

Childhood overweight and obesity: The role of multiple lifestyle behaviours

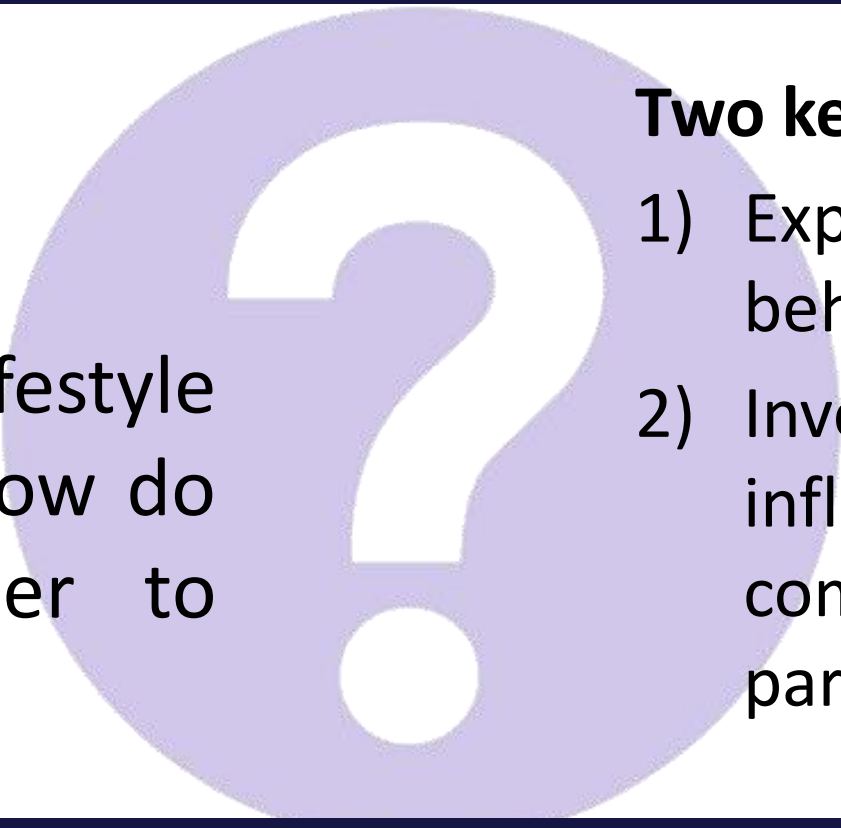
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Objectives



1 in 3 children are overweight or obese [1]

Unanswered questions: Which lifestyle behaviours should we target & how do they interact with one another to influence body weight?



Two key aims:

- 1) Explore associations between lifestyle behaviours and risk of overweight/obesity
- 2) Investigate how behaviours interact to influence body mass index (BMI), by comparing 'healthy' and 'unhealthy' participants, using specific health criteria

Methods

ISCOLE: International Study of Childhood Obesity, Lifestyle & the Environment

12 countries from all continents with a diverse range of human and social development participated in the ISCOLE childhood obesity study

Data from the UK site of the ISCOLE study were analysed:

- N = 374
- Age: 9-11 years
- 26 schools within Bath & North East Somerset and West Wiltshire



Outcome variable:
Body Mass Index (BMI) z-score calculated using children's height and weight. Participants classified as overweight/obese using WHO method.[2]

Independent variables:

Four key lifestyle behaviours assessed as follows:



Physical activity (accelerometry)



Sleep (accelerometry)



Screen Time (self-reported)

