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How Diet Choices and Weight Change Person Perception

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Abstract

Previous studies have explored the negative perceptions of overweight targets along with the specific physical and psychological characteristics commonly used to describe them. The current study extends this literature by experimentally investigating the effect that both weight and diet choices have on the characteristics attributed to an individual. Participants were exposed to one of four scenarios that involved exposure to an image (overweight or average) and a short description of the target with the diet manipulation (healthy or unhealthy) embedded. As expected, overweight targets with unhealthy diets were rated lowest on perceptions of physical health and independent of weight, targets with healthy diets were rated higher on positive psychological attributes. Overall, overweight targets with unhealthy diets were rated the lowest in all three categories (positive psychological attributes, negative psychological attributes, and physical attributes).

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"Every fat person says it's not their fault, that they have gland trouble. You know which gland?

The saliva gland. They can't push away from the table." – Jesse Ventura

The quote above and other similar sayings are becoming more common, but are rarely

understood as being a form of prejudice or discrimination in the same way racial slurs are

(Allison & Lee, 2015). Self-reported discrimination (behavior acting upon a negative attitude;

McLeod, 2008) against weight has increased 66% within the past ten years, meaning a larger

proportion of society is becoming comfortable admitting prejudice (negative attitude; McLeod,

2008) against overweight individuals (O'Brien, Puhl, Latner, Mir, & Hunter, 2012). Evidence

suggests that society is becoming more comfortable expressing weight-based prejudice, leading

to increased acceptance and even encouragement of such expression (Wang, Brownell, &

Wadden, 2004). Because the beliefs that obese or overweight individuals are not of the same

worth as someone of average weight can have negative effects on both emotions and physical

health, it is so important to investigate the specific source of such negative perceptions (Kouki,

2014).

Research suggests that weight is used to generate inferences about personality

characteristics, with overweight people often described by others as possessing more negative

and fewer positive personality attributes (Brochu & Morrison, 2007). For example, when asked

to rate overweight and average-weight targets on specific personality traits, participants tended to

rate the average-weight target as more confident, intelligent, organized, and motivated than the

overweight target, and this was despite the fact that both targets were presented with the same

personality description (Brochu & Morrison, 2007). Previous research also supports that

overweight people are seen as overindulgent, lazy, and overall less successful than average-

weight people (Teachman & Brownell, 2001). Even in medical settings, overweight patients are commonly seen as ugly, less intelligent, and likely to be less compliant than other patients, which could affect the quality of the care they receive (Kouki, 2014).

Such negative impressions contribute to discrimination against overweight individuals, causing lasting emotional effects (Allison & Lee, 2015). Brochu and Morrison (2007) found that overweight people are less likely to be sought out for friendship because they are seen as less socially competent. In an experimental study, participants reported less interest in interacting with someone who was overweight compared to someone who was of average weight (Brochu & Morrison, 2007). Many physicians also engage in less emotional support and rapport building with overweight patients, leading to less trust between the two parties and causing harm to the patient in the long run (Gudzune, Bennett, Cooper, & Bleich, 2014). As a result of this discrimination, overweight individuals tend to have lowered self-esteem and self-confidence as well as increased stress levels (Elison, 2017).

Beliefs that Weight is Controllable

Of interest is why weight is used to infer such negative psychological attributes. Researchers have argued that one of the main reasons is the belief that weight is easily changeable and under personal control (Carr, Jaffe, & Friedman, 2008). Many people believe weight gain and obesity is due to laziness and overeating, behaviors that a person can presumably control with increased willpower and self-control (Carr, Jaffe, & Friedman, 2008). This variable of personal control has been shown to affect target ratings. For example, when an obese target exercised while having a condition causing him or her to gain weight (uncontrollable), he or she was rated more positively than an obese target who exercised but was not diagnosed with any conditions (Black, Sokol, & Vartanian, 2014). Additional research has

shown that the more effort someone puts into changing his or her weight (i.e. diet change and exercise), the more favorably he or she is rated even if weight loss has yet to occur (Black, Sokol, & Vartanian, 2014). Thus, negative impressions of the obese likely stem in part from inferences about their inability to engage in self-control.

However, some research suggests that even in the presence of information about implementation of weight-control behaviors, those who are overweight are still viewed negatively. Mussup and colleagues (2016) found that weight-control effort tended to elicit more positive attributions for average-weight people, not for overweight people. Overall, prejudice against obese people was resistant to information about exercise, and in some instances, efforts to control weight created more negative charactersitics for overweight people (Mussup, Manger, & Gold, 2016). In sum, the extant research suggests that weight-related prejudice might be related to internalized beliefs about lack of self-control and victim-blaming, even in the presence of information that an overweight individual is not responsible for their weight status.

