate to children's (offspring of the second generation) development (social, emotional, cognitive). In this section, we describe findings from a series of studies within the Concordia Project, all of which are based on observations of parent-child interactions across time when offspring were preschool to middle-childhood age. In the fifth and final part, we address the influence of fathers' presence vs. absence on the functioning of their offspring and into the next generation.

Part 1: Predicting Poverty and Disadvantaged Child Rearing Conditions from Childhood Histories of Risk

The focus of the first study we will describe is on childhood behaviour patterns (histories of aggression and social withdrawal) that contribute to subsequent family disadvantage in adulthood (Serbin et al., 2011). The objective of this study was to examine pathways from problematic behaviour patterns in childhood to disadvantaged family circumstances in adulthood, conditions that may promote the transfer of risk for disadvantage to the next generation.

Methodology. The sub-sample for the study was comprised of ongoing participants in the Concordia Project who had become parents at the time of the most recent data collection prior to these analyses. The size of the current sub-sample was 550 parents (328 mothers and 222 fathers) identified from among the 845 participants who were interviewed during the update of project records that occurred between 2001 and 2003. Measures included family of origin socioeconomic status (SES: occupational prestige, Nock & Rossi, 1979), childhood aggression and social withdrawal (PEI), academic achievement as measured by standardized measures of mathematics and language arts, school drop-out, age at first child, parental absence, and family poverty after becoming a parent (low-income cut-off score).

Because the relation between childhood risk factors and family outcomes is likely to be complex, direct and indirect paths from childhood behaviour patterns through academic achievement, high school dropout, early parenting, and parental absence to current family poverty were considered within the predictive model. Some of the specific pathways that may threaten child-rearing environments are considered in the conceptual model illustrated in Figure 1 (see Appendix). Observations were included from four

sequential developmental phases. The first is middle childhood: when participants were nominated and rated by peers in terms of aggression and social withdrawal. The second phase refers to the participants' adolescent years and the time at which high school completion normally takes place. "Child's birth" refers to the age at which participants became parents. Finally, "Parenthood" refers to the most recent phase of the project in which these participants are parents of one or more children.

The model in Figure 1 illustrates the hypothesized paths. The first path is from childhood histories of aggression and social withdrawal to academic achievement. At the next stage of the model, becoming a parent during adolescence is associated with several risk factors and can compound existing problems such as learning difficulties, behavioural problems, and academic failure. The next stage of the model involves parental absence. Detrimental effects to both boys and girls can occur in families where children are raised with an absent father (Demuth & Brown, 2004; Ellis & Garber, 2000). However, consistent with the fact that families led by single fathers are growing (Garasky & Meyer, 1996), we included families in which either the biological mother or father was absent in our conceptualization of "parental absence". Family poverty in the final step of the model represents an ecological context that reflects the continuity of disadvantage within a single generation, as well as a probable factor in the perpetuation of risk across generations (Conger & Donnellan, 2007).

Results. We tested the proposed path model, shown in Figure 1, via Structural Equation Modeling (Bentler, 2004; Kline, 1998). Direct paths were found from childhood aggression to adverse child rearing conditions; with paths to young parenthood and parental absence for mothers, and paths to high school drop-out, young parenthood and parental absence for fathers. For both mothers and fathers, withdrawal did not operate directly on school drop-out but was associated with lower academic achievement which in turn led to high school drop-out. Indirect paths accounted for some of the relations between the two childhood behavioural variables (i.e. aggression and withdrawal) and the four "outcome" variables (drop-out, early parenthood, parental absence and family poverty) which were found to be inter-related in both mother and father models, via both direct and indirect pathways (for more details, see Serbin et al., 2011).

Together, the results confirm that problem behaviour in childhood is linked to a sequence of problematic events and conditions leading to disadvantaged child rearing conditions in parenthood. These conditions place their children, a new generation, at risk for a wide variety of developmental, social, academic, economic, and health problems. Disadvantaged "rearing conditions," defined here as low education, early parenthood, single parenthood, and family poverty, appear to be part of the complex processes of cumulative and interactive continuity leading to a wide range of ongoing life-course difficulties (Caspi et al., 1989; Caspi, Wright, Moffitt, & Silva, 1998; Ronka et al., 2000). In addition, these contribute to the intergenerational transfer of risk to the next generation (for more details, see Serbin et al., 2011).

Part 2: Continuity from Childhood Aggression to Family Violence in Adulthood

Patterns of aggressive behaviour that occur early in girls and boys are predictive of later violent behaviour, including violence within family contexts. Utilizing the Concordia Project, Temcheff and her colleagues examined different pathways to continuing patterns of violence toward children and spouses from childhood aggressive behavioural styles (Temcheff et al., 2008).

