

# CLOSER Conference

## Mental health and wellbeing 2: During childhood

Chair: **Lynn Molloy**

- Ethnic variations in mental health among British youths 10-15 years old living in England & Wales: Neighbourhood composition and parental behaviour

**Kenisha Russell Jonsson**

- The father's departure from the household and childhood mental health: how does timing matter?

**Aase Villadsen**

- Primary school context and longitudinal pathways from early life events to teen risk behaviour and depressive symptoms: analysis using the Avon Longitudinal Study of Parents and Children

**Alison Parkes**



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# Ethnic variations in mental health among 10–15-year-olds living in England and Wales

The impact of neighbourhood composition and  
parental behaviour

**Kenisha Russell Jonsson, Irina Vartanova, Marita Södergren**

# Background (1)

## Mental health disorders among young people:

- ▶ **impose significant societal (economic and social) costs:**
  - ▶ £11,000 & £59,000 annually per child (Davies et al.2013)
  - ▶ an elevated risk of smoking, drug use, & problems with alcohol (Department of Health 2011);
  - ▶ Lower risk : good physical health; completed education; weaker employment prospects ; form social relationships (Department of Health 2011);
  - ▶ most significant contributors to the global burden of disease (Lancet,2017);
- ▶ **Onset in later life first occurred during childhood/adolescence** (Kessler et al.2005);
- ▶ **estimated 20% globally** (WHO, 2016), **10 % in Britain** (Green et al. 2005; Meltzer, Gatward, Britain, et al. 2000);

# Background (2)

Studies from the UK show that ethnicity matters:

- ▶ White 10%, Black 12%, Asian (Pakistani & Bangladeshi 8%) & Indian 4% (Meltzer et al. 1999);
- ▶ British Indians 3.7% , Whites 10% (Goodman et al. 2010)
- ▶ Children in main minority groups have similar or better mental health than White British children for common disorders, but may have higher rates for less common conditions (Goodman et al. 2008)

public health implications →

ethnically diverse: 82.4 % self-identify as White British, 8.3% as Asian, 5.5 % as Black & 4.3 % Mixed ethnic category (ONS, 2011).

# Research questions

- ▶ Whether & to what extent ethnic variations in mental health among young people might be attributed to:
  - ▶ individual & family characteristics;
  - ▶ parental behaviour;
  - ▶ neighbourhood composition.

# Data

- ▶ Individual level data: Waves 1, 3 and 5 of Understanding Society: the UK Household Longitudinal Study
  - ▶ young people = children (10-12 years) & adolescents (13-15 years old)
- ▶ Neighbourhood level data were based on geocoded administrative data collected in the 2011 census
  - ▶ Middle super output area (MSOA)
- ▶ Final sample: after deletion of missing values, attrition, new entrants 7,302 individuals



# Measures

Dependent variable: Strengths & difficulties Questionnaire (SDQ) (Goodman 1999)

*Exposure: self-identified ethnicity: White British, Other Whites, Welsh, BAMEs*

*Key explanatory measures:*

- ▶ *Parental behaviour: frequency of certain activities/behaviours undertaken by parents & their children*
- ▶ *Neighbourhood composition: measured by ethnic density, living environment, crime domain, Townsend deprivation score*

*Individual/family level predictors*

*Youth age & gender ; lone parent household; household income (log); parents' age; one or both parents were born abroad; at least one parent in the household working; length of residency in the neighbourhood ; parents' highest level of education; parental physical and mental health as measured by the 12-item Short Form Health Survey (SF-12)*

# Models

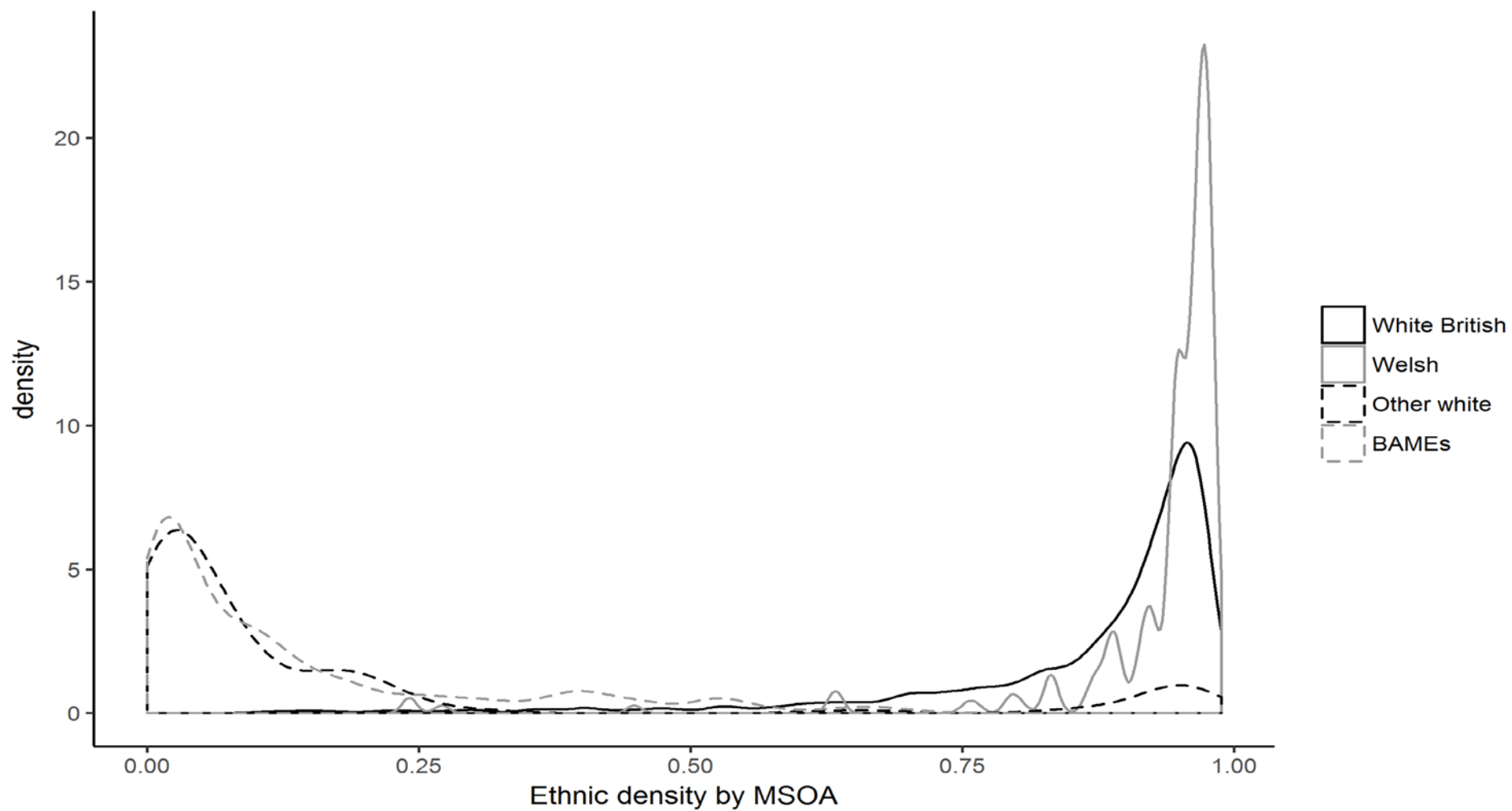
Three-level multilevel linear regression, the model has a form:

$$y_{ijk} = \beta_0 + \beta_1 X_{1ijk} + \beta_2 X_{2j} + \beta_3 X_{3k} + v_k + u_{jk} + e_{ijk}$$

where person-waves  $ijk$  are nested persons  $jk$  which in turn are nested in neighbourhoods  $k$ .  $v_k$  and  $u_{jk}$  are neighbourhood and person random intercepts which like person-wave error term  $e_{ijk}$  are normally distributed with the mean 0 and standard deviation  $\sigma_v^2$ ,  $\sigma_u^2$ , and  $\sigma_e^2$  respectively.



# Result (1)



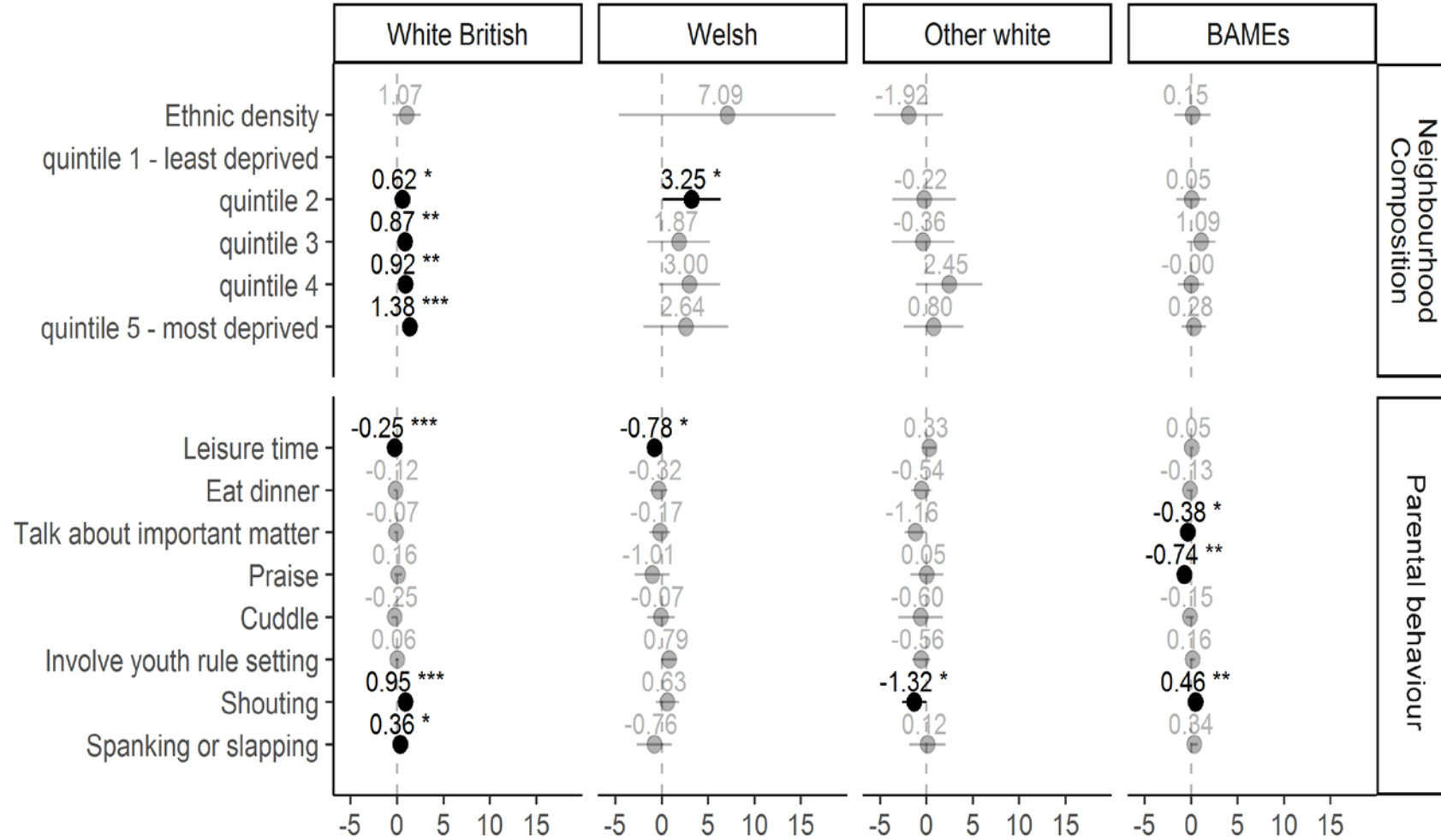
# Result (2)

Multilevel linear regression of mental health on ethnicity, individual/family characteristics, parental behaviour and neighbourhood composition among young people. Ethnicity related coefficients.