Present Study

The current study aims to more fully explore the connection between weight and diet on person perception by manipulating information about both. Participants' perceptions of targets varying on both weight (average or overweight) and diet choices (healthy v. unhealthy) will be compared. Based on prior work, it is expected that there will be a main effect of weight status, such that overweight targets will be rated more negatively than average-weight targets. Furthermore, it is hypothesized that participants will assign more negative physical and psychological characteristics to the overweight targets, regardless of diet, but that overweight targets with a healthy diet will be viewed more positively than those with an unhealthy diet.

Lastly, it is also hypothesized that the average-weight, healthy diet target will be rated the highest overall for both physical and positive psychological characteristics.

Methods

Participants

The participants consisted of 80 (63 females and 17 males) students from the University of San Diego recruited through an announcement in one of their psychology classes. Their year in school ranged from sophomore to senior, with the largest number being junior. Although the participants' races included Latino(a) (16%), Asian (11%), and Black or African American (6%), the most common race was white (included participants of multiple races), encompassing over 67% of the participants.

Manipulations

Images. An image of an average weight individual was obtained from an online photo database containing stock photos. The image shows a female who is roughly 18 years old standing in front of a bush, posing for a picture in San Diego. Photoshop was used to modify the image to increase the size of the target to make her look heavier. Prior research indicated that the manipulation was successful (Tibbits, 2018).

Description. The image was accompanied by a description about the girl stating where she was from, the university she attends, as well as her diet choices. The target was either described as having a healthy diet (baked chicken, steamed vegetables, and frozen fruit) or an unhealthy diet (macaroni and cheese, chicken nuggets, and ice-cream sandwiches). Images and descriptions can be found in Appendix A.

Measures

Demographics. The study began with a four-question demographic survey which asked the participants to choose their gender, race/ethnicity, year in school, and overall personal clothing style.

Filler items. The first set of five questions presented were to distract participants from the actual purpose of the study as well as to ensure they believed the target to be overweight or average-weight. The included questions such, "Do you believe Sarah [target] made the correct choice moving to California based on her lifestyle?", and questions asking to describe the target's weight, including "How would you describe Sarah's body type?" and "Estimate Sarah's weight."

Main dependent measures. The second survey contained 19 questions regarding the target's lifestyle and personality traits that were answered on a seven-point Likert Scale. Some of the characteristics included: loneliness, motivation, health, intelligence, introversion, confidence, and likability (the full list of questions can be found in Appendix B). These questions assessed the participants' views on the target's physical attributes as well as we negative and positive psychological attributes.

Procedure

The study was conducted online through Qualtrics. Participants were presented with a link and after giving consent, they answered the demographic questions. Next, each participant was randomly assigned to one of the four scenarios based on image and description provided and instructed to read the passage. After they felt they understood the information presented to them, participants completed the filler questions and manipulation check on the next page, followed by the main dependent measures on a new page. Finally, the participants were debriefed about the true purpose of the study.

Results

Manipulation Check

In order to ensure that the levels of the independent variable differed as intended, responses to the item "How would you describe Sarah's body type?" and "Estimate Sarah's weight," were analyzed. A Chi-Square Test was significant, $X^2(2, N = 86) = 21.01$, $p < .000$, indicating that overall, those who were shown the overweight target rated her as curvy, whereas those who were shown the average-weight target rated her as average. This can be seen in Table 1.

Main Analysis

A two (weight; average versus overweight) by two (diet; healthy versus unhealthy) analysis of variance (ANOVA) was calculated on participants ratings of the targets' physical attributes along with negative and positive psychological attributes. Prior research has shown that positive and negative psychological attributes are often viewed independently, so they were analyzed separately in this study.

Physical attributes. For physical attributes, overall health, perceived activity level, and laziness were rated by the participants. The main effect of weight was significant, $F(1, 80) = 57.75$, $p < .000$. As expected, participants rated overweight targets lower for aspects of physical health, such as overall health and laziness. The main effect of diet was not significant, $F(1, 80) = 1.69$, $p < .198$, indicating that targets were rated similarly for both healthy and unhealthy diets. Finally, there was a significant interaction between weight and diet, $F(1, 80) = 5.43$, $p < .022$. It was hypothesized that the overweight targets would be rated most negatively for physical attributes, which this data supports, although, overweight targets with healthy diets were rated more poorly than overweight targets with unhealthy diets.

Negative psychological attributes. Perceived depression and loneliness of the targets were rated by the participants. As expected, there was a significant main effect of weight $F(1, 80) = 5.16$, $p < .026$, indicating that overweight targets were rated more negatively on depression and loneliness. There was no significant main effect of diet, $F(1, 80) = 1.39$, $p < .243$ and no significant interaction, $F(1, 80) = .51$, $p < .479$. Although not significant, the pattern of the means was as expected. In general, overweight targets were rated more negatively than average-weight targets, and targets with unhealthy diets were rated more negatively than targets those with healthy. Similarly, overweight targets with unhealthy diets were rated the most negatively out of the other groups, which supports the hypothesis.