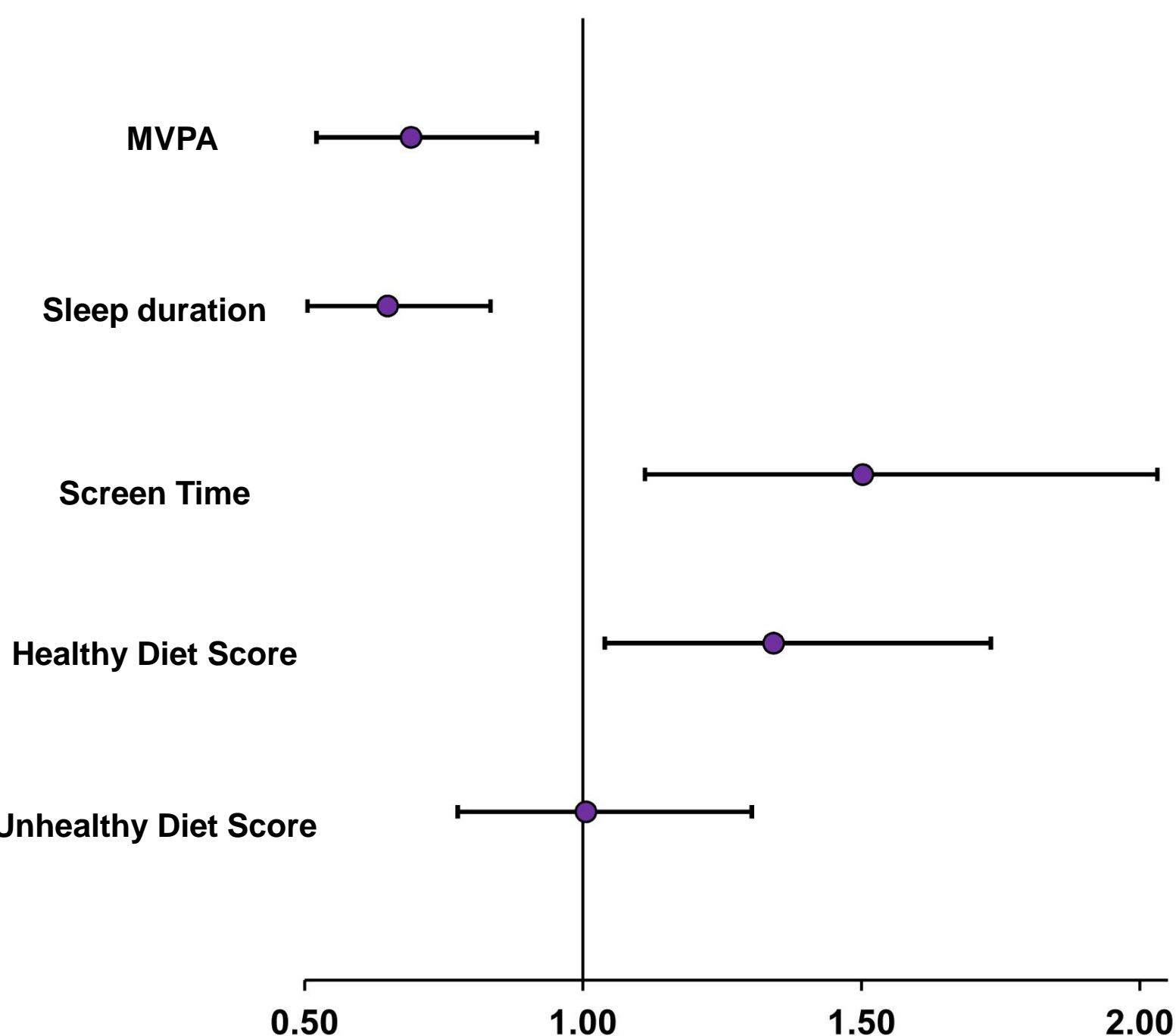


Diet (self-reported)

