

Socioeconomic inequalities in obesity over the first decade of life – findings from the Millennium Cohort Study

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Millennium Cohort Study (MCS)

- **Sample drawn from all live births in 4 countries of the UK during 2000-2002**
- **Clustered at the electoral ward level with oversampling**
- **18,552 households**
- **Home interviews**
- **5 sweeps deposited: 9 months and 3, 5, 7 & 11 years**
- **Next sweep (age 14) available soon**

Research questions

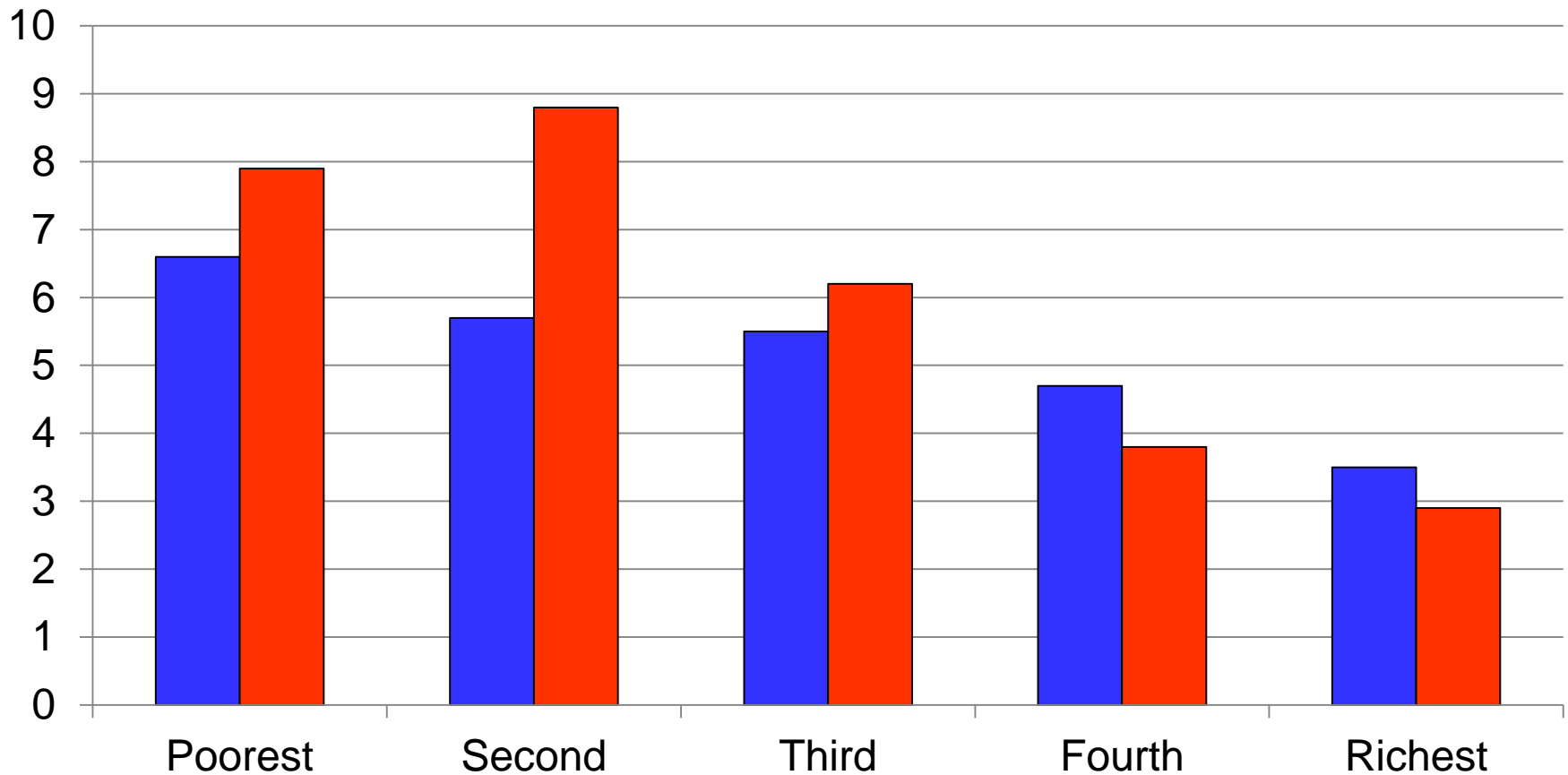
- What is the extent of income inequalities in obesity across childhood.
- Do inequalities widen between ages 5 and 11.
- Which potentially modifiable factors help explain observed inequalities.