Positive psychological attributes. For positive psychological attributes, perceived intelligence, confidence, motivation, and optimism of the targets was rated by the participants. Contrary to expectation, there was no significant main effect of weight, $F(1, 79) = .1.9$, $p < .170$. Similarly, there was no significant main effect of diet, $F(1, 79) = .26$, $p < .615$. Lastly, there was no significant interaction between weight and diet, $F(1, 79) = .01$, $p < .942$.

Discussion

The study found partial support for the hypotheses that weight and diet would affect person perception. Specifically, it was hypothesized that participants would assign more negative physical and psychological characteristics to the overweight targets, regardless of diet type. The overweight target with an unhealthy diet was viewed as having more negative psychological attributes, such as feeling lonely or having depression, and lowest for having positive attributes, such as motivation and confidence. Similarly, for physical attributes, such as having a healthy lifestyle, the overweight target was again rated the most negative, while the average-weight target with the healthy diet was rated the most positive.

These results suggest that participants see the overweight target with an unhealthy diet as more likely to experience depression and lead an unhealthy lifestyle than the average-weight target with a healthy lifestyle. For every attribute, the overweight target was rated more negatively than the average-weight target, regardless of diet, suggesting that, in general, those who are overweight are judged more negatively than those who are of an average-weight. These results also suggest that diet is not the most important factor when judgements are being developed. The overweight target was consistently rated lower on positive attributes and higher on positive attributes, showing that their weight was the main cause of the poor judgements.

It was hypothesized that overweight targets with a healthy diet would be rated slightly higher for the positive and physical attributes than the overweight participants with an unhealthy diet which was confirmed by the results. This suggests that the participants look more highly upon those who put effort into changing their weight or living a healthier life overall. It was also hypothesized that the average-weight target with a healthy diet would be rated the highest in both physical characteristics as well as positive psychological ones, which the results, again, supported.

The current study is consistent with that of Brochu and Morrison (2007), who found that overweight people tend to be described using more negative attributes and fewer positive attributes. These researchers also found that overweight people are also less sought out for friendship (Brochu & Morrison, 2007) and participants in the present study viewed the overweight target as more likely to experience loneliness. Black, Sokol and Vartanian (2014) found that perceptions of overweight people become more positive when effort was applied. In the current study targets with healthy diets, regardless of their weight, were rated higher than targets with unhealthy diets. The combination of factors (weight and diet) created different

perceptions of the target from the participants. Changing factors, such as diet, to improve overall health can create more positive perceptions of people.

Limitations

While the study provides additional insight on the role of both weight and diet, it was limited by a number of factors. To begin, the manipulations provided participants with only one image and a very short paragraph. Consequently, they did not have much information to use in generating their impressions. Furthermore, the diet-related descriptions included only a few items and there was no manipulation check, so it is not clear that all participants recognized the healthy or unhealthy nature of the food that was reported or integrated it into their overall impression. Images may not be viewed in the same way a person may be, which could create a slight change in data. Because the study was performed online, it is also hard to judge how engaged the participants were, and how much effort was put into their responses.

Future Research

Given that much prior work has shown negative perceptions of overweight individuals, continued exploration of this topic is warranted. Future work could evaluate the current variables using stronger manipulations or more realistic presentation. Additional research focusing on other aspects of weight management, such as exercise or the combination of the two factors might be useful.   Finally, given that weight-based prejudice causes harm, potential interventions to reduce or eliminate these negative impressions should be explored.

Conclusion

In sum, the present study evaluated the role of both weight and diet choices in person perception, findings some support for the idea that both weight and diet influence perceptions of

others. Building on past research, it was shown weight and diet collectively impact how

individuals are viewed by others on both physical and psychological factors. Given that research

suggests that prejudice towards overweight individuals might be increasing, future research

exploring the nature and origin of these negative attitudes is of increasing importance.

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Appendix A

Sarah is a junior at the University of San Diego studying psychology. She is originally from San Antonio, but moved to California in order to enjoy the different types of food that are available. When her classes are done for the day, she normally eats a piece of baked chicken breast and some freshly steamed vegetables, such as broccoli, brussel sprouts and asparagus. She treats herself to one of her favorite desserts at the beach, either an acai bowl or frozen fruit, and when she is celebrating something, she loves to go to True Food Kitchen (popular health food restaurant) and order roasted cauliflower, herb hummus and a turkey burger.

Sarah is a junior at the University of San Diego studying psychology. She is originally from San Antonio, but moved to California in order to enjoy the different types of food that are available. When her classes are done for the day, she normally makes herself a box of Mac n' cheese with chicken nuggets. She treats herself to her favorite desserts at the beach, chocolate-covered frozen cheesecake and Baked Bear ice cream sandwiches. When she is celebrating something, she loves to go out to Miguel's (popular Mexican food restaurant) and order queso, chips, and a chimichanga.