Methodology. The sample was comprised of a subset of 365 (233 women and 132 men) ongoing participants in the Concordia Project who had become parents at the time of the most recent data collection. To measure self-reported physical violence towards spouse and children we used a modified French translation of the Conflict Tactics Scale (CTS: Straus, 1979). Scales on the CTS measure the sexual, psychological, and physical attacks perpetrated by both partners over the past 12 months as well as the lifetime occurrence of these attacks. The scale measuring self-reported violence towards one's spouse included 11 questions, such as "How many times have you thrown something at your spouse?" "How many times have you slapped your spouse?" and "How many times have you beaten your spouse?" The modified version of the CTS was used to examine self-reported violence toward one's children and included four questions: "How many times have you beaten your child?" "How many times have you burnt or scalded your child?" "How many times have you threatened your child with a knife or gun?" and "How many times have you used a knife or gun against your child?" In addition, a demographic information questionnaire was administered via telephone (e.g., educational attainment, family income, martial status, dwelling places of each of the participant's children).

Results. Both direct and indirect pathways were revealed (see Figure 2 in Appendix). Violence towards one's spouse was directly predicted from childhood aggression for both men and women, while the indirect route was through marital separation and lower education. Childhood aggression also predicted parental violence with their children. In predicting violence toward children for mothers, educational attainment and current absence of the biological father from the child's home were also important. Consistent with this finding, in another study with the Concordia Project, which is described in the last section of this paper, Pougnet and colleagues showed that father presence had a positive effect on children's cognitive outcomes (Pougnet, Serbin, Stack, & Schwartzman, 2011). Together with the fact that aggression predicts father absence, evidence of both continuity of aggressive behaviour and indirect pathways to family violence were shown. Although requiring further research and an examination of mediators, aggressive behaviour styles in childhood may be an identifiable precursor to family violence and child maltreatment for both men and women (for details, see Temcheff et al., 2008).

Childhood aggression also predicts women's adult mental health. Elevated rates of both anxiety related problems and depression compared with the general population, as well as substance abuse and severe mental illness such as bi-polar disorder and schizophrenia, have been found in our medical record studies (Schwartzman, Serbin, Stack, Hodgins, & Ledingham, 2009). Behavioural and mental health problems are not only found in one generation, but also for offspring, as discussed in the next section of

the paper. Girls' childhood aggression predicts risks that go beyond the direct effects of family violence. Because childhood aggression leads to many negative adult outcomes that predict health, education, and social functioning, as well as intergenerational risk, it is important to recognize it as a potential sign of problems to come.

Part 3: Intergenerational Transfer of Risk

As discussed above, childhood aggression has many direct and indirect effects on adult functioning, including high school drop-out, early parenthood, single parenthood, and family poverty. In turn, each of these factors increases life-long social and health risk, as well as developmental and health risks in offspring. Results using longitudinal research designs have identified *intergenerational* processes that sustain this continuity.

Study 1. One example of the process through which maladaptive behaviour in the parent generation affects child functioning, is the process by which childhood aggression leads to lowered cognitive stimulation to offspring. It is well known that an enriched home environment is stimulating for children's cognitive development and school success. In this study we examined pathways to current cognitive stimulation by targeting childhood histories of maternal aggression as predictors of maternal scaffolding strategies and quality of the home environment on children's cognitive competence.

Methodology. The sub-sample for the study was comprised of 80 parents (51 mothers and 29 fathers) who were original participants in the Concordia Project. The spouses and children of these parents also participated in this study. Measures included childhood aggression and social withdrawal (PEI), parental distress (Parenting Stress Index, Adibin, 1990), quality of the home environment (HOME; Caldwell & Bradley, 1984), maternal scaffolding (Maternal Teaching Observation System; Saltaris & Samaha, 1998), and children's cognitive functioning (Stanford-Binet Intelligence Scale; Thorndike, Hagan, & Sattler, 1986).

Results. In the Concordia Project, mothers' childhood aggression negatively predicted mothers' ability to provide stimulation and scaffolding for children's problem solving, as well as reducing the richness of the home environment with regard to opportunities for cognitive stimulation (Saltaris, Serbin, & Stack, 2004; Serbin et al., 2004; Serbin, Stack, Hubert, & Schwartzman, 2011; Serbin, et al., 2002). Along similar lines, childhood behavioural histories (e.g., social withdrawal) have been found to predict the richness of the linguistic environment, leading to reduced language and communication skills at preschool age (Campisi, Serbin, Stack, Schwartzman, & Ledingham, 2009).

