

Adverse childhood experiences and cannabis use trajectories

Results from a UK longitudinal cohort study

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Cannabis use

- Globally, the most commonly used internationally regulated drug
- Cannabis use is prevalent amongst adolescents; estimated lifetime prevalence 40-70% in different countries
- Associations with, and possible causal role in development of, psychosis, depression and anxiety
- Associations with mental health outcomes stronger when use is frequent, and when onset of use is earlier



Adverse Childhood Experiences (ACES)



10 “classic” ACEs

- Physical abuse
- Sexual abuse
- Emotional abuse
- Emotional neglect
- Bullying
- Household substance use
- Violence between parents
- Parent mental health problems/suicide
- Parent convicted of an offence
- Parental separation

Adverse Childhood Experiences (ACES)



- Associated with increased risk of mental health problems and addiction (along with a range of negative physical and social outcomes)
- Emerging as a key focus of public health intervention
- Experiencing “four or more” ACEs generally seen as an indicator of increased risk



**Methods:
The Avon Longitudinal
Study of Parents and
Children (ALSPAC)
cohort**



**AKA
“The Children of the
90s”**

ALSPAC: Children of the 90s

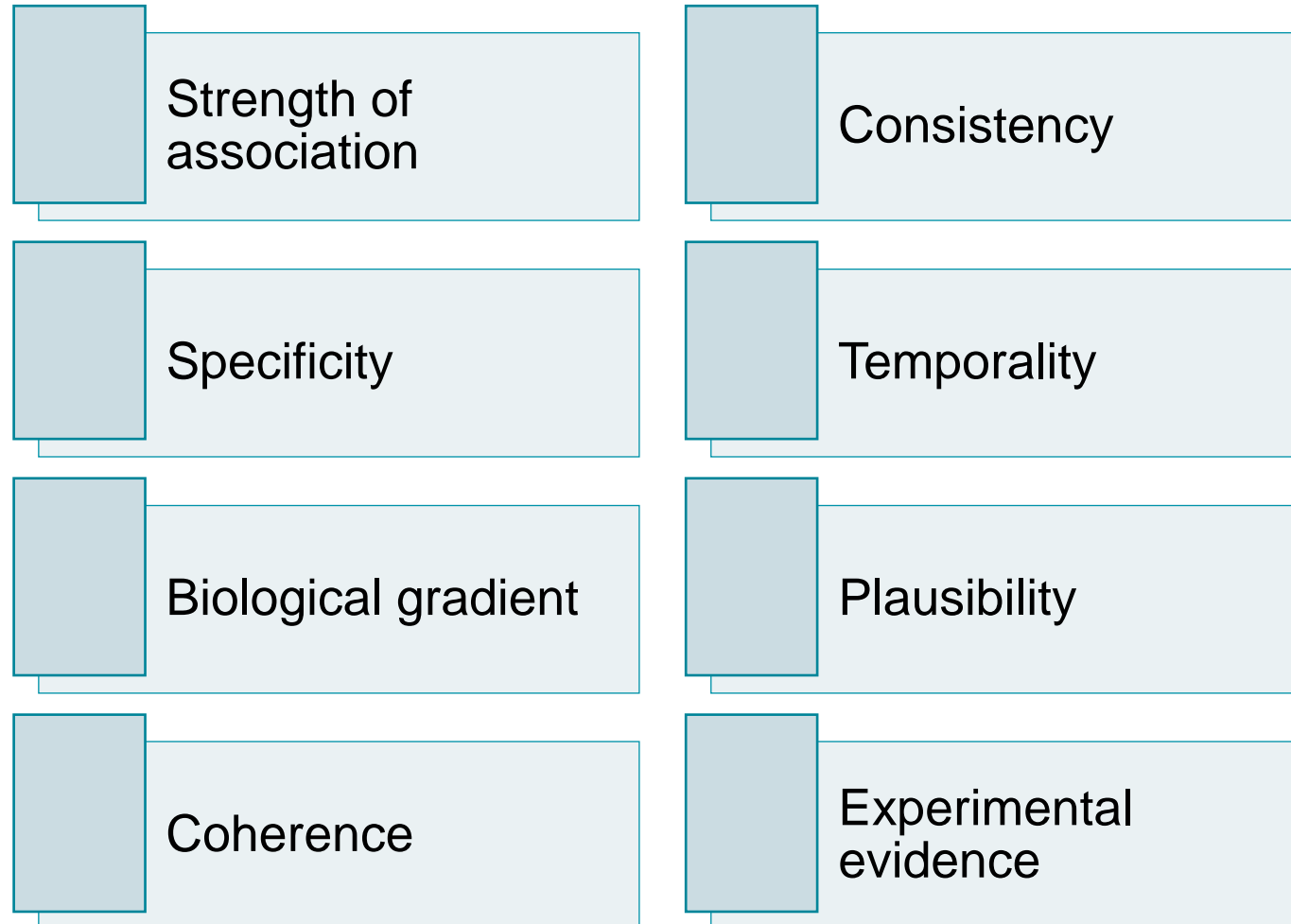


- Prospective population-based birth cohort study: recruited parents of ~14,000 children born 1991-1992 in South-West England
- Parents, grandparents and children of participants (COCO90s)
- Annual assessment: health, lifestyle and biological factors
- Self completed questionnaires
- Hands on clinic assessment
- Linkage to external records e.g. health records
- Biological samples
- Genetics




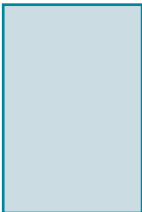

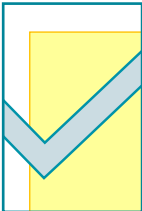

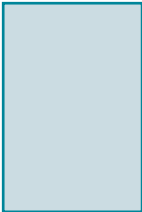

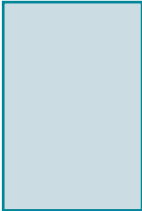
Rationale

- To infer causality, we need the following criteria to be met (Bradford Hill)



