

The Effect of Poverty and Parental Behavior for Predicting High Level Physical Aggression

부모빈곤과 부모양육행동이 아동의 공격성 행동에 미치는 영향

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ABSTRACT

This study addressed ways in which poverty factors are associated with child physical aggression and how these relationships are moderated by parenting behavior. Using a longitudinal approach, parental poverty status was measured when children were 5 months; the Parenting Behaviour Questionnaire (Boivin et al., 2000) was administered when children were 17 months; and mothers reported child physical aggression behaviors when the children were 60 months. Using structure equation modeling analyses, the results of this study confirmed that parenting behavior is a mediator of the linkage between poverty and child physical aggression, showing the urgent need for early intervention for impoverished children.

Key Words : parental poverty, parenting behaviour, physical aggression, longitudinal study

INTRODUCTION

Despite we are now more than three decades beyond the declaration of the 'War on poverty', the rate of child poverty in the United States (39%) is two to three times higher than in any other industrialized country (National Center for Children in Poverty, 2003). In spite of significant economic improvements, Statistics Canada (2003)

reported a 39% increase in child poverty, compared to a decade ago. East Asia is not exceptional. For instance, almost one in five Korean children lives in poverty (Korea Development Institute, 2003). Considering the increasing number of impoverished children, and then a significant number of children are at high risk for aggressive behaviour problems (e. g., Chao & Willms, 2003). Because of that some findings clearly indicated low

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income as the best prenatal predictors of children's frequent use of physical aggression (Lee, 2004; Lee, Deborah, & Jill, 1998; Tremblay, Nagin, Seguin et al, in press). This, in turn, leads to long-term consequences such as scholastic difficulties, violent crimes, partner assault, alcoholism, drug abuse, unemployment, divorce, abusive parenting, and mental health disorder (Farrington, 1994; Fergusson & Horwood, 1998; Huesmann et al., 1984; Nagin & Tremblay, 1999; Kokko & Pulkkinen, 2000; Reiss & Roth, 1993; Serbin et al., 1998; Stattin & Magnusson, 1989; Woodward & Fergusson, 2000). From a practical point of view, children from disadvantaged backgrounds are vulnerable, which can cause 'fear effect' such as physical aggression, which is probably the most feared and socially costly of the behaviour disorders.

If parental poverty does have detrimental effects on children's later behaviour problems, research designed to identify factors that can buffer the devastating impacts of child poverty, is of critical importance.

Parental Poverty, Parenting Behaviour, and Child Physical Aggression

While poverty can have a detrimental effect on child physical aggression, we still know very little about which factors, under what conditions, disrupt or mediate the link between parental poverty and child physical aggression. If some children have behaviour problems in the face of poverty, can we speculate that it is due to negative parenting behaviour? (e. g., Kenneth,

Gilbert, Lawrence et al., 2000). Theoretically, there are two possible pathways (see Baron & Kenny, 1986): Moderators and mediators. Moderators explain why some children avoid high physical aggression in spite of poverty, whereas mediators describe different pathways through which parenting behaviors lead to high physical aggression. Two studies show partial support for the pathways. The study of McLoyd (1990) showed that family poverty at birth was related to conduct problems at middle school through harsh parenting. Onyskiw and Hayduk (2001) also found that maternal responsiveness moderated the impact of family characteristics (e. g., family income, maternal education etc.) on physical aggression at school age, in Canadian families.

Only few studies have tried to clarify the pathways involving an intervention factor. More systematic work is needed to understand how individual children not only cope with the demands of poverty but also excel in their behaviour adaptations. The major question addressed in this study is how parental poverty factors are associated with child physical aggression and to what extent these relationships are buffered by parental behavior.

METHODS

Subjects

A total of 472 children were followed from 5 to 60 months of age to assess child development. Mothers were interviewed three times,