Part of this process is due to the relation between early aggression and later social support satisfaction as well as increased parenting stress. These problems, in turn, reduce mothers' ability to provide cognitive and social support to their children. Children's developing intellectual skills, as well as their long-term school success, may be affected by a relatively impoverished home environment. The risks to offspring from lack of home stimulation are greatest among lower income families, where a small difference in parenting and environment can yield major differences in children's long-term academic performance. Other impacts of maternal problems and lack of support may be seen in children's behavioural problems, including both internalizing (i.e. depression and

anxiety) and externalizing (attentional problems, social aggression) problems (Stack, Serbin, Schwartzman, & Ledingham, 2005; Serbin, et al., 2011).

Study 2. Mothers' childhood aggression and social withdrawal also affect the health of offspring. Young children raised in impoverished environments by parents who are relatively unresponsive to their needs also may experience elevated risk for injuries and illness. We wanted to determine whether mothers' childhood social behavior would add a risk factor for offsprings' injuries and acute illness beyond their previously established risk as children of adolescent mothers.

Methodology. In a 15-year longitudinal study, the medical records of 94 children born to adolescent mothers from the project were examined (Serbin, Peters, & Schwartzman, 1996). The children's annual rates of visits to the emergency room (ER) and to nonemergency medical facilities, post-ER hospitalizations, diagnoses of injuries, acute illness and infection, asthma, and emergency surgical consultations were examined between birth and 48 months of age.

Results. Mothers' childhood aggression were found to predict their offsprings' rate of visits to the emergency room during early childhood over 15 years later, as well as their rate of injuries and injury-related hospitalizations. Illnesses (e.g. infections, asthma) and rates of surgical consultation were predicted by patterns of aggression and social withdrawal as well (for details, see Serbin et al., 1996).

Together, intergenerational risk relating to mothers' aggressive behaviour is confirmed by these results, although the mechanisms of this process remain to be explored. Childhood aggression may "directly" threaten the health of offspring via continuity of behavioural problems in adulthood in the form of poor parenting practices and family violence. In addition, there may be "indirect paths" between aggression and offspring health, via sequelae of childhood aggression such as early parenthood, lowered parental education and income, single parenthood, and increased neighborhood risk. It is also likely that childhood aggression and social withdrawal combine with other risk factors in these families to create a particularly high-risk profile for offspring. For example, adolescent mothers may have relatively few social and economic resources and support available to them, and in this context of scarce resources and lack of support, a pattern of maladaptive behaviour in the parents becomes particularly risky for offspring.

Part 4: An Overview of Family Dynamics and Positive Versus Negative Outcomes for Children

The findings presented in this section are drawn from a subset of the original sample of the Concordia Project. The sample includes 175 parents and their young offspring from among the parents in the previous studies, all of who had children between the ages of two and five years at the time the study began. They were then longitudinally followed at four time points, three years apart: when children were aged one-to-six-years old (two to five for the present analyses), six to eight years, nine to 12 years, and 13 to 15 years, however, the focus of the present discussion will be up to nine to 12 years, as the final time point is still in progress.

Drawing from an in-depth assessment of these parent-child interactions from infancy to preadolescence, we show how some family interaction patterns over time can

predict negative outcomes while others can help to achieve positive outcomes for children. Experienced interviewers went to participants' homes (and schools for the middle-childhood visit) and collected information from the families including family, child, and environment measures. During these visits, parents completed standardized interviews, and questionnaires related to their children (e.g., temperament, health and development) and themselves (e.g., parenting styles, violent behaviour, mental and physical health, and marital relationship), and at the visit during middle childhood, teachers and children themselves also completed questionnaires. Children's cognitive abilities were assessed using standardized testing. Videotaped observations of mother-child interactions in a series of different contexts were also taken.

Mothers' attempts to stimulate children's cognitive growth were examined during a teaching task whereby mothers were verbally instructed to help their child complete age-appropriate puzzles (e.g., Saltaris et al., 2004). Qualitative ratings of mothers' teaching styles revealed that maternal histories of behavioural patterns, particularly childhood aggression, predicted poor scaffolding strategies (Saltaris et al., 2004). That is, Saltaris and her colleagues found that mothers who were aggressive in childhood were less likely to use the task to teach strategies and new concepts to their child, and/or were less likely to encourage independent mastery of the task. In turn, children of mothers with histories of aggression were more likely to have lower IQ scores (Saltaris et al., 2004). Together, these findings imply that, in a sample of economically and socially disadvantaged mother-child dyads, mothers with histories of aggression are less cognitively stimulating when interacting with their preschoolers and children's intellectual growth is thwarted.

In a study by Grunzeweig and colleagues, the manner in which mothers requested their children's compliance was investigated (Grunzeweig, Stack, Serbin, Ledingham, & Schwartzman, 2009). Maternal request strategies and children's behaviour were examined during a task whereby mothers were given a list of requests to give to their preschool-age children. Results revealed that when trying to elicit their toddlers' compliance, mothers with histories of social withdrawn were found to use more intrusive techniques, such as more physical interventions, repetitions, as well as requests that gave children little opportunity to comply. These less effective request strategies subsequently predicted non-compliance and defiance in children (Grunzeweig et al., 2009).