	Ethnicity (comparison group: White British)		
	Other Whites	Welsh	BAMEs
	<i>Coeff (SE)</i>	<i>Coeff (SE)</i>	<i>Coeff (SE)</i>
Model 1:Individual	-0.93* (0.44)	-0.53 (0.41)	-1.13*** (0.17)
Model 2 :family	-0.56 (0.45)	-0.57 (0.41)	-0.75*** (0.21)
Model 3: parental behaviour	-0.57 (0.45)	-0.56 (0.41)	-0.83*** (0.21)
Model 4:deprivation & ethnic density	-0.71 (0.55)	-0.61(0.41)	-0.97* (0.40)
Model 5:crime & living environment	-0.77 (0.55)	-0.54 (0.41)	-1.01* (0.40)

Notes: \* $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

# Result (3)



# CONCLUSIONS

- ▶ Study Limitation: large ethnic groups may have masked some of the variation
- ▶ Most of the variation in mental health is due to individual/family level characteristics.
- ▶ Adjustment for parental behaviour, and socioeconomic deprivation seemed to increase the gap in mental health among White British and minority youths
- ▶ A detrimental association between socioeconomic deprivation and mental health among White British youths, but not among their minority counterparts
- ▶ The proportion of co-ethnics in a neighborhood has a weak but mitigating effect on mental health



# Thank you for your attention!

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# Father departure and child mental health: How does timing matter?

Emla Fitzsimons

Aase Villadsen

# Background

- Father leaving household due to separation, divorce, or death is a significant childhood event likely to affect child functioning
- Many previous studies show children from divorcing families having worse outcomes (Amato & Keith, 1991; Amato, 2001).
- Father departure is not a random event so important to consider all confounding factors.
- Most studies lack adequate control for unobserved (unmeasured) confounders. Biased (inflated) estimates of father departure on child outcomes.
- Studies using more robust methods for causal identification show smaller effect sizes (McLanahan, 2013).

# Aims of current study

- Estimate effect of father departure on child conduct and emotional problems using individual fixed effect methods
- Timing
  - Are effects of departure in early childhood different to later departure?
- Duration
  - Are effects short-term or long-term?
- Gender differences
  - Are boys and girls equally affected?

# Data

- Millennium Cohort Study
- Over 19,000 children born in the UK between Sep 2000 and Jan 2001
- First assessed at age 9 months, followed up at ages 3, 5, 7, 11 and 14 years.
- Interviews with main parent (mother usually), resident partner, and later also cohort members themselves
- Collection of detailed information on the family
- 61% of original respondents still in study at latest wave (age 14)



# Measures

- Childhood mental health
  - Parent reported, continuous measures
  - Assessed at ages 3, 5, 7, 11 and 14
  - Strengths and Difficulties Questionnaire (SDQ, Goodman, 1997), 25 items, 5 subscales
  - Externalising symptoms (hyperactivity, conduct)
    - 10 items, e.g. “often has temper tantrums”, “steals from home, school or elsewhere” “restless, overactive, cannot stay still for long”
    - range 0-20,  $\alpha = .76-.79$
  - Internalising symptoms (emotional, peer)
    - 10 items, e.g. “often unhappy, down-hearted or tearful”, “many fears, easily scared”, “rather solitary, tends to play alone”
    - range 0-20,  $\alpha = .60-.77$

# Measures

- Paternal departure
  - We use information on marital or partner relationship of mother and father across time. Father departure if father present at time  $t-1$  and not at time  $t$ .
  - Binary measure (0=father present, 1=father departed)
  - In sample of 6,316 families intact at child age three, 20% experienced paternal departure (94% due to parental relationship breakdown, 6% due to father death).

# Sample

- Current study sample selected to meet specific needs of fixed effects approach.
- Child externalising and internalising first measured at age 3 (baseline of our study) and at subsequent follow-ups.
- Sample restricted to families with both natural parents at child age 3 in order to study effect of subsequent father departure.
- Other sample restrictions
  - Mother main respondent
  - Availability of complete child mental health measures at all time points
  - Twins and triplets excluded
- Final sample 6,319 children

# Analyses

- Traditional OLS regressions
  - Relies on variance between individuals
  - Control variables: Child gender, child age, child age squared, maternal education, maternal ethnicity, family social class, maternal age of birth, country, sweep(time variant).
  - Not possible to control for unobserved variables
- Individual fixed effects
  - Relies on within subject variations over time
  - Unobserved (time-invariant) confounders controlled for
  - Estimation equation:

$$y_{ijt} = \beta_0 + \beta_1 D_{jt} + X'_{ijt} \beta_2 + f_i + \delta_t + u_{ijt}$$

# Analyses

- Timing and duration
  - Early departure – short-term effects:
    - Father departure age 3 to 5 on child outcomes age 5 and 7
    - Father departure age 5 to 7 on child outcomes age 7.
  - Early departure – medium term effects:
    - Father departure age 3 to 7 on child outcomes age 11 to 14.
  - Later departure – short-term effects:
    - Father departure age 7 to 11 on child outcomes age 11 and 14, and father departure age 11 to 14 on child outcomes age 14

# Results: father departure vs intact families

	Intact families (N=5,048)	Father departure families (N=1,271)	Difference (p-value)
Household highest educational level			
NVQ1	5.2%	8.4%	p < .001
NVQ2	24.8%	30.1%	p < .001
NVQ3	15.4%	16.4%	p = .41
NVQ4	41.7%	32.0%	p < .001
NVQ5	6.3%	3.7%	p < .001
Overseas qualifications	1.8%	1.7%	p = .72
None of these	4.8%	7.8%	p < .001
Household highest socioeconomic class	5,024	1,263	
SEC1	26.7%	18.3%	p < .001
SEC2	14.9%	11.8%	p < .01
SEC3	14.0%	12.4%	p = .15
SEC4	9.8%	11.3%	p = .11
SEC5	33.7%	46.2%	p < .001
Household annual income <sup>b</sup>	£22,069 (12,041)	£18,253 (10,268)	p < .001
Maternal ethnicity (white)	89.7%	93.6%	p < .001
Father departure			
Age 9 months to 3 years	0%	0%	-
Age 3 to 5	0%	21.8%	-
Age 5 to 7	0%	19.8%	-
Age 7 to 11	0%	36.7%	-
Age 11 to 14	0%	22.0%	-
Age 9 months to 14 years	0%	100%	-
Child sex (female)	50.5%	51.9%	p = .37
Maternal age at birth	30.6 (4.94)	29.0 (5.41)	p < .001
Maternal depression age 3	2.64 (3.04)	3.43 (3.63)	p < .001
Partner relationship quality	4.15 (0.69)	3.69 (0.88)	p < .001
Child externalising behaviour age 3	5.98 (3.46)	6.61 (3.68)	p < .001
Child internalising behaviour age 3	2.60 (2.39)	2.77 (2.37)	p < .05



