

# Overweight children more likely to underestimate their body size

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Children clearly enjoy their treats. But it can be tricky to assess their consequences. Credit: Colourbo/Norwegian University of Science and Technology

Estimating your own body size and weight can be difficult. It turns out that this is true not only for adults, but also for children.

It is well known that severely underweight individuals - such as those with anorexia - have a tendency to overestimate their own size and think

they are fat even if they aren't.

But [overweight individuals](#) have the opposite problem, in that they tend to underestimate their own size. That can make it difficult to address the issue and to take the necessary steps to attain a healthier body.

"To put it simply, first we have to acknowledge that we have a problem before we can do something about it. This also applies to parents: if they don't recognize that their children have a weight problem, they won't seek help for it," says Associate Professor Silje Steinsbekk at the Norwegian University of Science and Technology 's (NTNU) Department of Psychology.

Steinsbekk is the first author of a study from NTNU that investigates how children perceive their own [body size](#). The results have now been published in the online journal *Frontiers in Psychology*.

The study is based on data from the Norwegian research project Tidlig Trygg i Trondheim, a longitudinal population-based study that looks at the risk and protective factors contributing to children's psychological and social health.

The project has followed up with nearly a thousand children and their parents every other year since the children were four years old.

Researchers are also studying what factors promote [good health](#) habits and what contributes to the development of obesity, inactivity and poor eating habits.

"We investigated how the children estimated their own body size and compared this to how their estimates changed from age 6 to 8 and age 8 to 10. We also looked at what could explain the developments," says Steinsbekk.

The children were shown seven pictures of girls and boys with known [body mass index](#) and asked which picture looked the most like them. The researchers then calculated the difference in BMI between the figure identified by the children and the children's own BMI based on measured height and weight.

"That way, we got a measure of how big the difference between actual body size and estimated body size was," says Steinsbekk.

It's important to note that age and gender need to be taken into account when assessing whether children are overweight or obese. For this reason, health authorities have developed different standards for calculating whether a child is overweight or obese.

## **Biggest children underestimated the most often**

Generally, the researchers found that children more often underestimated than overestimated the size of their body, although the majority made accurate estimates. Boys were more likely to underestimate their own body size than girls.

"We also found that the higher the children's BMI, the more they underestimated their size over time," Steinsbekk says.

The largest children thus underestimated their body size the most and showed an increased degree of underestimation over time (that is, from 6 to 8 and from 8 to 10 years old).

However, this can have some advantages.

"It's reasonable to imagine that underestimating protects you from acknowledging that your body is bigger than you want, and that can be quite practical," says Steinsbekk.

For example, we know that overweight and obese youth who have a correct perception of their [body](#) size are more likely to be depressed. Individuals who are big and know it report more psychological problems.

"Denial may be a favourable defence mechanism, but it can also be an obstacle to making necessary changes," says Steinsbekk. "For [children](#), the parents' acknowledgment of the problem is what's most important. Parents are the ones who need to make the necessary adjustments to promote good health."

**More information:** Silje Steinsbekk et al, Body Size Estimation from Early to Middle Childhood: Stability of Underestimation, BMI, and Gender Effects, *Frontiers in Psychology* (2017). [DOI: 10.3389/fpsyg.2017.02038](#)

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