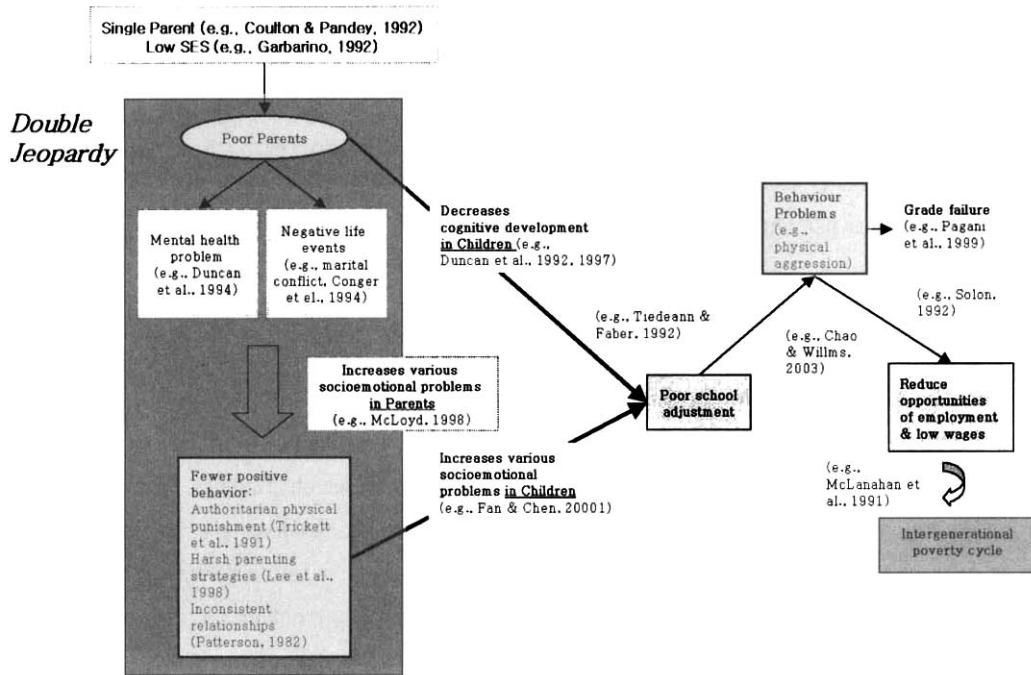


Figure 1. A simplified illustration of the causes and consequences of poverty in the causal linkages over the life cycle.

when their child was 5, 17, and 60months old. The babies were from a random sample of 472 newborns living in the main urban areas of Canada and assessed at 5 months of age in 1996. Mothers' attributed: educational attainment (16.0% did not finish high school; 50.4% had a post secondary education), age (28.8 years), and family income below \$30,000 (Canadian) (29.3%).

Measures

Parent background and family characteristics at 5 months. Mothers were asked to complete a questionnaire during the age 5-month interview. Mother's age at birth of first child, level of education, family composition, household income,

and family functioning were obtained during the interview when the child was 5 months of age. Household income was measured as an ordinal variable that takes integer values between 8 (less than \$10,000 CAN) and 1 (more than \$80,000 CAN). Level of education was transformed into a dummy variable indicating if the mother had (=0) or not (=1) a high-school diploma. Considering the contribution of single parent on poverty, parents were asked if the children were living with two parents (1), single parent (2), or do not live with a parent (3). The subjects were responded; 68.1% for two parents, 21.1% for single parents, and 1% for none.

Mothers' quality of parenting at 17months after birth. Following the 5-month interview,

mothers were asked to complete a questionnaire on parenting behaviors. The questionnaire was developed for the Longitudinal Study of Child Development in Quebec (Boivin, Prusse, Saisset et al., 2000). Then factor analyses have assessed according to previous parenting studies, resulting to the coercive parenting scales and self-efficacy scales (Chao & Willms (2003). The scales had internal reliabilities (Alpha) above the .70 level. The coercive parenting scale measures the tendency to respond in a negative and restrictive manner to the child with a 17-item scale (e.g., I have raised my voice or shouted at my baby when he was particularly fussy; I have spanked my baby when he was particularly fussy; I have lost my temper when my baby was particularly fussy). The parental self-efficacy scale has 15 items that measure mother's perception of her ability to fulfil her role as a parent (e.g., I am very good at keeping my baby amused; I am very good at keeping my baby busy while I am doing housework; I am very good at feeding my baby, changing his diapers, and giving his bath). The items were rated on a 5-point scale. The answer categories for these items were of two types: 1 = never to 5 = all the time and 1 = never to 5 = always. Some items reversed when calculating score.

Physical aggression at 60 months. Mothers were asked to indicate whether the child never (0), sometimes (1), or often (2), 3 items were measured according to the behavior characteristics of 60-month old children (Boivin, Prusse et al., 2000; Chao & Willms, 2003). Hits, bites, kicks; fights; and bullies others (scores on this 3 item

scale may range from 0 to 6). It was divided into high and low level. The internal consistency value (alpha) was .76.