Explanatory factors

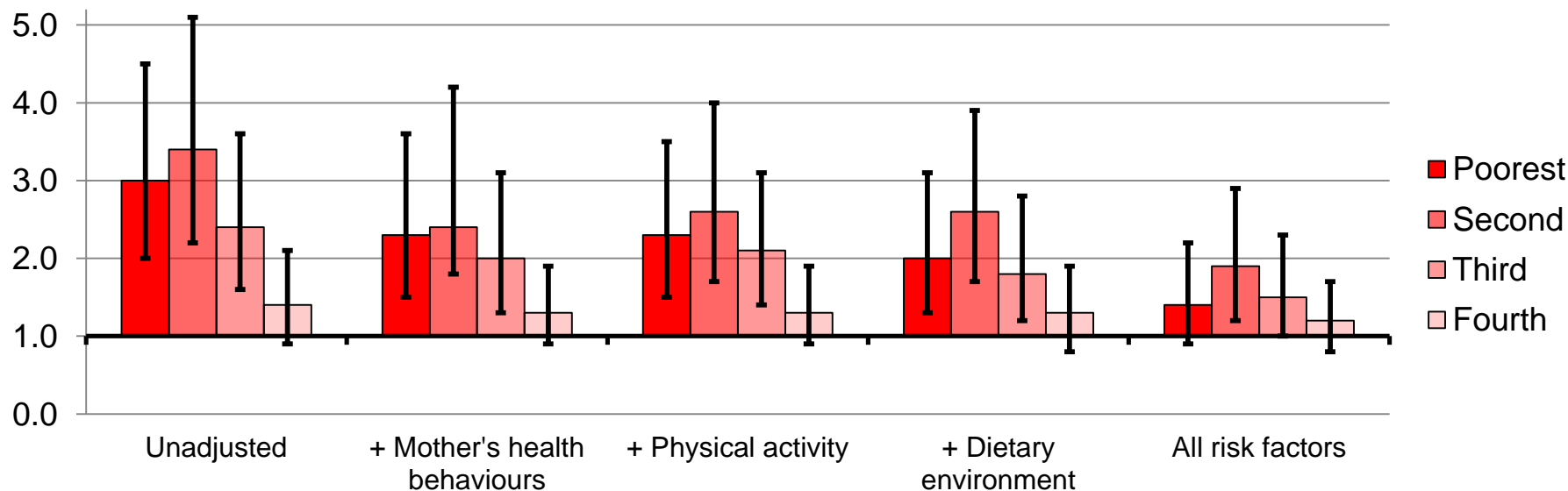
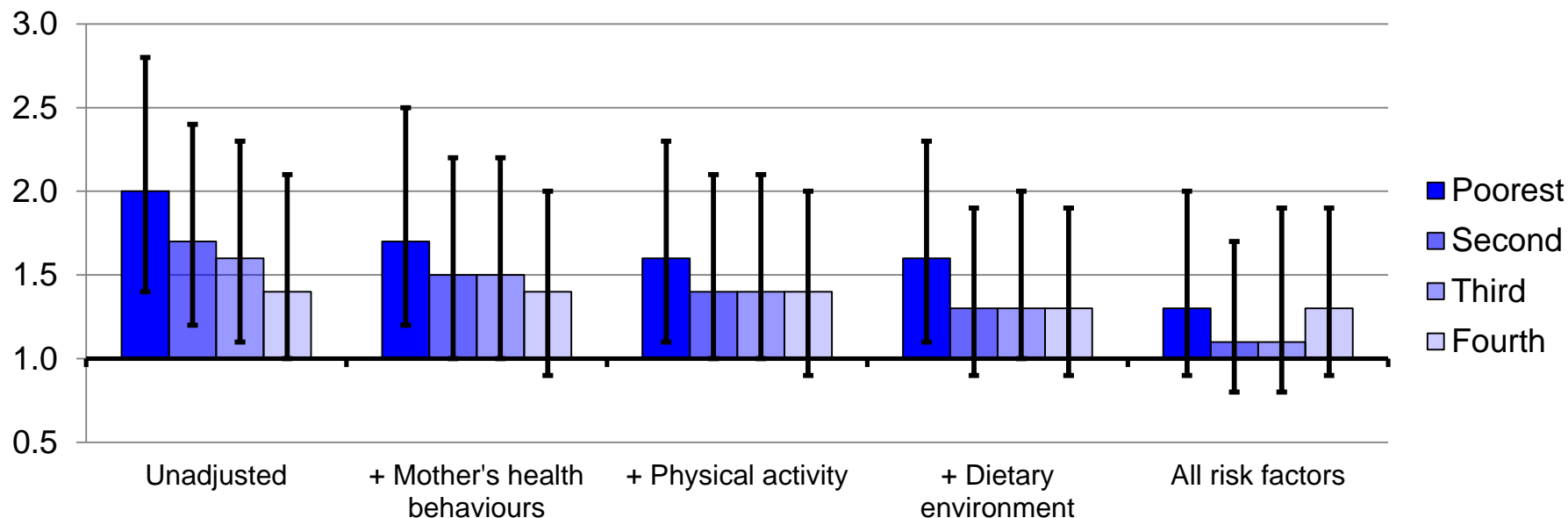
- **Mother's health behaviours:** smoking during pregnancy; breastfeeding; early introduction of solid foods
- **physical activity markers:** sports participation; bike riding; going to the playground; playing with a parent; TV viewing; PC use; bedtime
- **dietary markers:** fruit portions per day; sweet drinks consumption; eating breakfast everyday; maternal BMI