Sarah is a junior at the University of San Diego studying psychology. She is originally from San Antonio, but moved to California in order to enjoy the different types of food that are available. When her classes are done for the day, she normally eats a piece of baked chicken breast and some freshly steamed vegetables, such as broccoli, brussel sprouts and asparagus. She treats herself to one of her favorite desserts at the beach, either an acai bowl or frozen fruit, and when she is celebrating something, she loves to go to True Food Kitchen (popular health food restaurant) and order roasted cauliflower, herb hummus and a turkey burger.

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Sarah is a junior at the University of San Diego studying psychology. She is originally from San Antonio, but moved to California in order to enjoy the different types of food that are available. When her classes are done for the day, she normally makes herself a box of Mac n' cheese with chicken nuggets. She treats herself to her favorite desserts at the beach, chocolate-covered frozen cheesecake and Baked Bear ice cream sandwiches. When she is celebrating something, she loves to go out to Miguel's (popular Mexican food restaurant) and order queso, chips, and a chimichanga.

Appendix B

Do you believe Sarah made the correct choice moving to California based on her lifestyle?

- ⟩ Definitely yes
- ⟩ Probably yes
- ⟩ Might or might not
- ⟩ Probably not
- ⟩ Definitely not

Do you believe Sarah would thrive more in a different place or school?

- ⟩ Definitely yes
- ⟩ Probably yes
- ⟩ Might or might not
- ⟩ Probably not
- ⟩ Definitely not

What lifestyle changes, if any, do you believe would be beneficial for Sarah? Choose all that apply.

- ⊓ More time relaxing
- ⊓ More time going to the gym
- ⊓ More time spent with friends
- ⊓ More time spent on school work
- ⊓ No changes

How would you describe Sarah's body type?

- ⟩ Thin
- ⟩ Curvy
- ⟩ Average

Estimate Sarah's weight.

[   ]

How purposeful is Sarah's life? (Very purposeful = 7, Not at all = 1)

7	6	5	4	3	2	1

How active do you believe Sarah's lifestyle is? (Not at all active = 1, Very active = 7)

1	2	3	4	5	6	7

How lonely do you believe Sarah is? (Not at all lonely = 1, Very lonely = 7)

1	2	3	4	5	6	7

How happy do you believe Sarah is? (Not at all happy = 1, Very happy = 7)

1	2	3	4	5	6	7

How sedentary do you believe Sarah's lifestyle is? (Not at all sedentary = 1, Very sedentary = 7)

1	2	3	4	5	6	7

How intelligent do you believe Sarah is? (Not at all intelligent = 1, Very intelligent = 7)

1	2	3	4	5	6	7

How motivated do you believe Sarah is? (Not at all motivated = 1, Very motivated = 7)

1	2	3	4	5	6	7

How depressed do you believe Sarah is? (Not at all depressed = 1, Very depressed = 7)

1	2	3	4	5	6	7

How introverted do you believe Sarah is? (Not at all introverted = 1, Very introverted = 7)

1	2	3	4	5	6	7

How healthy do you believe Sarah is overall? (Not at all healthy = 1, Very healthy = 7)

1	2	3	4	5	6	7

How confident do you believe Sarah is? (Not at all confident = 1, Very confident = 7)

1	2	3	4	5	6	7

How optimistic do you believe Sarah is? (Not at all optimistic = 1, Very optimistic = 7)

1	2	3	4	5	6	7

How laid-back do you believe Sarah is? (Not at all laid-back = 1, Very laid-back = 7)

1	2	3	4	5	6	7

How healthy is Sarah's lifestyle? (Not at all healthy = 1, Very healthy = 7)

1	2	3	4	5	6	7

How lazy do you believe Sarah is? (Not at all lazy = 1, Very lazy = 7)

1	2	3	4	5	6	7

How exciting do you believe Sarah's lifestyle is? (Not at all exciting = 1, Very exciting = 7)

1	2	3	4	5	6	7

How meaningful do you believe Sarah's life is? (Not at all meaningful = 1, Very meaningful = 7)

1	2	3	4	5	6	7

How hard do you believe Sarah works? (Not hard at all = 1, Very hard = 7)

1	2	3	4	5	6	7

How likable do you believe Sarah is? (Not at all likable = 1, Very likable = 7)

1	2	3	4	5	6	7

How organized do you believe Sarah is? (Not organized at all = 1, Very organized = 7)

1	2	3	4	5	6	7

Table 1

Crosstabulation of Target Body Type and Weight

Weight	Body Type			
	Thin	Curvy	Average	Total
Average-weight	1	12	30	43
Overweight	1	32	10	43
Total	2	44	40	86