RESULT

Means, Standard deviations, and Zero-order correlations among all of the measures are calculated. The pattern of correlations among the predictor and criterion variables was consistent with prior research findings. Lower levels of family income and having a single parent were correlated with negative parenting behaviors and high physical aggression.

Structural equation modeling analysis was used to test the relationships among family low income and single parent for Parental Poverty (PP), overprotection, coercion, impact, and effectiveness for Parenting Behavior (PB), and child physical aggression (CPA). To examine the direct and indirect links between PP, PB, and CPA, as well as the interaction between PP and PB to compute maximum likelihood estimation of the model, Amos 4.01 software was used (Arbuckle & Wothke, 1999). Amos modeling procedure was specifically chosen because it allows us to approach full-information ML model estimation with missing data, and the likelihood can be computed for the observed portion of each case's data and then accumulated and maximized.

The structural model consisted of exogenous factor and endogenous factors. That is, PP is unobserved exogenous variable, PB is unobserved

endogenous variable, and CPA is observed endogenous variable. A path model was constructed from the covariance matrix of the study variables. The hypothesized causal paths between exogenous and endogenous variables were estimated as path coefficients. The results of the structural equation model analyses on CPA along with the standardized estimates for each path are presented in Figure 2.

The standardized regression weights show that PP was significantly related to PB (parameter estimate = .52) and PB was significantly related to CPA (parameter estimate = .48). All parameter estimates in the structure model were significant at the .05 and .01 level. Adequacy of model fit was determined by the chi-square test and other fit indexes. The structural components of a path analytic model were tested for goodness of fit. A small, insignificant chi-square generally indicates

a good fit. The goodness of fit index (GFI) indicated a very good fit for the model. A summary of the fit indices for these analyses are: Chi-square = 16.3, df = 9, p = .06 Tucker-Lewis Index (TLI) = 1.00; comparative fit index (CFI) = 1.00; root-mean-square error of approximation (RMSEA) = .04 and Akaike's information criterion (AIC) = 68.31.

PP was related to PB; in turn, PB, which corresponds to parents' perceptions of the social and physical stress situations associated to their parenting role, was associated with CPA. Thus, a higher poverty level showed an indirect relationship to a high physical aggression.

DISCUSSION

The purpose of the study was to develop and

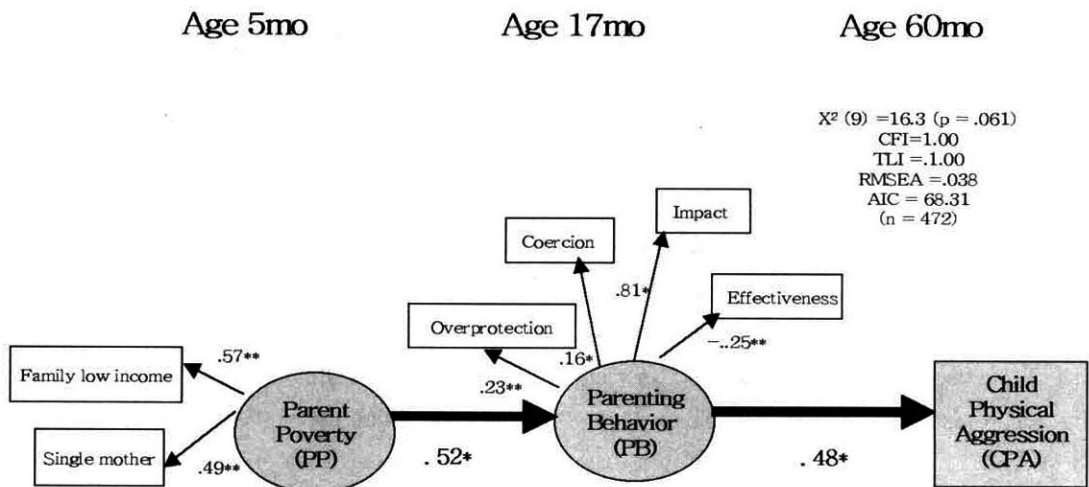


Figure 2. Results of analyzing a structural equation analysis model. The relation of parental poverty and parenting behavior in predicting child physical aggression. Standardized path coefficients (directional paths) appear on single-headed straight arrows.