# Results: main effects of father departure

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	<u>OLS unadjusted</u>		<u>OLS adjusted</u>		<u>Fixed effects (FE)</u>	
	B	S.E	B	S.E	B	S.E
EXTERNALISING						
Father departure	<b>0.27***</b>	0.021	<b>0.18***</b>	0.021	<b>0.08***</b>	0.022
R <sup>2</sup>		.06		.09		.58
INTERNALISING						
Father departure	<b>0.23***</b>	0.021	<b>0.17***</b>	0.021	<b>0.13***</b>	0.025
R <sup>2</sup>		.05		.05		.46
Observations		31,595		31,595		31,595

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# Results: timing effects

	OLS adjusted		FE	
	B	S.E	B	S.E
<b>EXTERNALISING</b>				
Early father departure – short term effects	<b>0.18***</b>	0.039	0.04	0.040
Early father departure – medium term effects	<b>0.19***</b>	0.034	0.06 <sup>†</sup>	0.038
Later father departure – short term effects	<b>0.16***</b>	0.033	<b>0.09***</b>	0.027
R <sup>2</sup>		.09		.58
<b>INTERNALISING</b>				
Early father departure – short term effects	<b>0.12**</b>	0.040	0.06	0.045
Early father departure – medium term effects	<b>0.14***</b>	0.034	<b>0.08*</b>	0.043
Later father departure – short term effects	<b>0.23***</b>	0.034	<b>0.17***</b>	0.030
R <sup>2</sup>		.05		.46
Observations		31,595		31,595

# Results: effects by gender

	Boys (FE)		Girls (FE)	
	B	S.E	B	S.E
<b>EXTERNALISING</b>				
Early father departure – short term effects	0.01	0.059	0.08	0.054
Early father departure – medium term effects	0.06	0.055	0.06	0.052
Later father departure – short term effects	<b>0.14**</b>	0.041	<i>0.05</i>	0.037
R <sup>2</sup>		.59		.54
<b>INTERNALISING</b>				
Early father departure – short term effects	0.03	0.067	0.09+	0.060
Early father departure – medium term effects	<i>0.006</i>	0.061	<b>0.15*</b>	0.059
Later father departure – short term effects	<b>0.19***</b>	0.043	<b>0.15***</b>	0.042
R <sup>2</sup>		.48		.44
Observations		15,545		16,050

# Summary of results

- Father departure has a detrimental effect on child functioning, especially internalising symptoms
- Timing of the event and gender matter
  - Only boys increase in externalising and internalising problems when father departs in later childhood, but not early in childhood.
  - Girls externalising problems unaffected, but internalising increase regardless of when departure happens. Furthermore, effects of early departure increase as girls reach adolescence (sleeper effect).

# Limitations

- Fixed effects deals with time-invariant unobserved confounding. A major advantage over OLS. But bias due to unobserved time-varying factors still possible.
- Our study (baseline at child age 3) not able to shed light on father departure in very early life.
- Generalisability of results may be limited to our sample of families with two natural parents at age 3. More affluent and better educated than nationally representative MCS sample. Our estimates likely to be conservative.

**Thank you!**





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# Primary school context and longitudinal pathways from early life events to teen risk behaviour and depressive symptoms

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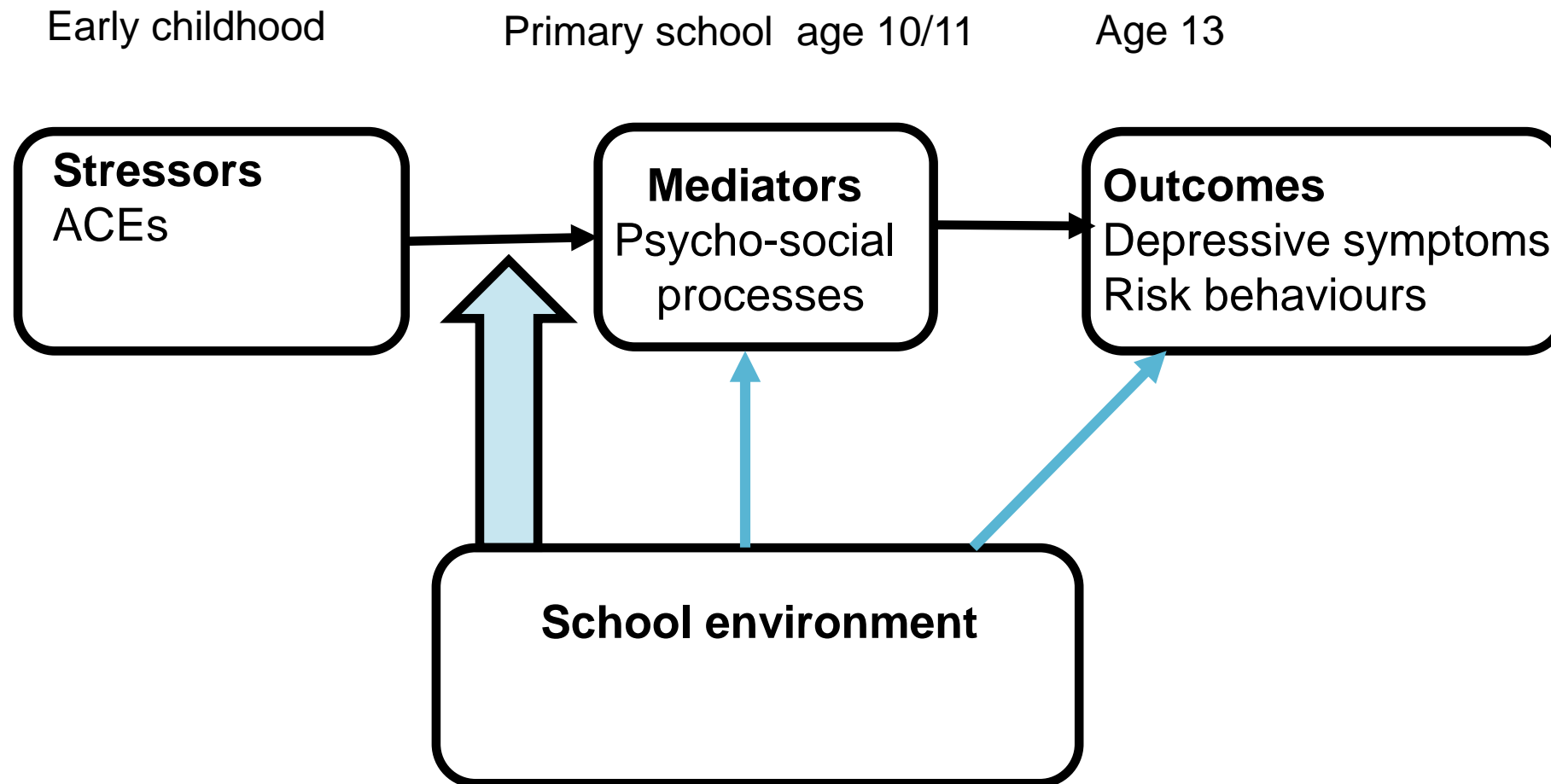
November 2017

