



Mediating factors in the relationship between childhood adversity and adolescent and persistent psychopathology: A national longitudinal cohort study

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Childhood adversity

- CA estimated to be responsible for as much as 32% of adolescent psychopathology risk.
- Greater effect if cumulative, severe.
- Some form of CA may affect as many as 1 in 4 children
- Despite extensive evidence of this link, the nature of the link is poorly understood.
- Proposed explanations include genetic risk, neurobiological changes, sensitisation to future adversity and family process.



Childhood adversity in the GUI

Table 4. Percentage of participants endorsing each form of adversity.

Stressful life event	% Endorsing
Death of a parent	1.51
Death of a close family member	41.62
Death of a close friend	5.61
Divorce/separation of parents	10.43
Moving house	41.27
Moving country	10.63
Stay in foster home or residential care	0.83
Serious illness or injury	4.60
Serious illness or injury of a family member	13.63
Drug taking or alcoholism in the immediate family	2.47
Mental disorder in the immediate family	2.87
Conflict between parents	10.01
Parent in prison	0.58
Other disturbing event	1.81
None of the above	22.36

Table 1. Demographic characteristics of participants with or without childhood adversity (CA)

Characteristic	Controls (n=6,371)	CA (n=2,160)	OR (CI)
Gender (% male)	49.30	46.67	1.11 (1.01-1.23)*
Handedness (% left-handed)	13.34	12.45	0.94 (0.83-1.06)
Nationality (% born in Ireland)	92.15	78.70	2.72 (2.37-3.12)
Socioeconomic status (% given as primary carer's highest education)			
None/primary education only	3.09	4.07	1.47 (1.13-1.92)*
Junior certificate or equivalent	14.17	14.68	1.16 (0.99-1.35)
Leaving certificate or equivalent	32.37	28.98	-
Post-secondary diploma/certificate	24.56	25.14	1.14 (1.00-1.30)
Primary degree	16.17	16.71	1.15 (0.99-1.34)
Postgraduate	9.64	10.42	1.21 (1.01-1.44)
Annual family income quintile (%)			
Lowest	12.29	16.24	1.35 (1.14-1.61)
Second	16.57	19.70	1.22 (1.03-1.44)
Third	20.03	19.55	-
Fourth	23.55	20.55	0.89 (0.76-1.05)
Highest	27.56	23.96	0.89 (0.76-1.04)

OR, odds ratio; CI, 95% confidence interval.

*Emboldened statistics are significant at the P<0.05 level.



Psychopathology in Ireland

- % of Irish adolescents are attending health services for mental health problems
- Adolescent psychopathology can reduce school attendance, academic achievement and subsequent rates of further education/employment
- Adolescent psychopathology often persists into adulthood.
- The financial burden of mental illness in Ireland is somewhere in the region of (to say nothing of the experience of affected individuals)