Mother-child conflict resolution strategies were examined when mothers and their nine- to 12-year-old children discussed conflict topics they both rated as especially problematic in their relationship (e.g. bedtime, chores, homework). Martin and her colleagues examined the ability for mothers and children to successfully resolve their disputes and, in the process, for mothers to model effective problem-solving strategies. Results showed that mothers who were both aggressive and withdrawn in childhood, as well as their children, generated poorly sophisticated solutions when discussing their conflicts (Martin, Stack, Serbin, Ledingham, & Schwartzman, in press). These solutions were those that lacked clarity, elaborations, consequential thinking, foresight, and/or were unrealistic. Similarly, a disengaged or less active problem-solving style was found in dyads with mothers with histories of social withdrawal; when deciding which solution to implement, they were vague and only demonstrated a 'sense' of resolution rather than discussing concrete strategies. These findings suggest that mothers who were socially withdrawn, and those both aggressive and withdrawn in childhood, display less

sophisticated problem-solving strategies which appear to be mirrored in their children. Given that problem-solving deficits have long been associated with poor social competence, academic difficulties, externalizing problems, and delinquency (Dodge, 1993; Lochman & Lampron, 1986; Rotheram, 1987; Shure & Spivack, 1982), results imply that children are at risk for a number of social, behavioural and academic problems in the future (Stack et al., 2011). Support that children's solutions paralleled their mothers' childhood behavioural tendencies was also shown. Children of mothers with childhood histories of both aggression and social withdrawal were more likely to generate antisocial solutions (i.e. socially excluding others or oneself from the situation, punishments or aggressive confrontation). Likewise, children of mothers who were withdrawn in childhood generated more solitary solutions, demonstrating a desire to resolve their conflicts on their own (Martin et al., in press).

Finally, in a longitudinal examination of the quality of the mother-child relationship, the Emotional Availability Scales were used (Biringen, Robinson, & Emde, 1988; 1993) to measure the relationship in the same way over time (Stack et al., 2012). Emotional Availability (EA) is a measure that can capture the quality of the relationship from infancy to adolescence. In one study, the quality of the mother-child interaction was assessed using the EA scales during the free play task at preschool and the Jenga task during middle childhood, in the same sample described above. However, in the second study, EA was coded on a different sample of the Concordia Project, when infants were 6 months (Time 1), then again at 12 (Time 2) and 18 (Time 3) months, 4 ½ years (Time 4) and early elementary school (Time 5). Face-to-face (6 months) and free play interactions between mothers and their children were video-recorded.

Across both studies, maternal childhood histories of aggression and social withdrawal predicted negative EA (i.e., higher levels of maternal hostility) during mother-child interactions with offspring at preschool age. In the first study, mothers with higher levels of social withdrawal during childhood had preschool age children who were less appropriately responsive to and involving of their mothers during interactions. In the second study, higher levels of observed appropriate maternal structuring predicted child responsiveness while maternal sensitivity (and structuring) predicted observed child involvement. More maternal social support and better home environment combined with lower stress predicted better mother-child relationship quality. Consistent with findings already presented, results imply that negative behavioural histories in childhood impact parenting skills and the responsiveness and involvement of children during interactions (Stack et al., 2012; Stack et al., 2011).

Part 5: Fathers' Presence Versus Absence and its Influence on Children's Functioning

Much of the research involving families and child outcomes focuses on associations between mothers' parenting and child development. Like mothers, fathers make significant contributions to their children's development and to the cognitive and behavioural functioning of their offspring. The following two studies add to an emerging body of research illustrating connections between fathers and their children's development.

Study 1. In a study examining the development of 138 families from the Concordia Project, Pougnet and colleagues found that fathers' presence in their children's homes in middle childhood was associated with lower levels of pre-adolescent internalizing behaviours for girls, even after controlling for family and socioeconomic factors such as family income, home environment, parental educational attainment and couple conflict (Pougnet et al., 2011). Fathers' parenting also has important effects on their children's development: fathers' positive parental control in middle childhood predicted higher Performance IQ scores and fewer internalizing behaviours for boys and girls in pre-adolescence, controlling for family and socioeconomic factors (Pougnet et al., 2011). These findings add to the growing body of research demonstrating the unique effect of fathers' presence and parenting on children's cognitive and behavioural development. This is consistent with earlier findings that school aged children of involved fathers are more likely to demonstrate more cognitive competence on standardized intellectual assessments (Radin, 1994) and are better at achieving academically (Nord & West, 2001).