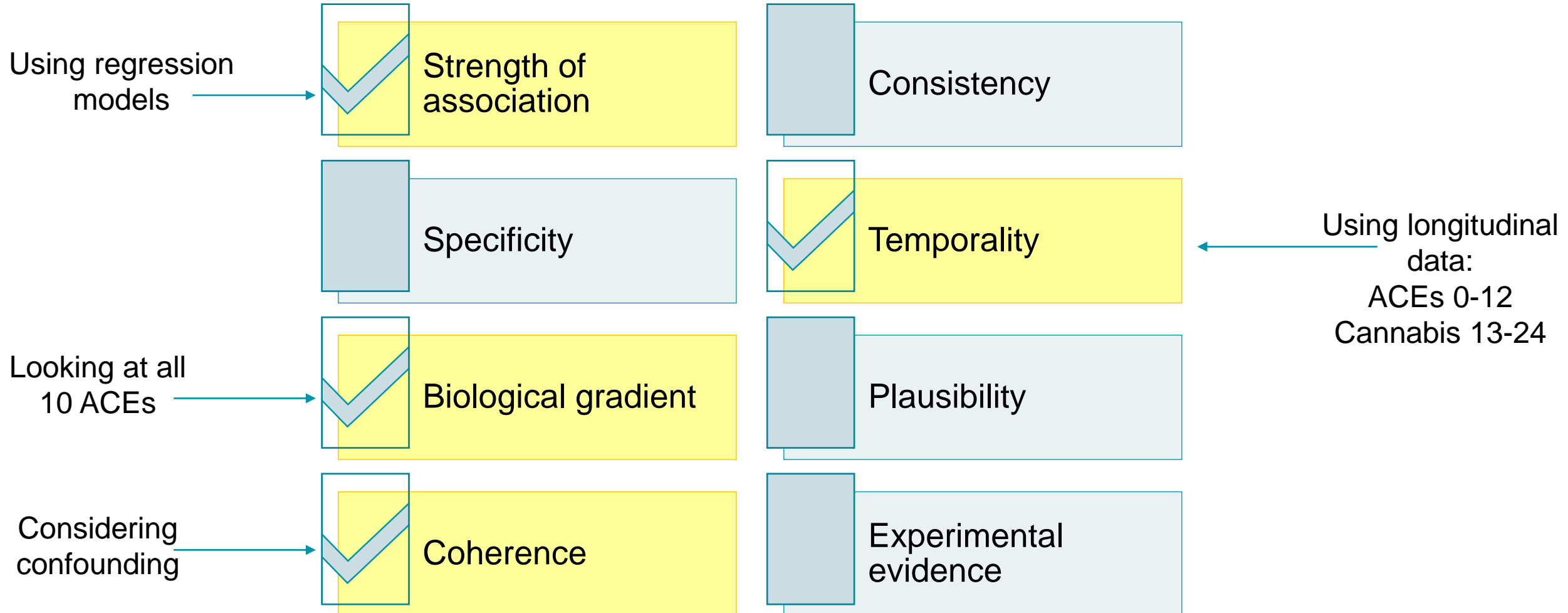
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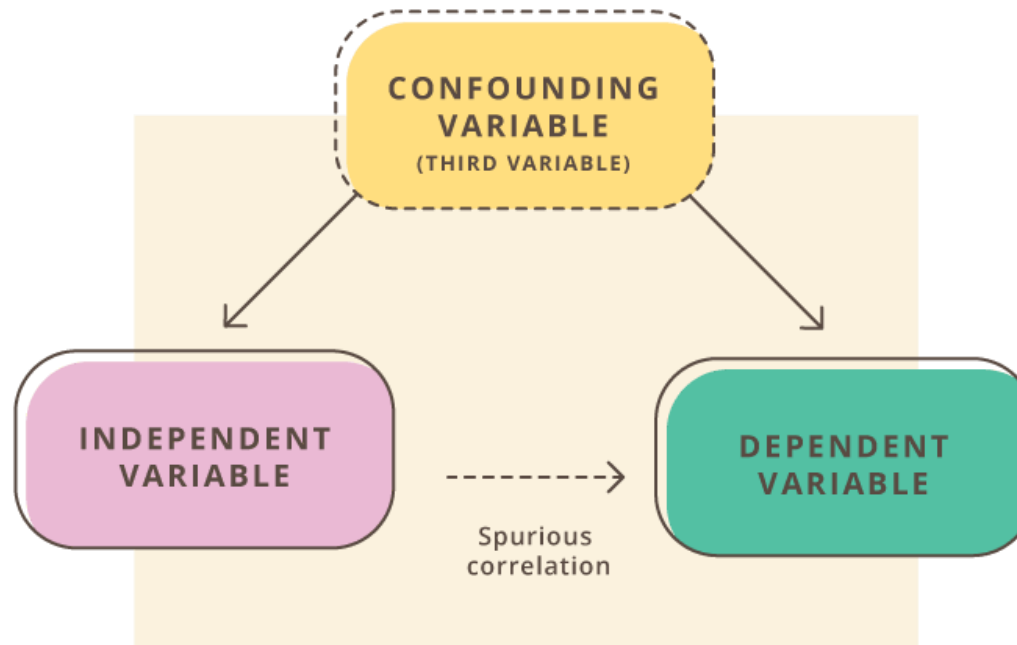
| | | | |
|---|-------------------------|---|-----------------------|
|  | Strength of association |  | Consistency |
|  | Specificity |  | Temporality |
|  | Biological gradient |  | Plausibility |
|  | Coherence |  | Experimental evidence |