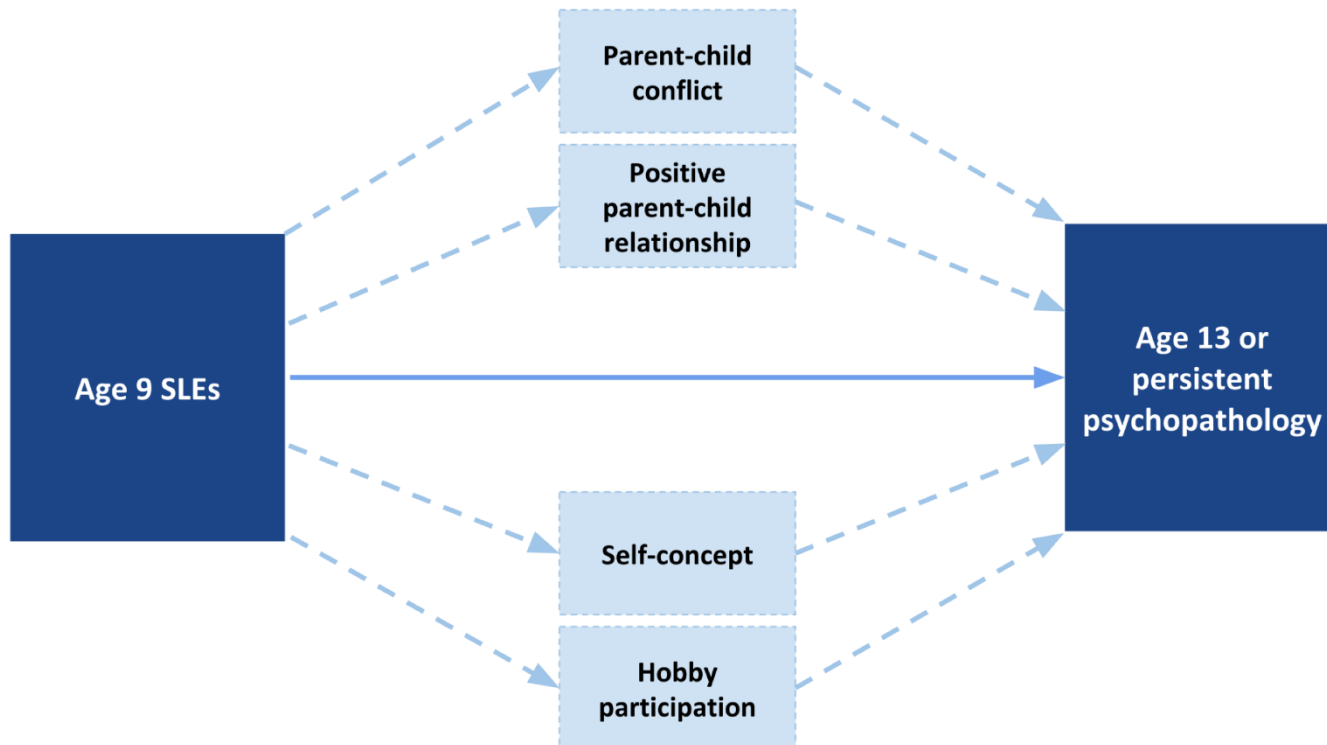
Psychopathology in the GUI

- Participants took the Strengths and Difficulties Questionnaire at ages 9 and 13
- 6.23% of participants aged 13 met the externalising difficulties cut-off. 35.33% of these participants reported CA at age 9, which significantly predicted age 13 externalising problems (OR:1.57, 95% CI:1.25-1.98).
- 7.46% of age 13 participants met internalising difficulties cut-off. 37.10% of these participants reported CA at age 9, which significantly predicted age 13 internalising problems (OR:1.54, 95% CI:1.24-1.89).
- 2.97% and 3.04% met the cut-offs for persistent externalising and internalising difficulties respectively, and again these were predicted by CA

Mediational analysis

- Understanding the relationship between CA and psychopathology is key to intervening in it .
- Proposed model:

—▶ Direct/unexplained effect
 - - -▶ Indirect/mediational effect



Mediators in the GUI

- GUI child cohort includes the Piers-Harris self-concept scale, Pianta parent-child relationship scale and questions on hobby participation.
- Karlson, Holm and Breen devised the khb function in Stata which allows comparison of coefficients for multiple mediators in a logistic regression model.

Table 2. Associations between mediators and both childhood adversity (CA) and adolescent psychopathology

	Exposure		Outcomes		
	Age 9 CA	Age 13 psychopathology	Age 13 psychopathology		Persistent psychopathology
Mediators	CA, beta	Externalising problems, OR (CI)	Internalising problems, OR (CI)	Externalising problems, OR (CI)	Internalising problems, OR (CI)
Self-concept	.13 (.07-.18)*	1.33 (1.20-1.47)	1.23 (1.12-1.34)	1.62 (1.44-1.83)	1.61 (1.43-1.81)
Parent-child conflict	.27 (.21-.32)	1.82 (1.65-2.01)	1.82 (1.65-2.01)	3.15 (2.79-3.56)	2.37 (2.12-2.64)
Positive parent-child relationship	.04 (-.01-.09)	1.14 (1.04-1.25)	1.14 (1.04-1.25)	1.45 (1.30-1.61)	1.40 (1.26-1.56)
Hobby participation	.68 (.58-.80)**	.77 (.57-1.04)	.77 (.57-1.04)	.54 (.37-.77)	.41 (.29-.57)

OR, odds ratio; CI, confidence interval.

**Bolded statistics are significant at the P<0.05 level.*

***Hobby participation associated with stressful life events via logistic regression as it is categorical.*

Findings

- Parent-child conflict significantly mediated the relationship between CA and both age 13 externalising (25.77%) and internalising (21.66%) and persistent externalising (45.84%) and persistent internalising (27.95) problems.
- No other mediators were significant.

Table 3. Pathway decomposition for mediators in the relationship between CA and psychopathology.

Mediators	Age 13 psychopathology						Persistent psychopathology					
	Externalising, indirect* OR (CI)	Externalising, direct OR (CI)	% Mediation	Internalising, indirect OR (CI)	Internalising, direct OR (CI)	% Mediation	Externalising, indirect OR (CI)	Externalising, direct OR (CI)	% Mediation	Internalising, indirect OR (CI)	Internalising, direct OR (CI)	% Mediation
Self-concept	1.03 (.99-1.08)	1.53 (1.19-1.95)*	6.84	1.02 (.99-1.06)	1.46 (1.18-1.81)	5.26	1.06 (1.00-1.13)	1.87 (1.36-2.56)	8.82	1.06 (1.00-1.13)	2.01 (1.48-2.71)	7.93
Parent-child conflict	1.12 (1.03-1.22)	1.39 (1.10-1.76)	25.77	1.10 (1.03-1.18)	1.41 (1.15-1.74)	21.66	1.34 (1.16-1.54)	1.41 (1.03-1.94)	45.84	1.24 (1.12-1.38)	1.75 (1.30-2.35)	27.95
Positive parent-child relationship	1.00 (.98-1.02)	1.58 (1.25-1.98)	0.26	1.00 (.99-1.01)	1.54 (1.25-1.89)	0.17	1.01 (.97-1.06)	2.02 (1.50-2.71)	1.80	1.01 (.97-1.05)	2.27 (1.71-3.01)	1.45
Hobby participation	1.01 (.99-1.02)	1.55 (1.23-1.96)	1.33	1.01 (.99-1.03)	1.52 (1.23-1.86)	1.82	1.02 (.99-1.04)	1.95 (1.45-2.62)	2.42	1.02 (.99-1.06)	2.19 (1.65-2.91)	2.68

OR, Odds ratio; CI, confidence interval.

*Indirect relationship is the part of the relationship accounted for by the mediator, direct relationship is the part of the relationship which is not.



Implications

- Parent-child conflict is the most important of these mediators to target in order to reduce psychopathology in at-risk adolescents.
- Causes of this conflict are key to devising an appropriate intervention.
- Population-level interventions for parent-child conflict are probably implausible.
- Lack of evidence for other mediators in this sample does not rule out involvement in specific sub-types or at different ages.



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