Study 2. In another study utilizing the Concordia Project, Pougnet and colleagues examined the connection between father's absence in one generation and the subsequent experience of father's absence by the next generation (Pougnet, Serbin, Stack, & Schwartzman, accepted). The sample included 386 families from lower income backgrounds who participated in two waves of data collection: at Time 1, when they were children, and at Time 2, when they were adults with children of their own. Findings revealed a direct pathway of intergenerational continuity among fathers' absence. That is, girls who lived in a father-absent home during middle childhood were more likely to have children who experienced a similar absence of their fathers, while boys whose fathers were absent while they were children were more likely to live apart from their own children later on. Furthermore, boys who were rated high on aggression measures by their peers in childhood were more likely to become absent fathers later on. Finally, Pougnet and colleagues also found that absence of the father from the child's home was associated with higher levels of childhood aggression scores for females.

Past research suggests there is a strong association between family structure and parenting. Single-parent families, especially single-parent families headed by a single mother, typically have lower socioeconomic levels than two-parent families (Thomson, Hanson, & McLanahan, 1994). Furthermore, these socioeconomic effects due to fathers' absence can have long-lasting impact; father absence has been shown to be associated with offsprings' lower educational attainment, early pregnancy, lower status jobs and lower income (Astone & McLanahan, 1991; McLanahan & Bumpass, 1988). Thus, fathers have an important influence on their children's cognitive and behavioural development, both directly through their presence and positive parenting practices and indirectly by increasing the socioeconomic status of the family. However, both mothers and fathers are important to children's healthy development.

Conclusions

A complex web of disadvantaged personal and family characteristics anticipates problematic child rearing and parenting conditions. In the present paper, we have described some of the ways that individual and family characteristics act in combination over time to establish the environments in which families are raising their children. Our results confirm that there are specific individual and environmental characteristics, identifiable in childhood, which have an enduring impact into parenthood. "Direct" long-term effects of early environment and behavioural characteristics on specific outcomes at adulthood and at parenthood were found, suggesting continuity of both problematic behaviour and of disadvantaged environmental conditions from childhood to parenthood. "Indirect" paths linking the childhood variables to the parenting conditions were also found, however, indicating that early characteristics such as aggression, social withdrawal, and low family socioeconomic status are predictive of a series of negative sequelae. Each of these, in turn, has a potential impact on the cumulative course of development. Furthermore, both parents contribute to the upbringing of their children in terms of the emotional and cognitive stimulation and other support they provide to foster healthy development. However, father absence not only deprives children of the parenting that they should receive from their fathers, but also places huge economic and emotional stress on mothers, making it much more difficult for them to parent as well.

There has been a great deal of progress in recent years in our knowledge and understanding of the complex ways in which aggressive and other maladaptive behaviour places children at risk for ongoing problems across the life course. Our findings have contributed to the evolving picture of the complex ways in which aggression, maladaptive behaviour, environmental and familial conditions place children at risk for problematic family relationships, and ongoing problems across the life course.

Needs for Future Research

Clearly the main implication of our ongoing study for public policy is the need to identify high-risk families and children and families early, and to provide appropriate and comprehensive intervention to meet their needs. Educational, economic, mental health, and social support are all implicated as essential for the healthy development of children from high-risk backgrounds. Moreover, we know some of the negative outcomes and some of the positive family dynamics that would correct or reduce maladaptive patterns. However, what is warranted is to return to changing the *processes* with a focus on the mechanisms (e.g., parenting, relationships, health). More prospective, longitudinal studies are needed, including those that cross generations. More community samples need to be studied. By comparing results with other longitudinal studies we can confirm the risk (and resilience) patterns identified here. However, we can also test the validity of our conclusions about risk and protective processes by structured interventions, using appropriate research designs to evaluate their impact on development. Both research strategies, replication/comparison across studies and populations, and experimental intervention, may be called for at this time.

Implications for Prevention, Intervention, and Policy

Understanding the processes whereby established threats such as poverty place families at risk will be necessary if we are to design effective and efficient support programs. In addition, "unpacking" well-established risk factors, such as school drop-out, early parenthood, parental absence, and family poverty, will be an important step in designing preventive interventions (Serbin, Stack, Kingdon, Mantis, & Enns, 2011). We need to know the specific sequence and mechanisms that underlie intergenerational patterns of risk to health and development.