Rationale

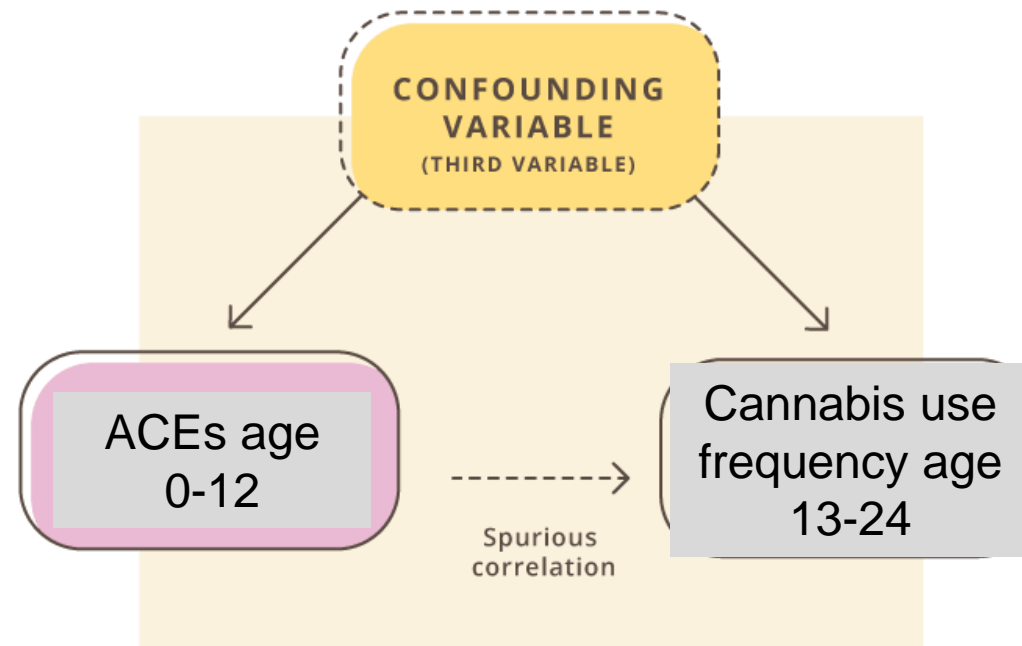
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Children of the 90s



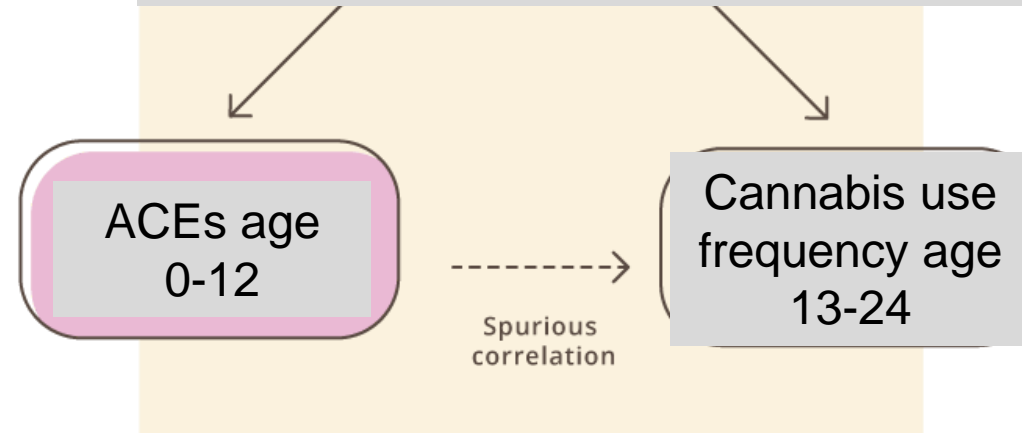
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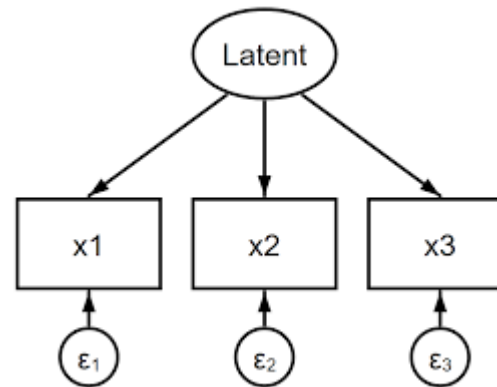