Prevalence rates for obesity

■ Age 5 ■ Age 11



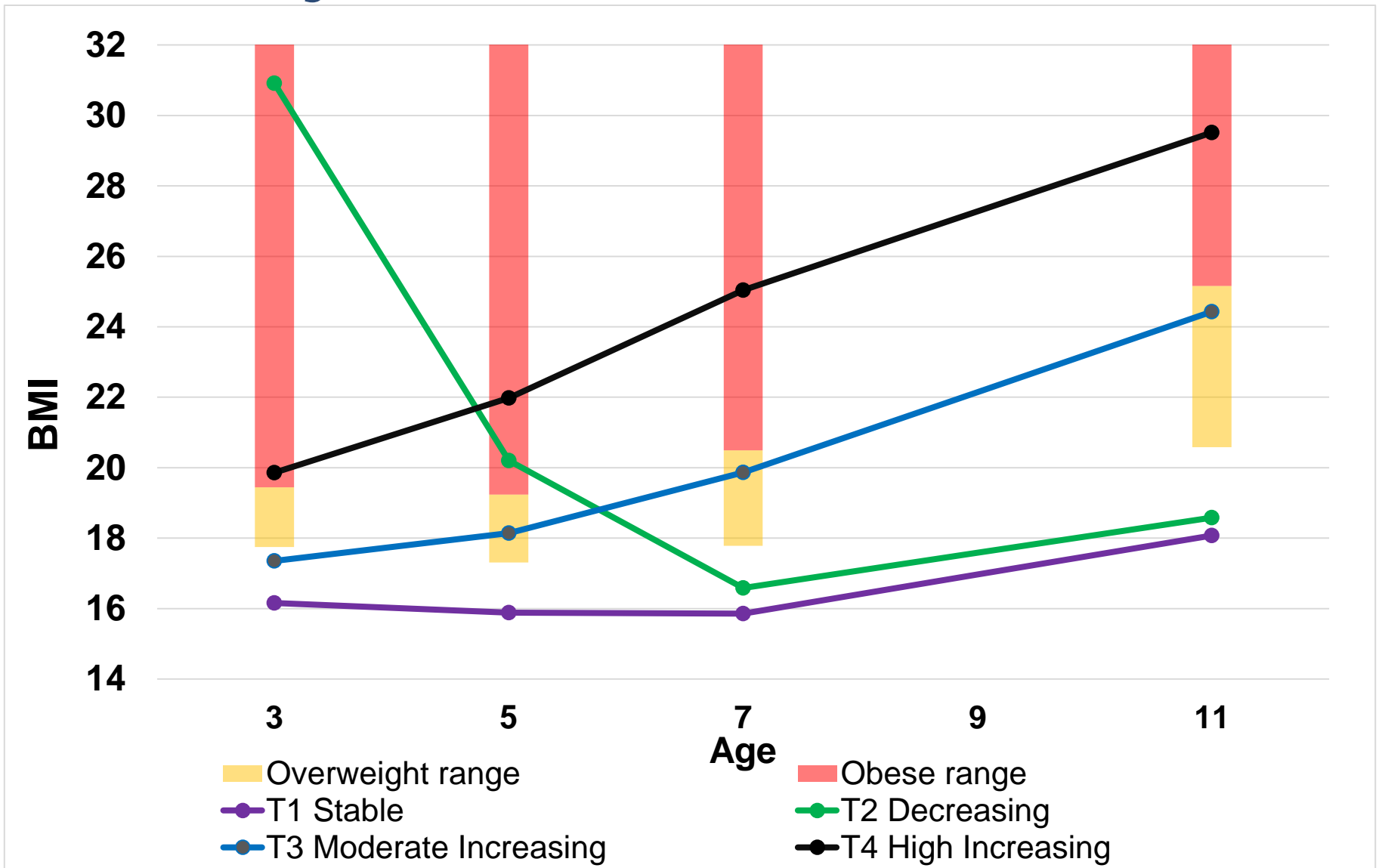
Odds of obesity age 5 (n=11965) and age 11 (n=9384)



