

Underweight and Overexposed: How Women's Perceptions of Thinness Are Distorted

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How people judge others' bodies might be influenced by what they are used to seeing in magazines, TV, or social media. Recent research suggests that women's judgments about other women's bodies can be biased by an overrepresentation of thinness.

In a recent study published in [*Psychological Science*](#), young women were more likely to judge bodies they had previously considered “normal” as overweight when they were repeatedly exposed to samples of computer-generated female bodies that became increasingly thin as a group. In which the percentage of thin bodies increased gradually. The lead author, Sean Devine, a graduate student in cognitive psychology at McGill University, explains these findings and elaborates on their implications for policy.

Unedited Transcript:

[00:00:13.110] – Ludmila Nunes

How people judge others bodies might be influenced by what they are used to see around them in magazines, TV, or social media. Recent research suggests that women’s judgments about other women’s bodies can be biased by an overrepresentation of thinness. When young women were exposed to samples in which the percentage of thin bodies increased gradually and were then asked to repeatedly judge whether computer generated images of female bodies were overweight, they were more likely to judge bodies they had previously considered normal as overweight. This means that women’s conceptualization of thinness probably shifted because of their overexposure to thin bodies. This is under the cortex. I am Ludmila Nunes with the Association for Psychological Science. To speak about this over representation of thin bodies and how it can impact body size judgments, I have with me Sean Devine, a graduate student at McGill University. Sean Devine was the lead author in a recent article published in *Psychological Science* that explored how women’s judgments about other women’s bodies are biased by an overrepresentation of thinness. The findings reported in this article can be used to support the need for policies designed to increase the representativeness of different body sizes on the media.

[00:01:46.570] – Ludmila Nunes

Welcome to Under the Cortex. Thank you for joining me today.

[00:01:49.890] – Sean Devine

Thanks for having me.

[00:01:52.510] – Ludmila Nunes

What did you set out to study and why? What gave you the idea to do this study?

[00:01:58.690] – Sean Devine

Yeah. Well, as your introduction nicely summarized, my coauthors and I initially set out to investigate whether changes in the prevalence of thin bodies would bias young women’s judgments towards judging objectively average bodies as being overweight. So my coauthors and I, we’ve previously done studies exploring these kinds of prevalence effects, which are effects where changing the prevalence with which we are exposed to a certain concept influences our judgments about that concept. So

traditionally, we've done this with simple perceptual stimuli, and we were interested to see whether this very basic cognitive mechanism, just the idea of adapting our conceptual judgments with the changing environment, might generalize to higher order decision making, like judgments about body image.

[00:02:46.270] – Ludmila Nunes

So by simple perception stimuli, do you mean, for example, geometric shapes that change in color or brightness? Right? Something like that.

[00:02:55.400] – Sean Devine

Exactly right. Yeah. So we used circles, basically large circles on the screen that changed in colors from blue to purple using the same sort of design that we employed here, where they gradually shift and you see the same sort of effect where people start to judge dots they previously said were, say, blue as being purple and vice versa if you change the prevalence condition. We came at this from a cognitive side because that's more of a cognitive psychologist. And then we teamed up with Stefan, who's on the paper, and he's more on the clinical side, and he saw some of our research and thought, hey, this applies really well to these theories of body image and the influence of the media and then a big part of the study was just seeing if it would translate. So we've done these kinds of prevalence studies before with lower level stimuli like perceptual stimuli or facial stimuli, but body image is like a really high level judgement that's in principle shouldn't vary when you change the prevalence. And so we were kind of surprised that it worked at least as well as it did, but it definitely fits with other things that we do.

[00:03:58.860] – Ludmila Nunes

So in this experiment you did a similar procedure, but now with body images. Do you want to explain more or less what your participants had to do with the task was?