# Background

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- Multiple **adverse childhood experiences** (ACEs) linked to
  - adolescent risk behaviour & depression eg Cheney et al 2014, St Clair et al 2014)
  - poor adult mental health and health risk behaviours (meta-analysis Hughes et al 2017)
- Variable response to ACEs – resilience (Rutter 2013)
  - Importance of positive social relations
  - May operate **after** stress/adversity to restore good functioning
- **School environment** - potential for
  - nurturing positive development
  - promoting resilience (Masten et al 2008)
- ? relevant aspects of primary school environment
  - school pupil composition and/or “ethos” (climate)

# Conceptual model – adapted from Grant et al 2003



# Primary school age mediators

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- ACEs associated with primary school age externalising and internalising problems
- Primary school age problems have specific associations with teen outcomes
  - externalising problems → teen substance use and sexual risk
  - internalising problems → teen depression (“continuity path”)
- Complete pathways untested

# Primary school environment and socio-emotional adjustment

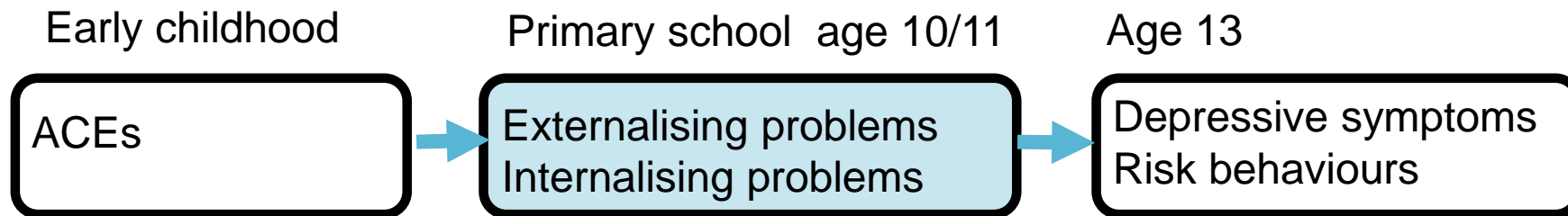
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- **Pupil composition**
  - socio-economic status (SES)
- **School ethos**
  - “Whole school” climate
- Both may have **direct** and **moderating** effects
  - positive ethos beneficial - especially for internalising problems?
  - pupil composition – direction of effect uncertain

# Research questions (1)

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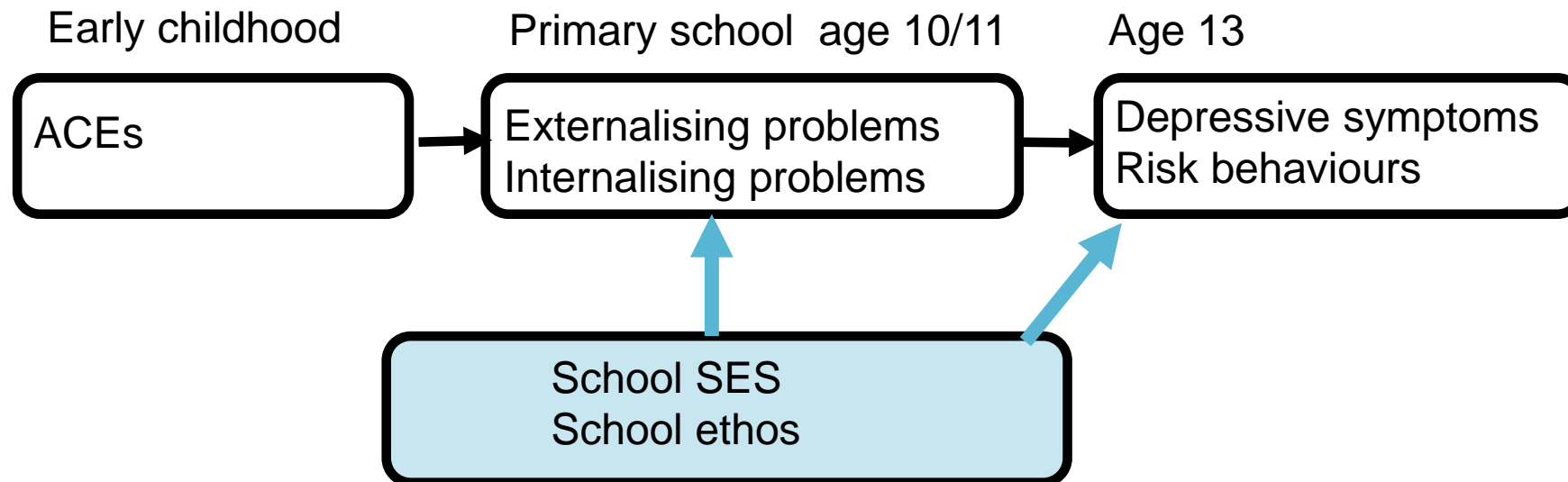
Do primary school age internalising and externalising problems **mediate** effects of early childhood ACEs on teen outcomes?



