

# Weight gainers more likely to underestimate their true body size

September 4 2020

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People with obesity who gain weight have a tendency to perceive their own body size as smaller than it actually is compared to those who maintain a stable weight, according to new research following more than

2,000 people with obesity from the Swedish Obese Subjects (SOS) study over 10 years.

The study, being presented at The European and International Congress on Obesity (ECOICO 2020), held online this year from 1-4 September, also found that while accuracy of [body](#) image perception appeared to improve over the years in people who maintained a stable [weight](#) (weight change less than 10% after 1 year follow-up), the degree of body image distortion (the difference between perceived and actual body size) remained in weight gainers (with a 10% or higher weight gain).

"People with obesity often suffer from body image distortion, as they tend to underestimate their own body size", explains author Dr. Verena Parzer from Rudolfstiftung Hospital Vienna, Austria. "Underestimating body size may be associated with lower body dissatisfaction resulting in a reduced motivation to lose weight."

In the study, researchers examined whether there is a difference in body image perception between weight gainers and weight maintainers in 2,015 patients with obesity (71% females, average age 49 years, average BMI 40.3 kg/m<sup>2</sup>) from the SOS study who received conventional non-surgical weight management over 10 years.

Participants were asked to identify their own body figure at the start of the study and 3, 4, 6, 8 and 10 years later using the Stunkard Scale which consists of silhouette drawings ranging from 1 being the leanest silhouette to 9 the largest silhouette. Body perception index (BPI) was calculated by dividing estimated body size (body mass index (BMI) based on an adjusted Stunkard Scale) by actual BMI.

Results showed that body image distortion was present in weight gainers as well as in weight maintainers, with both groups underestimating their body size. However, compared to maintainers, weight gainers

significantly underestimated their body size at 3, 4, 8 and 10 years of follow-up (represented by BPI values of less than 1; table 1). At 3 years, weight gainers underestimated their actual body size by on average 7.5 BMI units (around 21 kg), compared to 6 BMI points (around 17 kg) by maintainers.

Body image perception was found to improve over the years in weight maintainers but not in gainers. After 10 years, weight gainers underestimated [body size](#) by on average 8 BMI units (approximately 23 kg) and maintainers by 5 BMI units (approximately 15kg).

"Our results indicate that body image distortion may be associated with the regulation of body weight", concludes co-author Dr. Magdalena Taube from the University of Gothenburg, Sweden.

The authors acknowledge that the findings show associations, so no conclusions can be drawn about cause and effect. They point to several limitations, including that figure rating scales may not be large enough to represent people with severe obesity; and that body image perception is a continuous variable, while figure rating scales are limited to a number of figures.

Provided by European Association for the Study of Obesity

Citation: Weight gainers more likely to underestimate their true body size (2020, September 4) retrieved 3 April 2023 from

<https://medicalxpress.com/news/2020-09-weight-gainers-underestimate-true-body.html>

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