

Trends in perceived body size of Scottish schoolchildren

In a nutshell

- Researchers explored perceived bodyweight and mental wellbeing in 11, 13 and 15 year old girls and boys who had taken part in the Health Behaviour in School-aged Children (HBSC) Survey between 1990 and 2014.
- The results showed that perceiving oneself as either over- or underweight was linked to lower confidence, lower happiness and more symptoms of poor mental wellbeing.
- The link between perceived body size and poor mental wellbeing became stronger over time; boys and girls who feel they are over- or underweight in 2014 were more likely to report poor mental wellbeing than those in the 1990 survey.
- It is important that health interventions for obesity focus on positive body image to maintain good mental health, while working towards achievable weight-loss goals.

Importance

The health risks of being obese are well known, but what is less known is that perceiving oneself to be over- or underweight can also affect an individual's mental and physical health. Health and wellbeing is one of the core areas of responsibility for schools (Scottish Govt Mental Health Strategy 2017-2027) and so understanding how body perception is changing over time amongst Scottish adolescents is important for designing appropriate and effective interventions.

What we know

- Young people who believe they are overweight are more likely to suffer from low self-esteem, depression and anxiety.
- The effects of perceiving oneself to be overweight can also impact on physical health and lead to weight gain in later life.
- The proportion of Scottish adolescents believing they are overweight is amongst the highest in Europe, even though their actual bodyweight is close to the European average.

What the researchers did

- Data from 42,312 pupils aged 11, 13 and 15 years who had taken part in the Scottish Health Behaviour in School-Aged Children survey (HBSC) between 1990-2014 were included.
- Pupils were asked whether they thought their body was 'too thin', 'about right' or 'too fat'.



- Pupils were also asked to rate how confident and how happy they felt, as well as reporting physical symptoms related to mental health such as headaches, dizziness and stomach aches.
- The researchers explored how bodyweight perception changed over time for boys and girls, and how perceiving themselves as over- or underweight was related to their mental wellbeing.

What they found

- Overall, 10% of girls and 16% of boys perceived themselves to be underweight; 43% of girls and 24% of boys perceived themselves to be overweight.
- Since 1990 there was not much change in the percentage of boys reporting themselves as over- or underweight, except among 15 year olds where there was a slight increase in the proportion who felt they were underweight.
- Over this time 11 year old girls became less likely to perceive themselves as either over- or underweight. There was little change in the percentage of 15 year old girls who reported being overweight across time, but this group became less likely to report themselves as underweight.
- For both boys and girls, feeling they were overweight was strongly linked to lower confidence, lower levels of happiness, and more physical symptoms of poor mental wellbeing.
- It was less common for pupils to report being underweight, but this was also linked to poorer mental wellbeing, particularly amongst boys.
- The link between poor mental wellbeing and feeling overweight became stronger over this period for all age-groups of girls and for the oldest boys. Over time those who reported being overweight became increasingly likely to experience physical symptoms related to poor mental health.
- Similarly, for almost all age and gender groups, those who perceived themselves as underweight were more likely to report physical symptoms in more recent years.

Issues to consider

- These findings are based on sample of schoolchildren, who were drawn to be representative of schoolchildren in Scotland.
- The measures of body perception and mental wellbeing were self-reported. It is possible that changes in rates partly reflect an increased awareness and willingness to share these issues.
- Body size and mental wellbeing measures were taken at the same time in each survey so we cannot say that perceiving oneself as over- or underweight caused poorer mental wellbeing, just that they were closely linked.
- Other key factors such as family background and being a victim of bullying were not included in this analysis but are also likely to play a significant role in levels of mental wellbeing.

What does this mean for my school?

- Although reducing levels of obesity among schoolchildren is an important goal, this analysis shows how bodyweight perception is increasingly linked to mental wellbeing among Scottish adolescents.
- Other research has shown that children with poor mental health or who perceive themselves to be overweight are less likely to engage in health-promoting activities, possibly because they are more aware of the gap between their current and ideal body image.
- For this reason, it is important that health interventions targeting obesity emphasise achievable weight-loss goals and positive body image in order to support self-efficacy and protect mental wellbeing.

Based on: Whitehead, R.D., Cosma, A., Cecil, J., Currie, C., Currie, D., Neville, F. & Inchley, J. (2017) Trends in the perceived body size of adolescent males and females in Scotland, 1990-2014: changing associations with mental well-being. *International Journal of Public Health* Read the full research paper at: <https://doi.org/10.1007/s00038-017-0997-y>

The Health Behaviour in School-aged Children (HBSC) Survey is a cross-national survey of school students which collects data every four years on 11-, 13- and 15-year-old boys' and girls' health and well-being, social environments and health behaviours. Find out more about the HBSC at www.hbsc.org and read the Scottish 2014 Survey report at bit.ly/hbsc-scot-2014

MRC/CSO Social and Public Health Sciences Unit