## Research questions (2)

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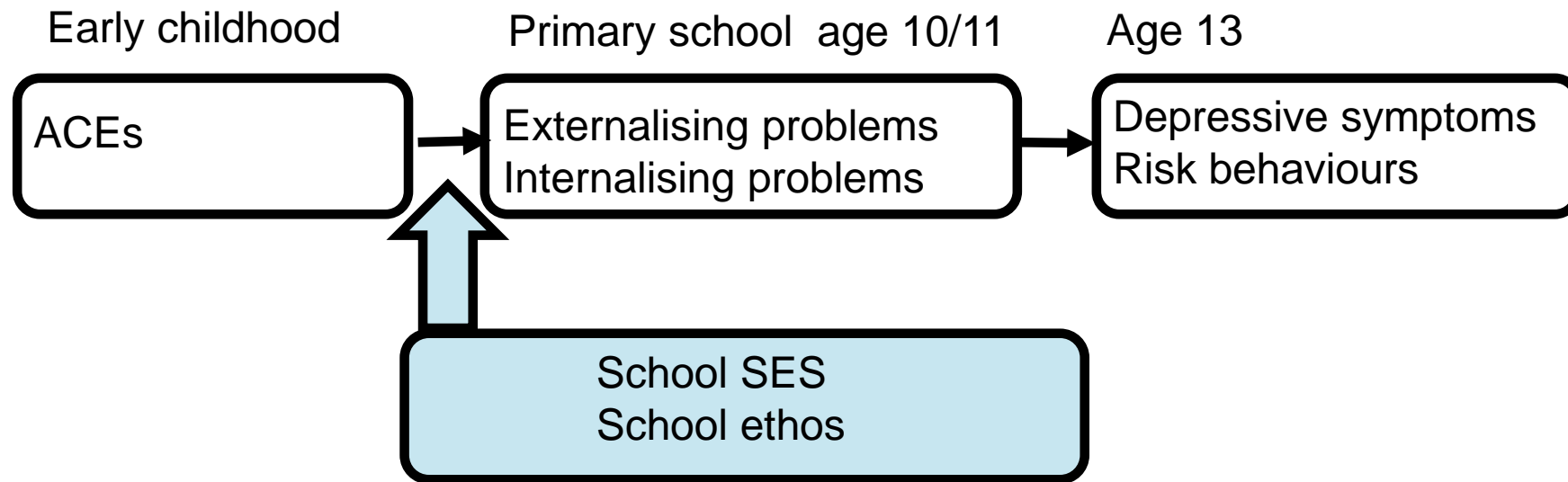
Do primary school SES & ethos have **direct effects** on mediators and outcomes?



# Research questions (3)

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Do primary school SES & ethos **moderate** pathways from ACEs to outcomes?





# Study sample

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- Avon Longitudinal Study of Parents and Children (ALSPAC)
  - Core sample – c.14,500 mothers recruited 1990-2

## **Primary school – year 6 (age 10-11)**

- Parent completed questionnaire, n=7,165
- School admin and head teacher data, n=5,026

## **Teenage outcomes – age 13**

- Attended age 13 clinic subsample, n=2,284 (from 142 primary schools)

# Outcomes – age 13

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- **Depressive symptoms** – Short Moods and Feelings Questionnaire 13 items, score 0-26, 8% with score 12+ (=depression)
  - **Risk behaviour** – score of 4 items (0-4)
    - Smoking – 11%
    - Cannabis – 4%
    - Alcohol without parental permission – 25%
    - Sexual behaviour (oral/intercourse) - in last year – 17%
- } in last 6 months

# Main exposure – adverse childhood experiences (ACEs)

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- Mothers' reports, child age 8, 21, 33 months (>40 events yes/no)
  - illness, accidents, deaths
  - separations, couple conflict, emotional and physical abuse
  - financial problems, employment-related problems including job loss/gain
  - experience of/involvement in crime
  - moving house
- Aggregate score at each time point,  $\div 3$  (mean=4.5)

# Primary school mediators, child age 10-11

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Parent and year 6 Teacher reports from Strengths and Difficulties Questionnaire (mean scores)

- **Externalising problems** – conduct and attentional problems
- **Internalising problems** – emotional and peer problems

# Potential moderators: primary school year 6

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- **School composition**
  - % free school meal (FSM) eligibility, from linked administrative data (mean= 14%)
- **School ethos** – combined scores of 7 dimensions, alpha=0.89 from head teacher questionnaire
  - Expectations and standards (12 items)
  - Staff unity on school values and practices (8 items)
  - Teacher-pupil relations (7 items)
  - Pupil performance monitoring and rewards (4 items)
  - School-home relations (7 items)
  - Pupil attitudes to learning (8 items)
  - Teacher involvement (5 items)
- **FSM and positive ethos** – moderate negative correlation (-.31)

