

YOU ARE WHAT YOU WEIGH:

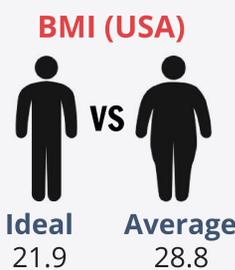


Perceiving Weight Change From Nonverbal Cues

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BACKGROUND

Obesity rates have nearly tripled since 1975. Over 50% of adults are currently overweight or obese (WHO, 2018). More people are now experiencing body esteem issues (Feingold & Mazzella, 1998), which lead to negative physical and psychological outcomes (Hunger & Major, 2015).



People who have been overweight still experience discrimination even after they have lost weight (Latner, Ebneter, & O'Brien, 2012). Thus, we examined why obesity stigma persists after weight loss: How sensitive are people to weight information and what do people believe about those suspected being overweight in the past?

Examining implicit perceptions and beliefs about weight change sheds light on the psychological mechanisms behind obesity stigma.

DISCUSSION

People can detect whether an individual used to be overweight (but not underweight) using perceived Social Status (e.g., popularity) cues. Thus, they may be sensitive to residual cues specific to past obesity.

Participants also believe that adult weight change is temporary and that people will rebound to their previous weight. They also judge individuals who disclose weight loss (i.e., past obesity) as heavier.

In sum, obesity stigma is not rooted solely in unattractiveness biases but is also tied to low Social Status and negative dispositional attributes. People may believe that body weight is a stable trait and use telltale nonverbal cues to discriminate against formerly obese individuals. These implicit weight perceptions and beliefs may contribute to weight-loss rebound and thus create a self-fulfilling prophecy.

REFERENCES

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Latner, J. D., Ebneter, D. S., & O'Brien, K. S. (2012). Residual obesity stigma: An experimental investigation of bias against obese and lean targets differing in weight-loss history. *Obesity*, 20, 2035-2038.
Richard, F. D., Bond Jr, C. F., & Jull, J. Stokes-Zoota (2003). One hundred years of social psychology quantitatively described. *Review of General Psychology*, 7, 331-363.
World Health Organization. (2018, February 16). Obesity and overweight. Retrieved August 3, 2019, from <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>

STUDY 1

RESEARCH QUESTIONS

Are people sensitive to nonverbal cues suggesting past weight loss? If so, what are these nonverbal cues?

Do people believe that individuals who used to be overweight will be overweight again?

HYPOTHESES

People can discern who has undergone substantial weight loss with above-chance accuracy.

People believe that those who used to be overweight will rebound to their previous weight.

METHOD

TARGETS 150 face photos of people (50% female; 18-30 years old) who had reported changing from obese/overweight to normal weight and 150 photos of people who had maintained a normal BMI (control). Actual weight loss dummy-coded (1 = weight-loss, 0 = control). For all studies, target sample sizes afforded more than 95% power ($\alpha = 5\%$) based on $r_{\text{effect size}} = .21$ (Richard, Stokes, & Stokes-Zoota, 2003).

PERCEIVERS 328 participants (52% female; $M_{\text{age}} = 42.47$ years, $SD = 11.32$) either rated how likely the targets: a) had lost weight in the past, or b) will gain weight in the future from 1 (*extremely unlikely*) to 7 (*extremely likely*).

856 participants (58.1% female; $M_{\text{age}} = 41.46$ years, $SD = 12.78$) rated the targets on one of 11 traits (see below) from 1 (*not at all*) to 7 (*very*).