The fact that there are both direct and indirect paths from childhood characteristics and environment to subsequent outcomes after parenthood may have direct implications for preventive intervention. In particular, intervention efforts aimed specifically at the "immediate" predictors of problems after parenthood, such as young parenthood or failure to complete schooling, may not be most effective for individuals who are at particularly elevated risk within disadvantaged populations. For these individuals, additional risk factors such as problematic behaviour, learning difficulties, and, in particular, the cumulative effects of long-term family disadvantage may all have to be addressed if conditions for parenthood are to be substantially improved. In order to help these high-risk individuals, we may need to address multiple sources of difficulty, with multiple sources of support. Some of the risk factors identified for disadvantaged girls occur prior to parenthood and possibly prior to their late teens, suggesting the need to take a developmental approach to the prevention and treatment of these problems. Whether risk factors for family violence can be addressed most effectively in adolescence and early adulthood, or should be the focus of earlier preventative interventions in childhood, is a question that needs to be addressed both empirically and from a social policy perspective.

Although girls may be less likely to engage in the violent offending typical of aggressive boys, the breadth of negative outcomes associated with girls' aggression is very large (Putallaz & Bierman, 2004; Verlaan & Déry, 2006). Current findings suggest that the arena of family conflict and violence may be particularly relevant for the expression of aggressive tendencies for girls and women. When designing treatment programs to deal with those currently engaging in family violence, it would likely also be necessary to address multiple factors that sustain this pattern as well as potential supports that could protect girls and their families. In particular, intervention efforts aimed specifically at treating family violence, without addressing concomitant life factors such as limited parental education and stressful family conditions, may not be most effective for individuals at particularly elevated risk within disadvantaged populations. Each of the risk factors discussed in this paper contributes a small effect towards the outcome of family violence. Therefore, these findings would most likely be important from a policy and prevention perspective rather than as a source for the development of immediate intervention or treatment programs. Even small effects contributing to change within prevention efforts can have large outcomes in terms of benefits when applied across populations.

In sum, it is clear that there are individuals within disadvantaged populations, such as the inner-city Concordia sample, who are at especially high-risk for long term psychosocial difficulties. These problems are cumulative, and extend beyond the individual to the functioning of the individual's family and future offspring. Because risk is cumulative in these families, and because risk factors can be identified at various points in the course of development, there may be multiple opportunities for preventive intervention. Addressing the complex risk profiles of the most vulnerable individuals will probably require early and targeted preventative intervention in order to improve the long-term course of their development. Together, we have shown that maladaptive behavioural styles in one generation influence the second generation in part by, for example affecting mothers' availability and nurturing qualities and cognitive stimulation resulting in less effective parenting practices and thereby hindering children's emotional, cognitive, and behavioural growth.

On the more positive side, buffering factors (notably social and economic support, coping ability, positive parenting, educational achievement) have also been identified within the Concordia Project. For example, characteristics such as educational attainment may protect individuals from negative outcomes, even under disadvantaged conditions. In the broader literature and in our Concordia Project, parental education has been repeatedly linked with successful parenting and with higher cognitive functioning and academic performance in offspring (Brody, McBride-Murry, Kim & Brown, 2002; Serbin & Karp, 2004). Income (closely related to educational attainment) is also a powerful predictor and contextual modulator of the long-term outcomes of girlhood aggression. Many of the women (and their offspring) are now doing relatively well, despite their poor prospects in childhood or early adolescence. The challenge for researchers in this field is to pinpoint the processes whereby risk and buffering factors operate, as well as the amount of risk for specific negative outcomes that may be quantitatively attributed to specific predictors. Finally, we need to identify the specific risks that might be addressed at different points in development, and to examine developmental risks in the contexts of research, social, educational, and health policy.

Drawn from the findings, there are a number of recommendations for policy and intervention that are important to highlight:

1) There needs to be greater public awareness about the importance of healthy parent-child relationships for children's long-term socio-emotional development. The roots of prevention and reduction of violence are in the development of healthy relationships; in interpersonal relations. Fostering skills and healthy relationships, particularly between parents and their children, begins in the home environment. A healthy parent-child relationship is crucial for the child and is the foundation for the development of future relationships. Building positive and healthy relationships is central to changing negative relationships and forming healthier and stronger families, and this is integral to building a better future for our children. In short, we need to invest in families and children.

2) Negative "family dynamics" (aggressive behaviour, social interaction styles, violence, parenting) play an important role in the continuity of disadvantage from one generation to the next. Socialization processes in the area of the family play key roles in perpetuating maladaptive patterns across generations. Some of these

family related processes include: a) children learn from their parents by observing and modeling their behaviour. Thus, children may mimic aggression or hostile behaviour. The observing of either competent or maladaptive behaviour in the home *legitimizes* these behaviours in other contexts and with other people. b) behaviours of parent and child are mutually reinforced during interactions, and the negative behaviours reinforcing negative behaviours can lead to coercive cycles (Patterson, 2002). If parents are unskilled in positive behaviour and in eliciting positive behaviour from their children, the focus can become negative and negative discipline is underscored. If positive behaviour cannot be modeled, then it is difficult to teach conflict resolution and problem solving skills.