Study objectives

1. identify BMI developmental trajectories across the first decade of life;
2. examine early life predictors of trajectory membership;
3. investigate whether being on a particular BMI trajectory is associated with markers of psychosocial well-being including socioemotional difficulties, self esteem, happiness and risky behaviours in early adolescence.

BMI trajectories in childhood



Predictors of increasing BMI trajectories

	Moderate Increasing	High Increasing
Gender (female)	1.36***	1.20
Ethnicity		
Indian	1.66**	1.63
Pakistani	1.29*	1.83*
Bangladeshi	1.34	0.46
Black Caribbean	1.21	3.44***
Black African	2.01***	3.39***
Other	1.21	1.37
Pregnancy		
Smoked in pregnancy (Yes)	1.17*	1.97***
Early childhood		
Maternal BMI	1.10***	1.14***
Skip breakfast (Yes)	1.66***	1.76**
Non-regular bedtime (Yes)	1.22*	1.55*
Late bedtime (Yes)	1.26*	1.50

Psychosocial correlates of increasing BMI trajectories

	Moderate Increasing	High Increasing
Socioemotional difficulties		
Emotional symptoms	0.18**	0.53***
Conduct problems	0.03	0.38***
Hyperactivity	-0.04	0.27
Peer problems	0.27***	0.84***
Prosocial behaviour	0.16**	0.16
Low self-esteem	0.28***	0.84***
Unhappiness	0.66**	2.07***
Body dissatisfaction	0.47***	0.98***

Outcomes are linear regressions

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Psychosocial correlates of increasing BMI trajectories

	Moderate Increasing	High Increasing
Smoked cigarettes	2.03***	5.05**
Drank alcohol	1.19	1.82*

Logistic regressions *p<0.05, **p<0.01, ***p<0.001

Conclusions

- Risk of child obesity is socially patterned
- Magnitude of inequalities widened across childhood
- A range of pathways link family socioeconomic circumstances to child obesity
 - Physical activity and dietary patterns most important, but markers of early health behaviours were not irrelevant
 - Pathways through early life potentially accumulate
- Unhealthy BMI trajectories are linked to worse wellbeing



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