All of the path coefficients are significant beyond the $p < .01$ level except * ($p < .05$ level)

test a model of influences of parental poverty status and parenting characteristics on child behavior outcomes. More specifically, the present study examined the hypothesis that parenting behavior is a mediator that could statistically explain the pathway of parental poverty and child physical aggression. The results confirmed that positive parenting behavior is mediated in the link of parental poverty and child physical aggression, stressing the urgent need for early intervention for impoverished children. In addition, the findings provided an opportunity to support one of the assumptions underlining the "culture of poverty", which is that children of poor parents have negative child outcomes because of the way they are parented (Chao & Willms, 2003).

The present study supports the findings of McLoyd (1990) in showing that poverty at birth was indirectly linked to conduct problems at middle school, through harsh discipline (mediator effect). In addition, the study of Onyskiw and Hayduk (2001) which found maternal responsiveness as a mediator between family dysfunction (e. g., maternal education, family income, family tense) and physical aggression during school age. However, the findings are not fully support the study of Pagani et al. (1999), which failed to find no effect of parental factors between financial hardship and behavior problems during adolescence. It should be noted, however, that although all the studies focused on similar concept, the various studies used different research strategies and methodological techniques.

With regard to the methodological approach,

the studies used different variables to measure poverty, which is still argued on the specific variables to define poverty. For example, Onyskiw and Hayduk (2001) used maternal education and family income, and family dysfunction as an index of family economic pressure. In contrast, Pagani et al. (1999) used family income and a ratio of income-to-needs as the index of poverty. It could be mentioned that the variables we used to define poverty, family income and single parent, were not fully adequate however, we defined parental poverty in terms of major social address variables that are associated with increased risk for child maladjustment: low family income status to contribute to state economy analyses and being raised in a single parent to contribute to national policy discussions (Bronfenbrenner & Grouter, 1983).

The current study clearly proved that positive parenting behavior moderates child from negative impact of poverty. This study also implies the fear of the possibility of "Double Jeopardy" that is, children from disadvantaged backgrounds are vulnerable, but those who live with parents who use negative parenting behavior are especially more vulnerable. Following these fear effect, intervene should occur as early as possible for a child who is needed.

The results of this study are a step for next move on child psychosocial development. We still need to seek with questions. In the absence of results on the timing of poverty, it was impossible to know whether poverty that occurs in early life is more damaging than one that occurs later (i. e., poverty during 5 months vs.

17 or 60 months) and the effect of duration (i. e., durative poverty vs. temporary poverty). In addition, it would be interesting to know the stability of parenting behaviors. Such studies could be helpful to create a time sensitive model, which will help investigators to fully understand child development.

With revision of our model, it could be also interesting to look at the following: even though the longitudinal design affords certain advantages with respect to disentangling parent and child effects, one cannot conclude that variations in parenting contribute causally to children's physical aggression. It remains an open possibility that children's high physical aggression behavior could pull more negative parenting behaviors. Indeed, this may mean that the negative parenting behaviors might not show up even under impoverished situations, owing perhaps to favorable child attributes (e. g., non-demanding temperament, doing well independently) or parent and child attributes (e. g., shared genetic propensities). Thus, it is not clear whether the presence of positive parenting behavior serves to directly counter the risks associated with poverty, or whether the presence of positive parenting behavior is a marker for a generally salutary family environment. If so, it could be concluded that bi-directional causal mechanisms between parenting behavior and child physical aggression are at play.

국문 초록

본 연구의 목적은 심각한 사회병폐의 한 원인으로 작용하고 있는 아동의 공격성행동이 부

모빈곤과 어떻게 관련되어 있으며, 이 아동빈곤은 부모의 양육행동이 매개변인으로 작용했을 때 어느 정도까지 완충될 수 있는지를 밝히고자 하는데 있다. 종속적 연구접근으로, 부모빈곤은 아동이 생후 5개월 때, 양육행동은 17개월 때, 그리고 아동의 공격성 행동은 60개월 때 각각 측정되었다. Structure equation modelling 분석 결과, 유아기 때의 부모빈곤은 아동기 공격성 행동을 예측하는 변인으로 작용하며, 부모의 양육행동은 그 매개체로 작용함을 입증하였다. 아울러 빈곤아동을 위한 조기 중재프로그램의 필요성을 강하게 시사하였다.

핵심어 : 부모빈곤, 양육행동, 공격성 행동,
종단적 연구

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