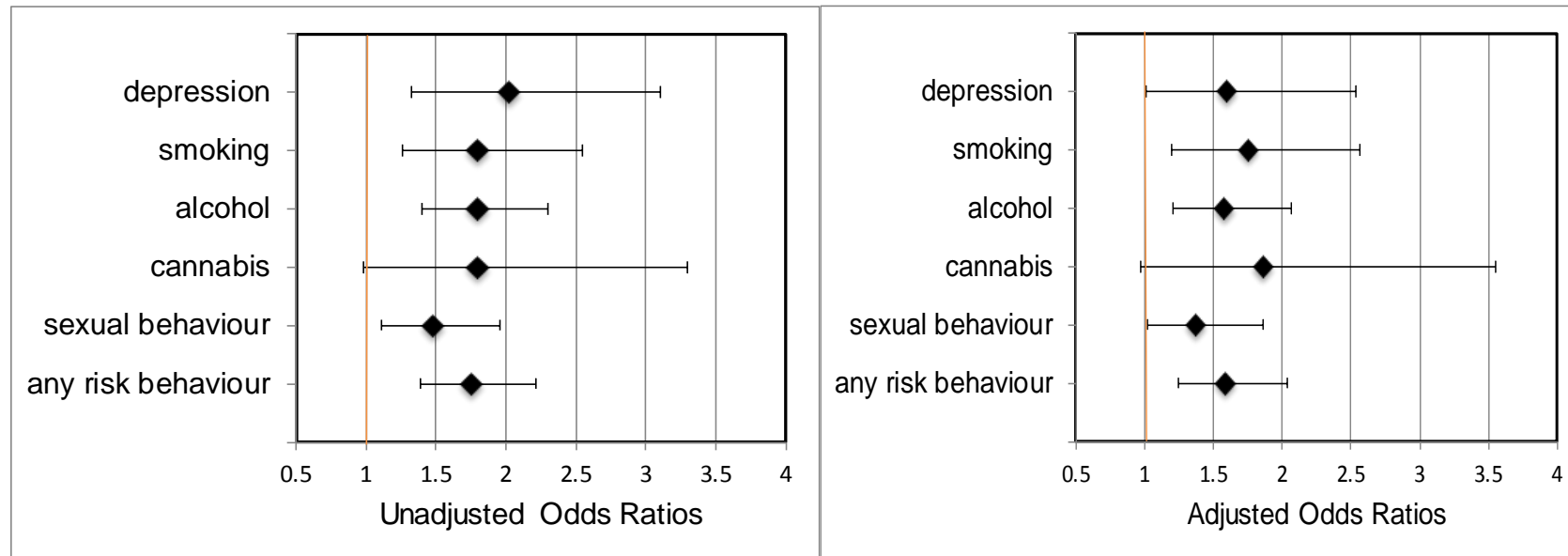
# Analysis

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- Multilevel path model (individual and school level) in Mplus
- Multiple imputation of missing item response
- Covariates measured early childhood
  - Child gender
  - **Parental education, income, family structure**
  - Parental depression
  - Parental smoking
  - Social support
  - **Child pre-school behavioural and emotional problems**
  - **Child foundation score (school entry)**

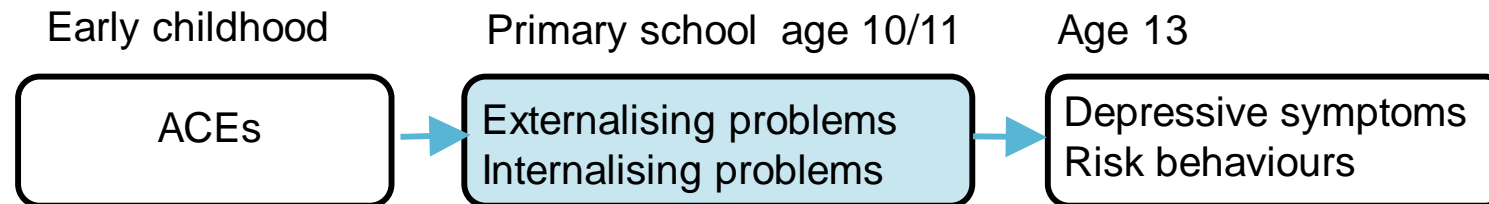
# Associations between ACEs and teenage outcomes

- Odds associated with **highest ACE tertile** (compared to lowest)



# Primary school age problems as mediators

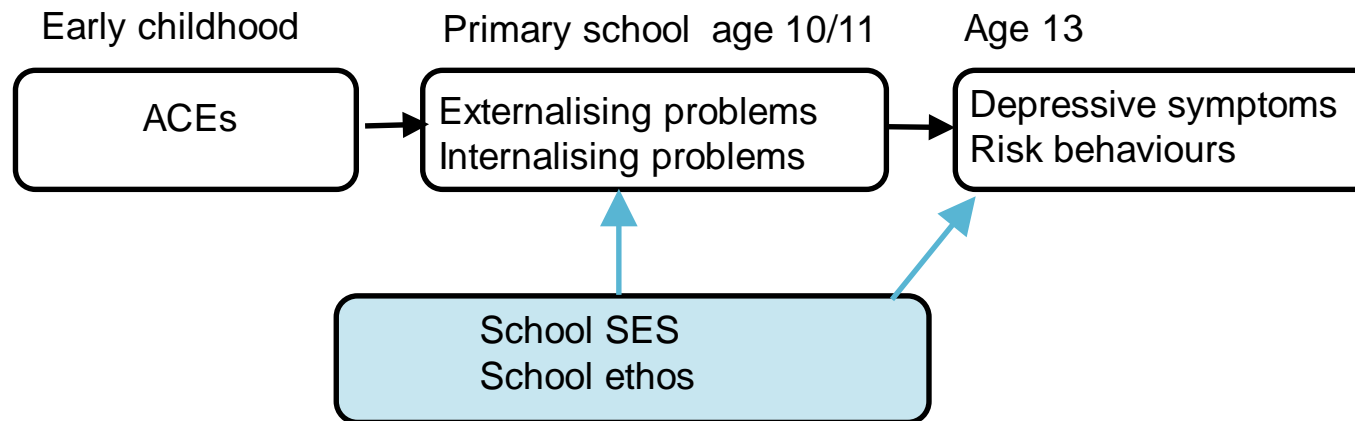
<b>Mediator age 10-11</b>	<b>Outcome age 13</b>	<b>Indirect effect</b>	<b><i>p</i></b>
<b>Externalising problems</b>	<b>Risk behaviour</b>	<b>0.015</b>	<b>0.015</b>
	Depressive symptoms	0.012	0.211
<b>Internalising problems</b>	<b>Risk behaviour</b>	<b>-0.009</b>	<b>0.012</b>
	<b>Depressive symptoms</b>	<b>0.038</b>	<b>0.024</b>