3) Positive dynamics (e.g. support, stimulation, responsive parenting) can play an important role in reducing risk for children from disadvantaged families.

4) There needs to be a greater focus for public policy on issues such as intergenerational links, behaviour problems, parenting, home environment, and family violence to reduce both the impact and prevalence of child poverty and family disadvantage.

5) Support to "at risk" families is critical for prevention of ongoing distress and dysfunction. To support families, we need preventive intervention.

6) Interventions must be appropriate and sensitive to the developmental needs of parents (e.g. young parents) and children (i.e., age and stage appropriate), and may be targeted
   Examples:
   a. developmentally oriented, parenting education for prospective and young parents (based on research establishing best practices)
   b. programs to keep young parents in school and young families together: consider income supports, nutritional supports, housing, job creation and counseling, child care to allow continued schooling or work by parents, home visits by professional (e.g. nurse) for health, nutrition, and parenting education
   c. high school level: focus on programs to create positive interpersonal relations, especially between males and females, to break cultural violence patterns

7) Young parents, especially those with high-risk profiles, require economic and social support to successfully stimulate the development of their young children, and to promote physical health.

8) While both mothers and fathers are important to children's development historically, agencies serving children have focused on mothers and have largely ignored fathers. It is essential that both professionals and policy makers improve circumstances for involved fathering during the crucial early years of development within socioeconomically disadvantaged communities. Programs for fathers are needed, especially for those raised in father-absent households, in order to help build specific skills to meet their children's developmental needs,

and to facilitate fathers' emotional support of their children's mothers. Policies should encourage increased, positive contact between children and their fathers (e.g., parental leave for men, parenting classes that emphasize the role of fathers in child development, as well as programs that support couples within their relationships to help prevent parental absence).

9) Our results strongly support the need to provide developmental education, in addition to social and economic support, to high-risk parents with young children. Community support in the form of parenting and child development workshops are needed to foster healthy parent-child interactions (e.g., drop-in programs, groups for new mothers, groups for older children).

Authors' Notes

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Appendix

Figure 1 (taken from Serbin, et al., 2011)

