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Key finding

Accumulation of adverse childhood experiences, rather than their timing, has the greatest impact on risk of later chronic pain

Adverse Childhood Experiences and the Development of Chronic Pain: A Structured Life Course Modelling Approach in the Avon Longitudinal Study of Parents and Children

Background

Individuals with adverse childhood experiences (ACEs) have greater risk of chronic pain in later life

Aim

To investigate whether timing or accumulation of exposure best explains the relationship between ACEs and chronic pain

Methods

A Structured Life Course Modelling Approach (SLCMA)

- Adversity measured in distinct developmental periods

Developmental Periods			
Early Childhood	Middle Childhood	Early Adolescence	Late Adolescence
0 – 4 Years	5 – 9 Years	10 – 13 Years	14 – 18 Years

- Life course theories tested

Life Course Theories	Outcome related to...
Accumulation	Number of periods adversity was experienced
Critical Periods	Specific periods of adversity
Recency	Adversity in periods closer to adulthood
Instability	Changes in exposure status between successive periods
Pathway	Later adversity fully mediating effect of early adversity

Results

Hypothesis best fitting the data

Accumulation	Any ACE
Accumulation ²	Any original ACE
Recency	Polyadversity
Critical 10 - 13 Years	Physical Abuse
No Hypothesis Selected	Sexual Abuse
	Emotional Abuse
	Emotional Neglect
	Violence Between Parents
	Substance Abuse by a Household Member
	Parental Mental Health Problems
	Parent Criminally Convicted
	Parents Divorced/Separated
	Bullying
	Financial Difficulties
	Negative Opinion of the Neighbourhood
	Lack of Social Support for the Child
	Lack of Social Support for the Parent
	Physical Illness of the Child
	Physical Illness of the Parent
	Poor Parent-Child Bond
	Life-threatening Accident
	Bereavement

Selected Hypothesis
Males Females

Any ACE: Any of the individual ACEs.
Any original ACE: Any ACE described in the original Kaiser-Permanente study.
Polyadversity: ≥ 4 types of ACE.

Conclusions

Accumulation of adversity best explains the relationship between ACEs and chronic pain

For some ACEs, the best explanation is the recency of experiences

A critical period is identified in early adolescence for a lack of social support in males

These hypotheses explain the relationship better than simple measures of ever being exposed to adversity