# Direct effects of primary school environment

	Age 10/11	Age 13
	Externalising	Risk behaviour
Free school meals	<b>-0.33 *</b>	<b>-0.09 ***</b>
Positive ethos	-0.23	-0.03
	Internalising	Depressive symptoms
Free school meals	-0.06	<b>-0.25 *</b>
Positive ethos	<b>-0.31 *</b>	-0.16

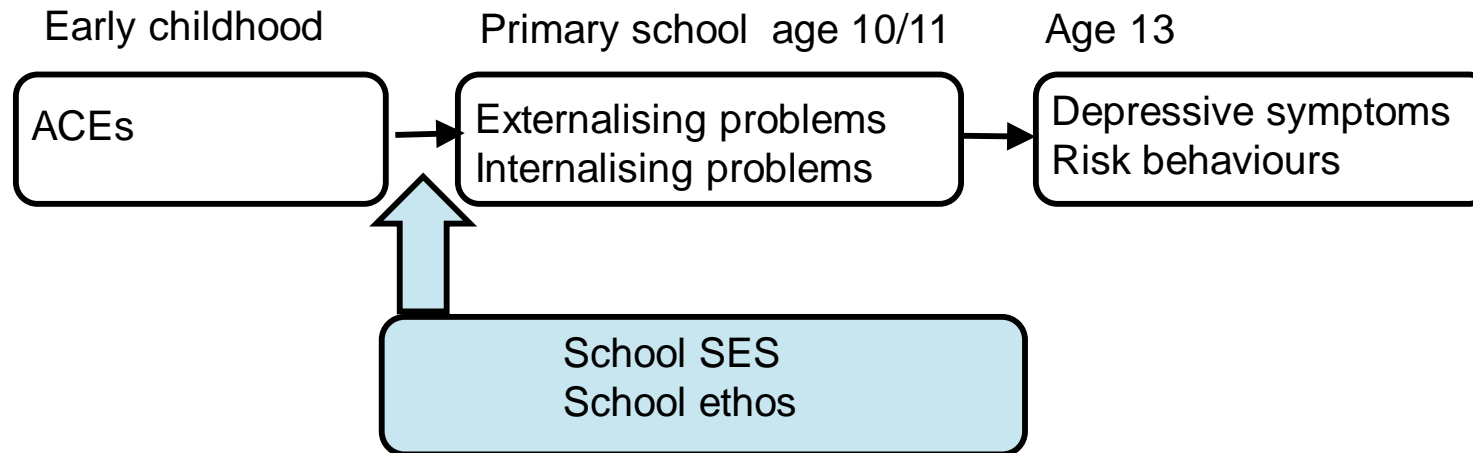


# Moderating effects of primary school environment

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Cross-level interactions – tested in Mplus using random slope models

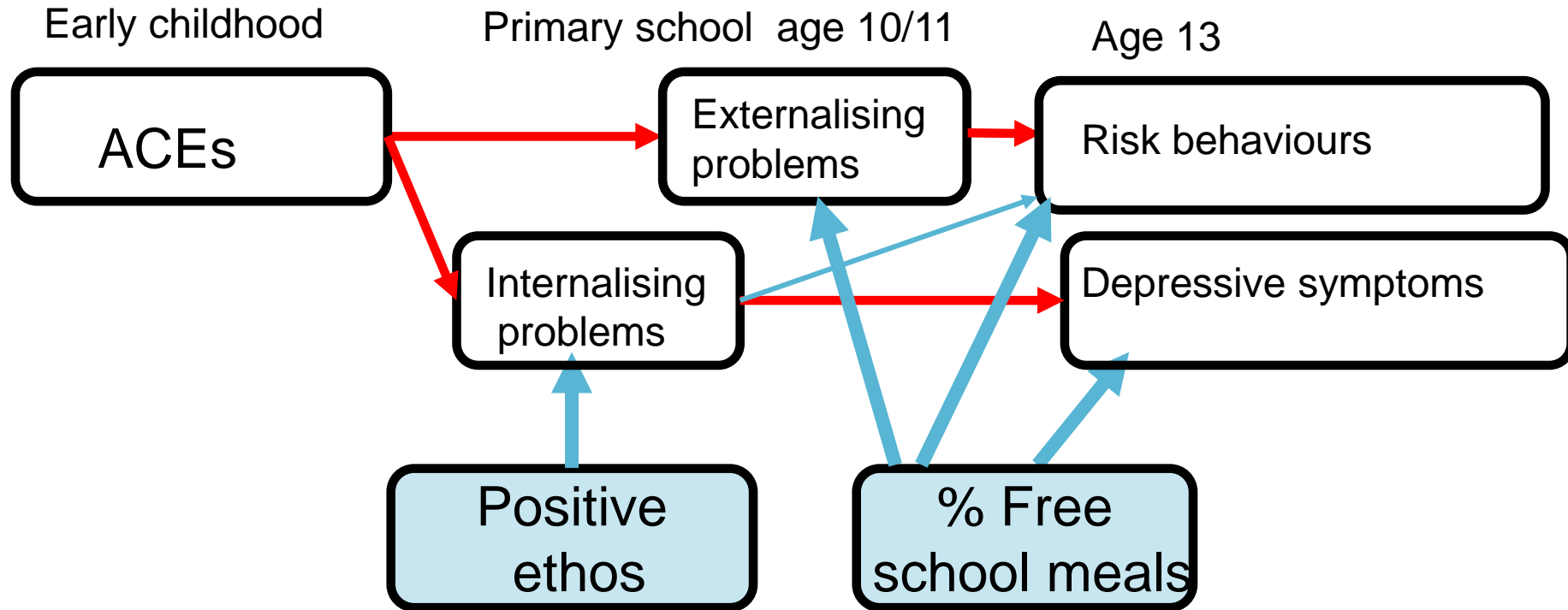
- **No moderation** of associations between ACEs and
  - teen outcomes
  - age 10-11 internalising/externalising problems



# Summary

→ Positive effect

→ Negative effect



# Conclusions

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- Strengths & limitations
  - Community sample suited to school effects study
  - Uncertain generalisability
- ACEs associated with negative teen outcomes
- Primary school environment impacts socio-emotional adjustment
- Does not compensate for ACE exposure
- Children with ACEs need earlier, targeted support