[00:04:09.670] – Sean Devine

Yeah, absolutely. So from the participants perspective it's actually a really simple task. We used computer generated body images that were previously validated and presented them in order to participants one at a time and asked them to just make a binary judgment of whether that body was overweight or not overweight. So from the participants perspective, all they had to do was press a computer key, whether they thought the body on the screen that varied from very thin to very overweight, and all the spectrum in the middle, whether they thought it was overweight or not. The trick that was unbeknownst to participants was that for those of them in the changing prevalence condition so one of the conditions in the experiment. We would gradually turn up the number of thin bodies in the environment so we would start to increase how many thin bodies they were being exposed to and we were interested in seeing how their judgments might change. Specifically about average bodies. So the ones in the middle and over the course of the task we found that those judgments did change. Specifically, as we increase the number of thin bodies in the environment, participants started to judge objectively average bodies that they previously judged to be thin or average as being overweight.

[00:05:26.660] – Ludmila Nunes

Interesting. So you start with half thin bodies and half average or overweight and then the proportion of thin bodies gradually increase up to 94%. Right. So almost all of the bodies these participants are seeing by the end are saying and this would change their judgments.

[00:05:47.410] – Sean Devine

Exactly. Yeah, that's exactly right. And of course, kind of as you pointed out, the parallels between this experimental design and the real world changes in how the media portrays women was obviously part of the idea here. Right. Media imagery has shaped how women have judged their bodies and other bodies for decades and it's really promoted this ideal of thinness that strongly informed modern Western beauty standards. And we were sort of interested in understanding how it could do this, or at least one mechanism by which it could do this without necessarily hitting audiences over the head. Very rarely do you see a TV show where someone comes out and says being thin is good and being overweight is bad. Rather it's through this repetition that thinness comes to be defined as the norm and in turn, larger bodies as the exception. And it was really understanding the basic cognitive mechanism underlying that process that first got us interested in this question.

[00:06:42.550] – Ludmila Nunes

It is really interesting because it's basically this overexposure to thinness seems to be creating an implicit bias. And we just had an article coming out also in *Psychological Science* that analyzed how implicit and explicit biases were changing over the last decade or so. And although explicit biases against overweight were diminishing, the implicit bias about overweight people was one of the biases that was not diminishing. And this might be connected to your research too, because everybody's overexposed to this model of beauty, especially in western societies. So how general do you think these effects might be? I mean, beyond body image? Do you think this general mechanism might affect other judgments we have?

[00:07:34.330] – Sean Devine

Yeah, definitely. So to make a long answer short, it seems like it generalizes quite a bit. These prevalence induced concept change effects were really well detailed by David Levari in his 2018 Science paper, and he found that they had occurred for perceptual facial and even ethical judgments. By simply shifting the prevalence of the environment, you could push around people's judgments about these things. But I think at even broader level, the idea that our judgments are sensitive to context is becoming more and more ubiquitous as a phenomenon in research on perception, decision making, even behavioral economics. And I think that the more we look into it, the more we're realizing that as far as our human minds are concerned, it's really all relative. Our judgments are always based on the local context rather than some absolute standard of what somebody is seeing on the screen.

[00:08:25.570] – Ludmila Nunes

And what practical implications do you think these findings might have?

[00:08:31.090] – Sean Devine

Yeah, we talk about this a little bit in the paper. I always want to be cognizant. Of course, this is just one study and more work is always needed before making very concrete practical assumptions about how this drives large scale behavior. But I do think, at least at face value, it provides some support for some shifts in policies. If. For example. There were more representation of people who were of an average weight relative to the population. Then we should see people's judgments start to match up with the average. Such that they would say that an actual average person looks like an average weight. Rather than misjudging them as being overweight because of the skewed distribution in the media towards thinness.

[00:09:16.570] – Ludmila Nunes

We were talking about the over representation of thin bodies. But also how can we square these results with an increasing obesity rate in the west and especially in the United States?

[00:09:32.170] – Sean Devine

That's a really interesting question. So we touch a little bit about this on the paper, but we thought about it too. So to be sure, as a caveat, this is a lot of speculation at this point because this is sort of untested grounds. But it is interesting to note how there has been a clear increase in social movements pushing for greater body positivity and fat acceptance in the west. And they seem to have coincided with a shift in the distribution of people's weights towards the heavier side. So just like you were saying, right, it seems like a lot of these movements that are pushing for greater body positivity are also matching up with the fact that there are more heavier set people existing in the west. So sort of mirroring the experimental design in our paper, the west has been getting larger and in turn, previous beliefs about what kind of bodies look average or should look average are being overturned and updated as people are exposed to more and more heavier people. Of course, if prevalence induced concept change is a mechanism, explaining this broader social change is a really big inferential leap. And of course, body image is a complex multifaceted topic, especially when we're talking about these large scale social changes.

