

# Health in adolescence influences educational attainments and life chances

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# Education → health

- Education identified as a key social determinant of health
- Internationally schools focusing on attainments & wealth creation
- Increasing concerns around health outcomes of educational 'failure' i.e. NEET (Not in Education, Employment or Training)

# Health $\longrightarrow$ Education

- Bidirectionality of causal pathways?
- Old literature: chronic illness in childhood linked to poor educational outcomes & life chances
- Role of poor mental health in low academic attainment and unemployment

## How might health influence educational outcomes?

- Missed school
- Stress
- Family stress and disfunction
- Risk behaviours
- Cognitive impairments
- Attention
- Classroom behaviour
- Social exclusion

## Aims

- 1) Examine associations of health conditions (physical, mental, general) with late adolescent academic attainment and early adult NEET
- 2) Investigate mediational pathways between health and social outcomes

# Methods

Longitudinal Study of Young People in England

- From 2004 (age 13; N=15,770) to 2010 (age 19; N=8,682)

## Health in early adolescence:

1. Any long-term condition (parent-report at age 13)
2. Poor mental health (high [4+] GHQ score at age 14)
3. Poor general health (self-reported as not “very good”)



## Outcomes

- A. Low educational attainment (GCSE performance below “Level 2” [fewer than 5 grades of C or above] at age 16)
- B. NEET at age 19
  - unemployed and looking for work
  - looking after the home
  - travelling, volunteering, taking a break
  - NEET due to illness .

Attainment in early adolescence  
SES & ethnicity



## Potential mediators

- Long-term school absences (one month or more between age 13-15)
- Troublemaking in class (self-reported, age 13)
- Truancy (self-reported, between 13-16)
- Social exclusion (self-reported exclusion from a group of friends or social activity between 13-16)
- Psychological distress (high GHQ at age 14)
- Health behaviours
  - Regular smoking or alcohol use
  - Cannabis use (ever used cannabis by age 16)

## Mediation analyses

- Step 1: Establish association between exposure (health) and outcomes (academic attainment and NEET)
- Step 2: Establish association between exposure and mediators
- Step 3: Partition effects into direct and indirect effects (using *khb* command in Stata)



# Adolescent health and later outcomes

Associations between early adolescent health and later low educational attainment and NEET status by gender

	Low educational attainment				Not in education, employment or training (NEET)			
	Males		Females		Males		Females	
	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P
Long-term condition	1.53 (1.26, 1.86)	<.001	1.72 (1.40, 2.14)	<.001	1.30 (.92, 1.83)	.14	1.37 (.95, 1.97)	.09
Poor mental health	1.25 (1.01, 1.57)	.05	1.39 (1.16, 1.67)	<.001	1.72 (1.24, 2.41)	.001	1.49 (1.11, 1.99)	.008
Poor general health	1.42 (1.22, 1.65)	<.001	1.64 (1.40, 1.92)	<.001	1.36 (1.04, 1.79)	.03	1.35 (1.02, 1.79)	.03

All analyses controlled for socioeconomic status, ethnicity and early adolescent educational attainment

# Evidence of significant mediation between health condition and outcome (w/ indirect effect)

	Low educational attainment			NEET			
	Physical	Mental	General	Physical	Mental	General	
Males	Long-term school absences	X	X	✓ (7%)	X	X	X
	Truancy	X	✓ (86%)	✓ (23%)	X	✓ (17%)	✓ (15%)
	Social exclusion	✓ (6%)	✓ (54%)	✓ (10%)	X	✓ (20%)	✓ (9%)
	Psychological distress	X	-	X	X	-	X
	Troublemaking	X	✓ (27%)	X	X	X	X
	Alcohol use	X	X	✓ (4%)	X	X	X
	Smoking	X	✓ (32%)	✓ (35%)	X	✓ (7%)	✓ (17%)
	Cannabis use	✓ (-8%)	✓ (17%)	✓ (12%)	X	✓ (5%)	X

	Low educational attainment			NEET			
	Physical	Mental	General	Physical	Mental	General	
Females	Long-term school absences	✓ (14%)	X	✓ (10%)	X	X	✓ (8%)
	Truancy	X	✓ (46%)	✓ (16%)	X	✓ (17%)	✓ (19%)
	Social exclusion	✓ (3%)	✓ (14%)	✓ (3%)	X	✓ (26%)	✓ (15%)
	Psychological distress	✓ (3%)	-	✓ (7%)	X	-	✓ (23%)
	Troublemaking	X	✓ (12%)	✓ (5%)	X	X	X
	Alcohol use	X	✓ (18%)	✓ (9%)	X	X	X
	Smoking	X	✓ (49%)	✓ (31%)	X	✓ (14%)	✓ (23%)
	Cannabis use	X	✓ (36%)	✓ (14%)	X	X	X

# Summary

- Poor health in adolescence predicts 25% to 72% greater chance of low attainment or NEET

-adjusting for attainments in early adolescence

i.e. health predicts gain in attainments across adolescence

- Mediators:
  - physical health - via school absence, social exclusion and psychological distress
  - mental health: behavioural problems and social exclusion
  - general health: multiple mediators
  - Similar patterns across gender

## Implications

- Health should be part of the ‘core business’ of schools
- Target support to yp with poor health
  - Active identification of yp with LTC
    - Missed school is key mediator
  - Mental health screening
    - Truancy