Obesity actually causes people to see the world differently, study shows

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This is an image of a weight scale. Credit: CDC/Debora Cartagena

(Medical Xpress)—A trio of researchers, one with Purdue University, the other two with Colorado State University, has found via field experiments that overweight people tend to see things as farther away than average weight people. In their study published in the journal *Acta Psychologica*, Mila Sugovic, Philip Turk and Jessica Witt describe several experiments they conducted to learn more about perceptual

differences that occur as people gain weight and what they learned by doing so.

In the first experiment, customers visiting Walmart were asked to volunteer for a project—each was asked to state how far away a cone was that had been placed on a sidewalk outside—the actual distance was 25 meters away—but the researchers found that overweight people tended to think it was farther away than it really was—overshooting by up to five meters. Interestingly, those who were slimmer than average tended to underestimate, thinking it was up to 15 meters closer than it actually was.

The researchers suggest these results show that as people gain weight, they begin to perceive the world differently—as an example, they note that a person hiking with a heavy backpack tends to start seeing hills as farther away, higher and more difficult to reach than a person without a pack.

In another experiment, the researchers asked volunteers to play putt-putt golf under an illusion that made the hole look smaller, which of course caused them to play worse, even though the hole size never actually changed. In a similar experiment, volunteers were asked to play tennis with different sized rackets and reported that the ball seemed to move slower as the rackets got bigger. And in another experiment, volunteers were asked to rotate a line on a card to show how steep they thought a nearby hill was—those that were overweight tended to show a much steeper gradient.

Such experiments show, the researchers suggest, that perception changes are a fixed result of weight gain—people can't stop it from happening even if they want to do so. That means, they suggest, that weight loss programs need to take such perceptions into consideration if they are to work, such as having participants wear goggles that make things look

closer, or avoiding walking where there are hills.

More information: Perceived distance and obesity: It's what you weigh, not what you think, *Acta Psychologica*, Volume 165, March 2016, Pages 1–8, DOI: 10.1016/j.actpsy.2016.01.012

Abstract

Action abilities are constrained by physical body size and characteristics, which, according to the action-specific account of perception, should influence perceived space. We examined whether physical body size or beliefs about body size affect distance perception by taking advantage of naturally-occurring dissociations typical in people who are obese but believe themselves to weigh less. Normal weight, overweight, and obese individuals made verbal distance estimates. We also collected measures of beliefs about body size and measures of physical body size. Individuals who weighed more than others estimated distances to be farther. Furthermore, physical body weight influenced perceived distance but beliefs about body size did not. The results illustrate that whereas perception is influenced by physical characteristics, it is not influenced by beliefs. The results also have implications for perception as a contributing factor for lifestyle choices: people who weigh more than others may choose to perform less physically demanding actions not as a result of how they perceive their bodies, but as a result of how they perceive the environment.