[00:10:41.780] – Sean Devine

But still, it is interesting to sort of speculate how at least anecdotally the theory would actually predict these types of social changes to some degree or another.

[00:10:51.670] – Ludmila Nunes

It's almost like you're suggesting if you would replicate this experiment, but now with an overrepresentation of overweight bodies, if you would see the opposite bias forming in women's judgments.

[00:11:05.830] – Sean Devine

Exactly. I think we would see that. And we also had a control condition in our experiment in which the distribution was always 50/50. And if we assume that that sort of roughly matches what's actually out there in the population, what we saw was that people's judgments were actually pretty spot on, so they

were relatively accurate at judging whether a body was overweight and more importantly, we're very consistent, so they didn't change much over the course of the task. So I think that even though it's a controlled condition, so it speaks to this idea that if we really were representing the population in the media appropriately or truthfully, that people would be more consistent in their judgments.

[00:11:44.980] – Ludmila Nunes

In this way, it would be interesting to see the experiment, because in your experiment that you published in Psych Science, you have the over representation of fitness also going with the implicit bias that thinner bodies are better. I would say that's the implicit bias, if you make the overrepresentation of bodies go against the implicit bias that people usually have, it would be interesting how those things play along.

[00:12:17.410] – Sean Devine

Yeah, definitely. I think that would be a cool thing. I think the past work, again thinking of David's work, would suggest that so we've done things, and other people have done things where we flip the change in prevalence. So for instance, with colors, it doesn't really matter whether you're increasing the prevalence of purple dots or the prevalence of blue dots. The change in judgment happens regardless, of course in the opposite direction. So based on the literature now, I would expect that it would work, but it would be an interesting thing to actually empirically verify.

[00:12:48.500] – Ludmila Nunes

Yeah, really interesting line of work. Do you have plans for future work in this line?

[00:12:53.470] – Sean Devine

Yeah, definitely. So in particular, what we're interested in is sort of digging into these effects at a more mechanistic level. So now I think it's become pretty well established that these prevalence effects can explain a host of the way that humans make these types of sequential repeated judgments. And the question now is why and how and how can you potentially reduce it? Right? So we have some evidence in forthcoming work using computational modeling that suggests a lot of these judgments are driven by this lack of caution or these sort of rapid speeded judgments such that if you increase the liberation, you get people to actually look at the thing that they're judging and think about it in more detail. You can reduce this bias to some degree. So this is all preliminary, so it's not out yet, but we're definitely looking into that in that regard.

[00:13:46.580] – Ludmila Nunes

This research is really interesting. I wonder if you want to talk more about other type of research that you do.

[00:13:52.570] – Sean Devine

Yeah, sure. So I study a couple of things, but a lot of it centers around decision making and in particular

effortful decision making and kind of tying back to what I just said about future work and prevalence and news concept change. We're sort of interested in understanding how and why people are so averse to thinking hard, particularly because thinking hard can often reduce many of the biases like the one we're talking about today. I try to use a host of methods to do this, but the general program is to understand why people are averse to effort, what this effort aversion cashes out in terms of behavior and how we might actually increase people's effort investment by either providing rewards or changing the environment in some way that encourages them to work and think harder.

[00:14:42.010] – Ludmila Nunes

This is Ludmila Nunes with APS, and I've been speaking to Sean Devine from McGill University and lead author in an article on the influence of exposure to another representation of a body size and how that might bias perceptions of body size.

[00:14:59.240] – Sean Devine

Thank you very much for having me. It was great talking.

[00:15:02.950] – Ludmila Nunes

If anyone is interested in reading this study or learning more, please visit our website. Psychologicalscience.org.

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