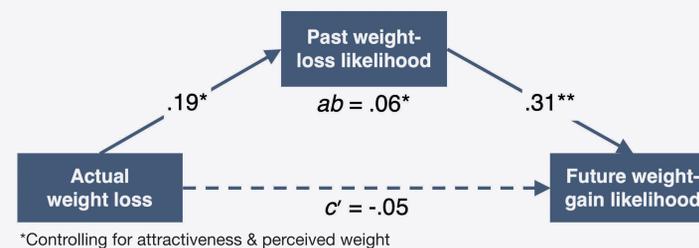
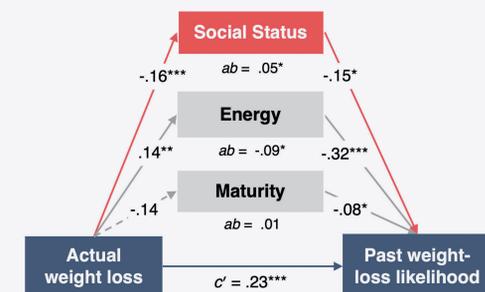
RESULTS

A one-way ANOVA showed that people could tell who used to be overweight and had lost weight, $F(1, 296) = 6.58, p = .01, r_{\text{effect size}} = .14$.

A PCA reduced the 11 target traits to three composites and a parallel mediation Lens model using the three composites showed that cues related to Social Status allowed participants to detect past weight-loss.

PCA Trait Composites and Variance Explained		
Social Status	Energy	Maturity
Social class	Warmth	Maturity
Neatness	Pride	
Popularity	Motivation	
Healthiness	Energy	
Competence	Submissiveness	
62.19%	12.89%	9.97%

A PCA revealed that the ratings of the targets' traits loaded onto 3 components that explained 85.05% of the total variance.



SUMMARY

People could discern whether an individual used to be overweight and had lost weight by using appearance cues related to perceived Social Status. People also believed that those who had lost weight were younger and had less energy.

An indirect effect showed that people believed that those who had ostensibly lost weight were likely to also gain weight in the future.

STUDY 2

RESEARCH QUESTION

Do people make the same inferences about those who used to be underweight and those who used to be overweight?

METHOD

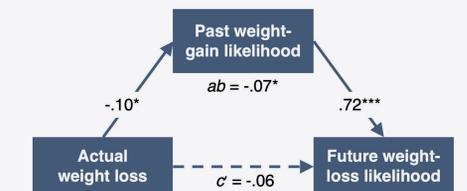
TARGETS 150 face photos of people (50% female; 18-30 year olds) who had reported changing from underweight to normal weight BMI and 150 photos of controls.

PERCEIVERS 284 participants (53.52% female; $M_{\text{age}} = 40.36$ years; $SD = 12.91$) rated either: a) how likely the targets had: a) gained weight in the past, or b) how likely the targets will lose weight in the future from 1 (*extremely unlikely*) to 7 (*extremely likely*).

HYPOTHESES

People can tell who has *gained* weight and also believe that those who have gained weight will regress to their previous weight.

RESULTS



SUMMARY

People could not accurately guess who used to be underweight and had gained weight. They did believe that people who used to be underweight would lose weight in the future.

STUDY 3

RESEARCH QUESTION

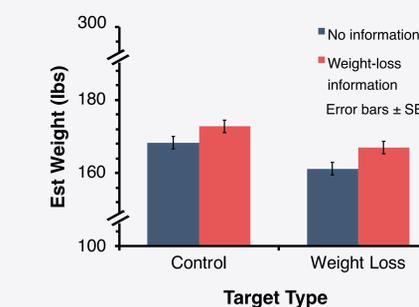
How does weight-loss information affect how people visually perceive individuals who have lost weight?

METHOD

TARGETS Study 3 used the same targets as Study 1.

PERCEIVERS 170 participants (53.67% female; $M_{\text{age}} = 39.96$ years, $SD = 12.03$) estimated the weight of targets on a scale of 100 to 300 lbs. Half of the participants read instructions saying that the targets had lost a significant amount of weight.

RESULTS



HYPOTHESIS

People will judge those who disclose being overweight in the past and having lost weight as heavier than those who do not disclose their weight loss history.

Main effect of weight-loss information
 $F(1, 298) = 7.22, p = .01, r_{\text{effect size}} = .15$

Interaction between the target type and weight-loss information
 $F(1, 298) = 5.80, p = .02, r_{\text{effect size}} = .14$

SUMMARY

Targets who disclosed their weight loss looked heavier than those who had not disclosed their weight loss. This difference was greater for targets who *actually* had been overweight and lost weight in the past.