- Maternal mental health (lifetime, reported during pregnancy)
- Partner mental health (lifetime, reported during pregnancy)
- Maternal drug use during pregnancy
- Partner drug use during pregnancy
- Maternal financial difficulty during pregnancy
- Socioeconomic position age 0-12
- Sex at birth
- Polygenic risk score for cannabis use



Adolescent cannabis use (N=5249)

- Used latent class methods, which allow us to identify trends in the data
- Derived as never using cannabis /occasionally using /regularly (weekly or more) using
- N=5249



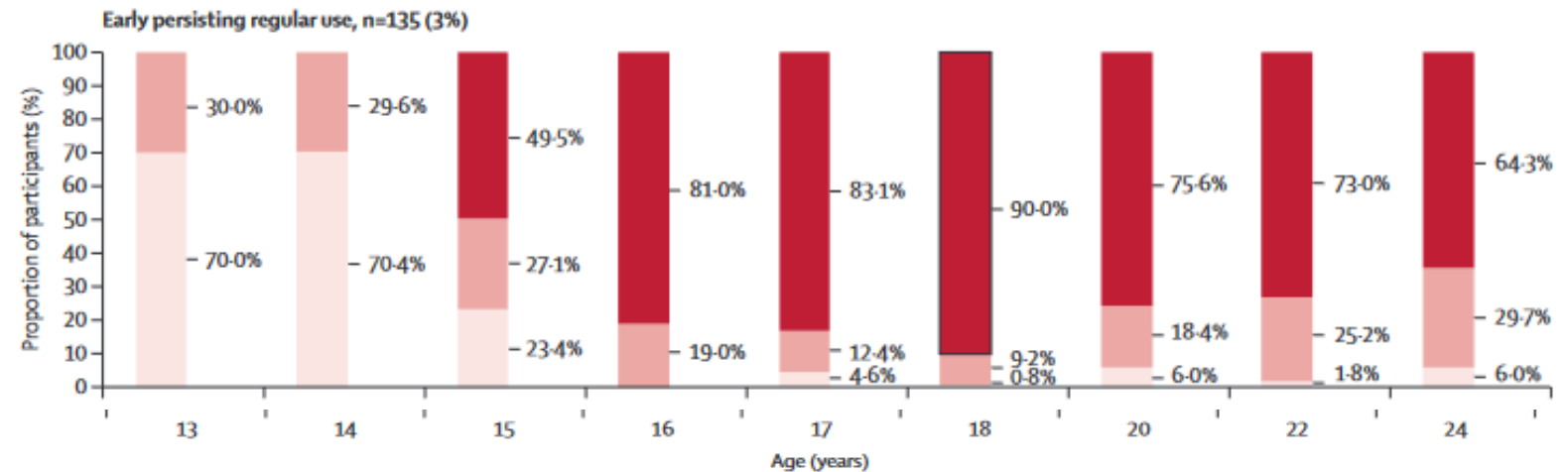
Adolescent cannabis use

- Used latent class methods, which allow us to identify trends in the data
- Identified the following groups:
 - Low/no use
 - Early persisting occasional use
 - Early persisting regular use
 - Late onset occasional use
 - Late onset regular use

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Adverse childhood experiences between age 0-12 years could lead to regular and early onset use of cannabis in teenage years

Children who reported these experiences were at greatest risk of frequently using cannabis as teenagers:

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Parent alcohol abuse or substance use



Four or more adverse childhood experiences

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ARR 3.90, 95% CI 2.10-7.24



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Four or more adverse childhood experiences

4+ ACEs ARR 3.15, 95% CI 1.81-5.50

2-3 ACEs ARR 1.46, 95% CI 0.91 – 2.35

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Four or more adverse childhood experiences

And these experiences also increased risks of frequent teenage cannabis use:



Parent mental health problems or suicide attempt

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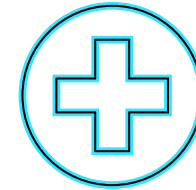