Results

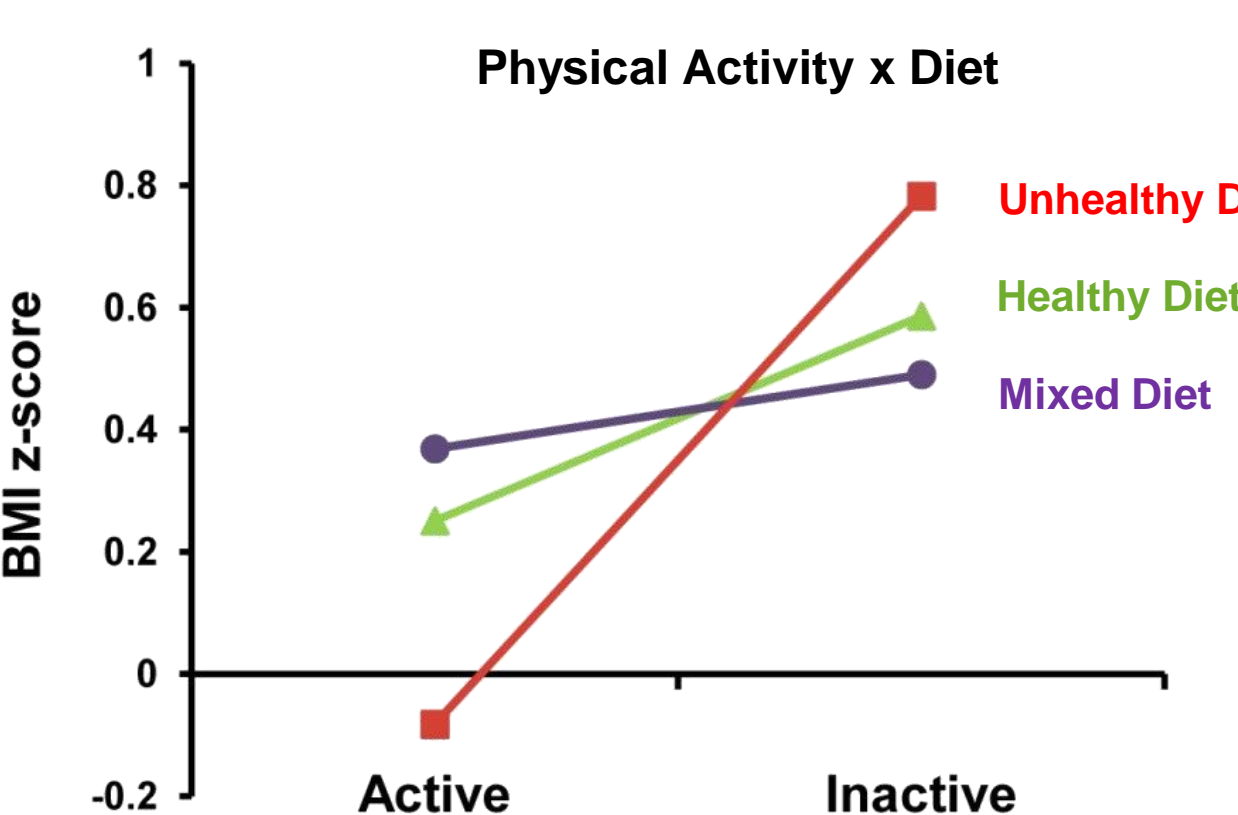
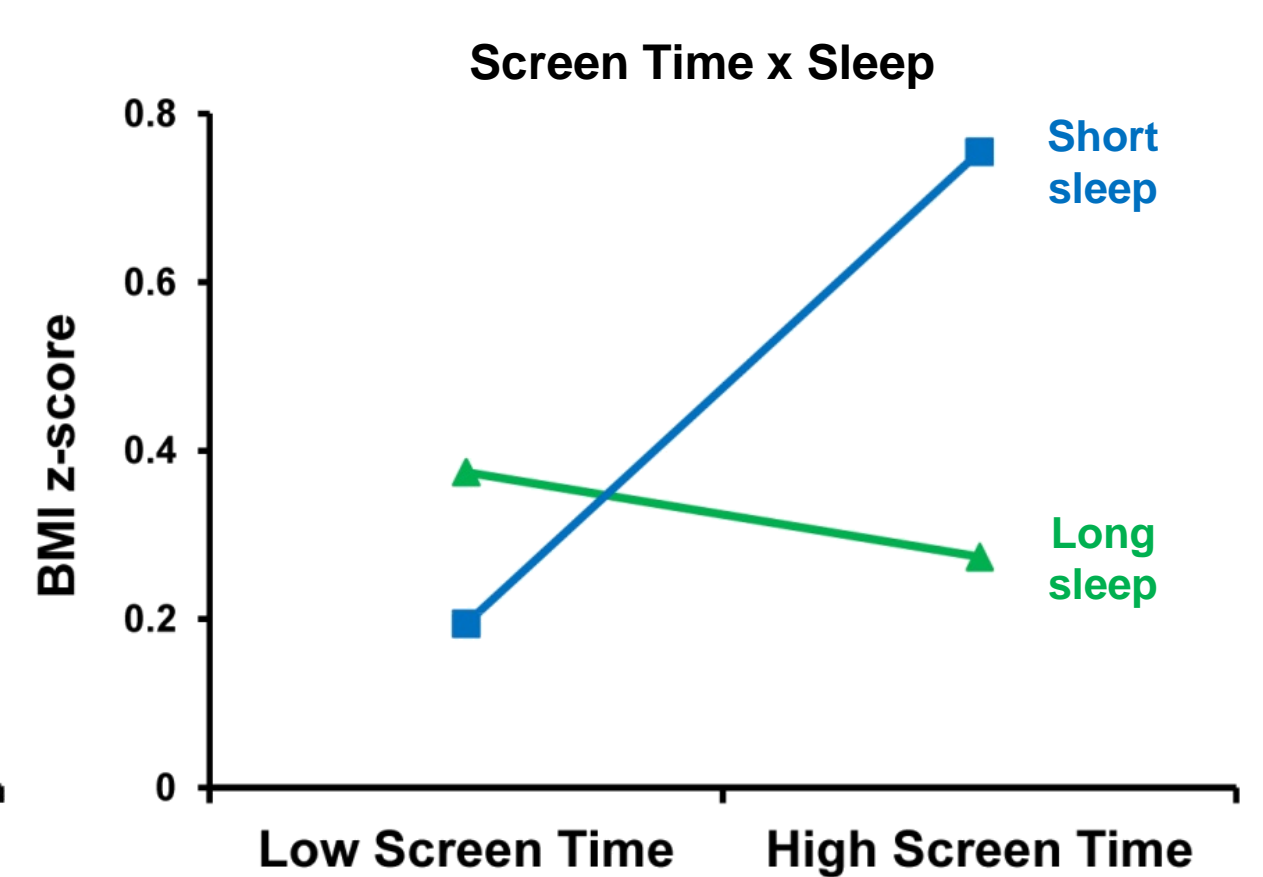
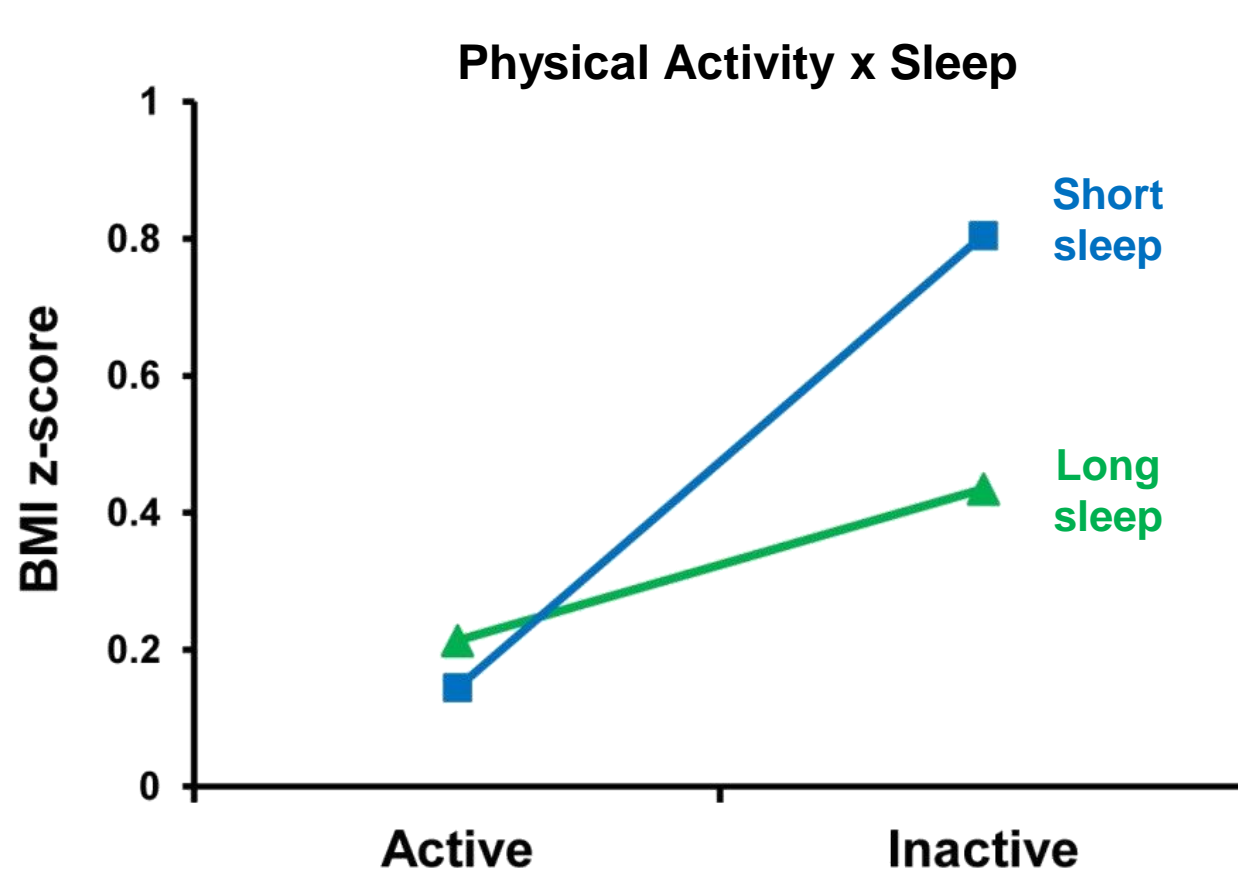
Objective 1

Moderate-to-vigorous intensity physical activity (MVPA) and a longer sleep duration were associated with reduced odds of being overweight or obese, whereas screen time and a healthy diet score increased the odds.



Objective 2

Three significant interactions between behavioural groups and BMI z-score were found:



Physical Activity x Sleep: Regardless of their sleep profile, active children had a lower BMI z-score than those not meeting either of these guidelines (inactive, short sleepers).

Screen Time x Sleep: There was a protective effect of long sleep in high screen time users. Likewise, low screen time was beneficial in short sleepers.

Physical Activity x Diet: Active children with an unhealthy diet had a significantly lower BMI z-score than inactive children for all dietary groups.

Conclusions

MVPA, sleep and screen time are important lifestyle behaviours associated with overweight/obesity and strategies aimed at improving compliance with health guidelines are required. Although it is possible that overweight children are taking steps to lose weight by eating a healthier diet,[3] more work on the role of dietary behaviours, using objective measures is needed.

References
 [1] Lifestyle statistics team. NCMP. *HSCIC* 2014.
 [2] de Onis et al. *Bull World Health Organ* 2007;85:660-7.
 [3] Basterfield et al. *BMJ Open* 2014;4:e005001