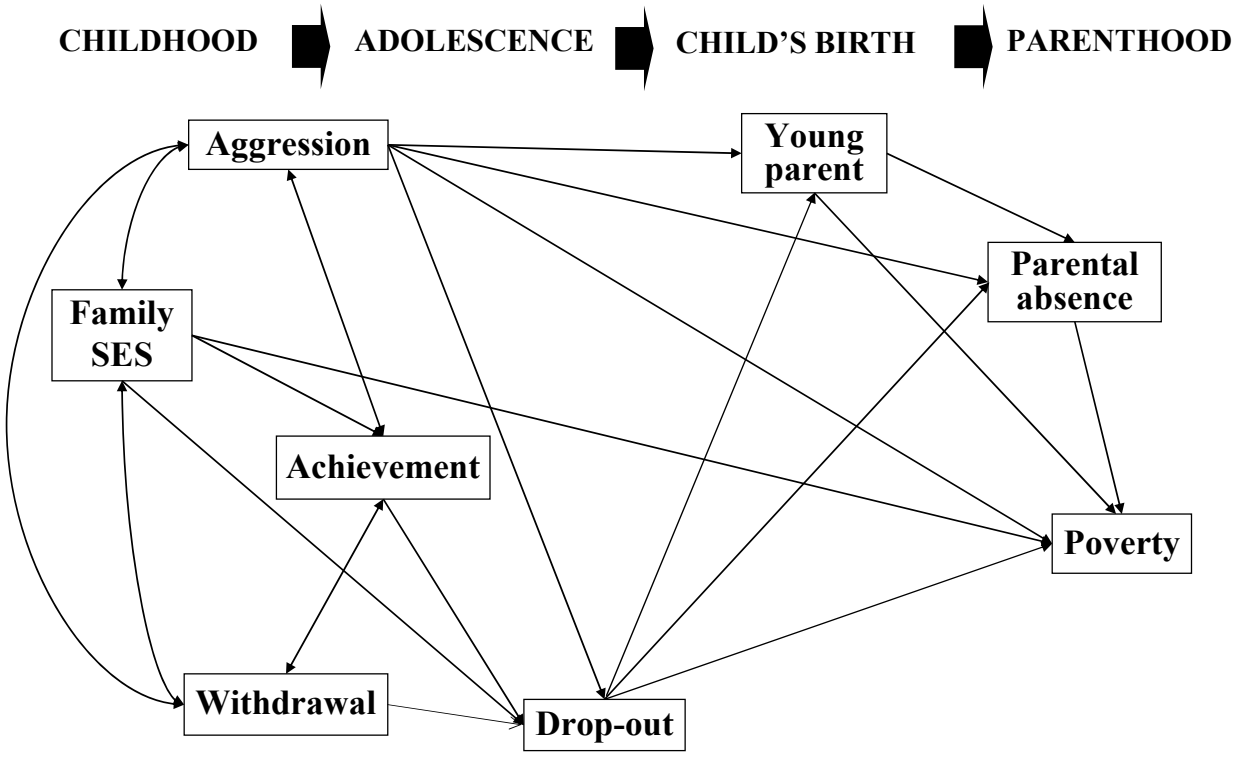

Figure 1. Conceptual model predicting poverty and other disadvantaged rearing conditions. The final, definitive version of this figure has been published in International Journal of Behavioral Development, 35/2, March/2011. With kind permission from SAGE Publications Ltd, All rights reserved. © http://online.sagepub.com

Figure 2 (taken from Temcheff et al., 2008)

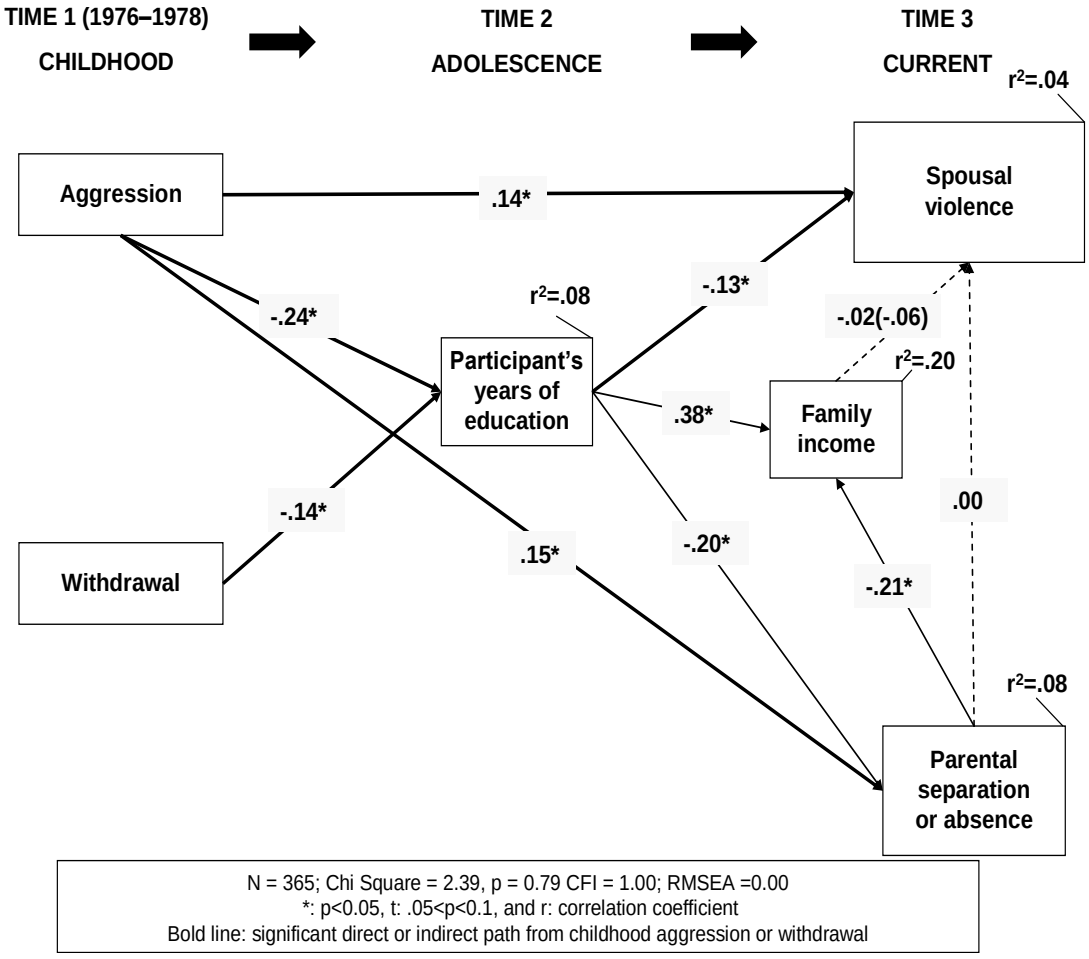

Figure 2. Predicting self-reported spousal violence. © Springer and Journal of Family Violence, 23, 2008, 231-242, Continuity and Pathways from Aggression in Childhood to Family Violence in Adulthood: A 30-year Longitudinal Study, Temcheff, C.E., Serbin, L.A., Martin-Storey, A., Stack, D.M., Hodgins, S., Ledingham, J., & Schwartzman, A., Figure 2, with kind permission from © Springer Science + Business Media B.V.