

CHILD, FAMILY AND NEIGHBOURHOOD PREDICTORS OF INJURY IN CHILDREN. A COHORT ANALYSIS

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Objective of the Study

To identify child, family and neighbourhood predictors of childhood injury using data from the National Longitudinal Survey of Children and Youth.

Methodology

The National Survey

- Random probability sample of Canadian residential households
- Three questionnaires to the parents on child health and development
- One child per household was randomly selected:
- The longitudinal sample: 9796 children aged 0-11 in 1994 from 10,261 Canadian households

Variables

Family functioning (12-item scale)

- Decision-making
- Emotion management
- Family cohesion

Parenting practices (20-item scale),

- Praise
- Punishment
- Rule creation and enforcement

Family SES

- Household Income
- Education: Mother and Spouse/Partner
- Prestige of Occupation

Neighbourhood

- % single-female headed households
- % families with income < \$20,000
- Neighbourhood disadvantage score
- Neighbourhood cohesion (Likert)
- Neighbourhood Problems (Likert)

Child's Behaviour

- 0 to < 2: Overall difficulty
- 2 to 3: Prosocial behaviour, Hyperactivity, Physical Aggressiveness
- 4 to 11: Prosocial behaviour, Hyperactivity, Physical Aggressiveness

Injury

Question: Was your child injured in the last 12 months?

Response: Yes/No

Control Variables

All age groups:

- Child age and gender
- Mother's activity restriction
- Mother's depression score
- Injury in cycle 1
- T1-T2 difference scores

Analyses

Logistic Regression Procedure

Results

0 to < 2 years old

Variables	Main Effects Model**		Interaction Effects Model***	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Child Gender				
<i>Girl</i>	.61	.44 - .85	.61	.44 - .85
<i>Boy</i>	Ref.			
Neighbourhood Cohesion	.90	.85 - .96	1.02	.92 - 1.14
Neighbourhood Problems	1.10	1.01 - 1.20	1.09	1.01 - 1.19
% Single Female	.96	.93 - .98	.96	.93 - .99
% Families with Income < \$20,000	1.03	1.00 - 1.05	1.02	1.00 - 1.04
Difficulty of the Child	1.02	.91 - 1.14	1.75	1.19 - 2.55
Neighbourhood Cohesion by Difficulty of the Child			.94	.91 - .98

Model adjusted for family SES, number of persons in the household, PMK restriction of activity, depression, injury status in cycle 1, neighbourhood disadvantage, Family Functioning, and parenting.
 ** -2 Log Likelihood: 1062.40; χ^2 Goodness of fit: 7.13, df=6, p=.30
 *** -2 Log Likelihood: 1053.83; χ^2 Goodness of fit: 4.71, df=6, p=.58

Values of the Estimated Odds Ratios and 95% Confidence Intervals for High and Low Values of Neighbourhood Cohesion and Overall Difficulty of the Child. Children Less than 2 years old.

Effect	Among	Odds Ratio	95% CI
High Neighbourhood Cohesion	Low Overall Difficulty of Children	.29	.12-.69
High Neighbourhood Cohesion	High Overall Difficulty of Children	.03	.01-.17
High Overall Difficulty	Low Neighbourhood Cohesion	5.90	1.35-25.73
High Overall Difficulty	High Neighbourhood Cohesion	.38	.10-1.74

4 to 11 years old

Variables	Main Effects Model**	
	Odds Ratio	95% CI
Child Gender		
<i>Girl</i>	.64	.54 - .74
<i>Boy</i>	Ref.	
Injury in Cycle 1	.49	.41 - .59
% Families Income < 20,000	1.02	1.00 - 1.03
Consistency		
<i>No</i>	1.43	1.22 - 1.68
<i>Yes</i>	Ref.	

Model adjusted for family SES, number of persons in the household, PMK restriction of activity, depression, neighbourhood cohesion, neighbourhood problems, neighbourhood disadvantage, % single female families, family functioning, and positive parenting
 ** -2 Log Likelihood: 4640.65; χ^2 Goodness of fit: 10.1707, df=8, p=.25

2 to 3 years old

Variables	Main Effects Model**		Interaction Effects Model***	
	Exp (B)	95% CI	Exp (B)	95% CI
Child Gender				
<i>Girl</i>	.42	.27 - .63	.41	.27 - .62
<i>Boy</i>	Ref.			
Injury in Cycle 1	.57	.35 - .92	.57	.35 - .94
Neigh. Disadvantage	.93	.65 - 1.32	.60	.36 - 1.00
% Single Female	.96	.92 - .99	.95	.92 - .99
Positive Parenting	.88	.81 - .95	.88	.81 - .95
Physical Aggression/Opposition	1.06	.98 - 1.14	1.05	.97 - 1.14
Neigh. Disadvantage by Physical Aggression/Opposition			1.08	1.01 - 1.16

Model adjusted for family SES, number of persons in the household, PMK restriction of activity, depression, % of families below 20k of income, family functioning, consistent parenting, prosocial behaviour, hyperactivity

** -2 Log Likelihood: 807.33; χ^2 Goodness of fit: 15.91, df=8, p=.04
 *** -2 Log Likelihood: 802.16; χ^2 Goodness of fit: 8.5018, df=8, p=.38

Values of the Estimated Odds Ratios and 95% Confidence Intervals for High and Low Values of Neighbourhood Disadvantage and Physical Aggression/Opposition of the Child. Children 2-3 years old.

Effect	Among	Odds Ratio	95% CI
High Neighbourhood Disadvantage	Low Physical Aggression/Opposition	.51	.43-2.29
High Neighbourhood Disadvantage	High Physical Aggression/Opposition	2.21	.75-6.50
High Physical Aggression/Opposition	Low Neighbourhood Disadvantage	.71	.22-2.30
High Physical Aggression/Opposition	High Neighbourhood Disadvantage	4.29	1.42-13.03

Conclusions

Early childhood: Neighbourhood Cohesion and Socialization
 Older children: Income poverty and Neighbourhood Disadvantage
 Social Cohesion and Community Involvement =
 Resource Allocation to Deprived Areas + Educational and Environmental Strategies

Increase attention to the patterns of family functioning and parent-child interactions

Further Research

- Interface between Family and Neighbourhood
- Determinants of effective patterns of family functioning and parent-child interactions
- Clarify the links between these patterns and family's social and economic positioning