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Experiencing physical abuse

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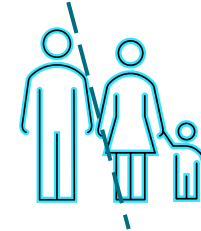
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Parent separation

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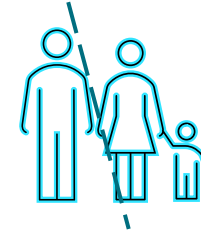
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Parent mental health problems or suicide attempt



Experiencing physical abuse



Parent separation



Experiencing emotional abuse

Limitations

- Exposure to ages 0-12 years - potentially have proximal effects of exposure to ACEs
- ACEs may be under-reported
- ALSPAC attrition - those who took part at both ages 13-18 and 20-24 more likely to be:
 - white
 - female
 - more affluent

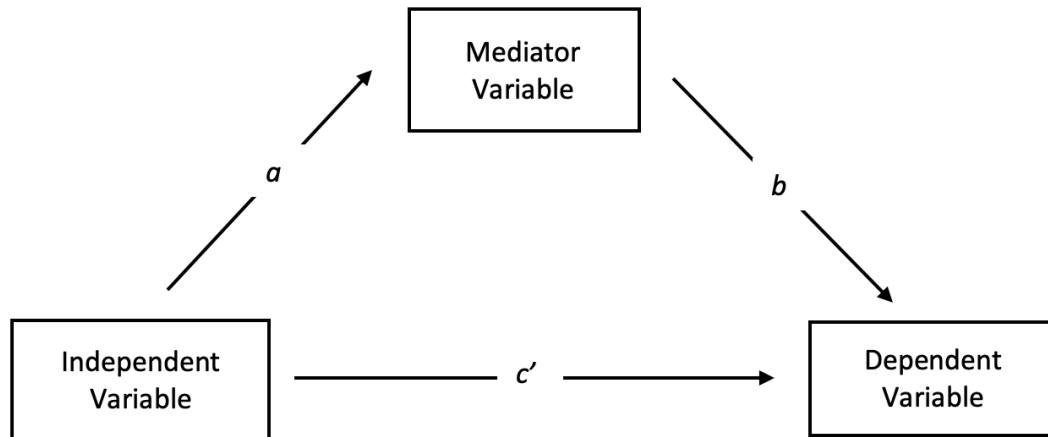
Conclusions

- Experiencing through multiple ACEs between 0 years and 12 years increases the risks of early onset regular cannabis use in adolescence
- May be a pathway from ACEs to mental health problems in adulthood
- Plausible pathways from (distal) ACEs to adolescent cannabis use are:
 - Substance use availability
 - Parenting practices

Implications

- Public health efforts to reduce ACEs could reduce regular cannabis use during adolescence
- Further focus on targeting intervention on children growing up in households with substance use/alcohol abuse
- Supportive interventions across the life course; parenting interventions for substance use or abuse are targeted later in childhood (typically at the beginning of secondary school), but the age of exposure in the present study was to ACEs at age 0–12 years, suggesting that interventions targeted earlier in childhood might be promising
- Research into early interventions with parents during pregnancy and the postnatal stages to reduce childhood exposures to ACEs might be beneficial

Nex steps



- How do ACEs fit in the relationship between cannabis use and mental health?
- A confounder?
- Other plausible option is that cannabis use is on the causal pathway between another exposure and an outcome

Acknowledgements

Dr Jon Heron

Dr Hannah Jones

Professor Laura Howe & Dr Lotte Houtepen

Professor Michael Lynskey

Professor Matt Hickman

Professor Stan Zammit

Professor Paul Moran

The participants and study teams of ALSPAC

The MRC & The Wellcome Trust (ALSPAC funding)

The Wellcome Trust (Postdoctoral Fellowship)



Lindsey A Hines, Hannah J Jones, Matthew Hickman, Michael Lynskey, Laura D Howe, Stan Zammit, Jon Heron (2023) Adverse childhood experiences and adolescent cannabis use trajectories: findings from a longitudinal UK birth cohort.

The Lancet Public Health, Volume 8, Issue 6, Pages e442-e452