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How language shapes anti-fat bias: comparing the effects of disease and fat-rights framing

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Being fat is often described as a "disease"—a form of linguistic framing that may exacerbate bias against fat people rather than reduce it as intended. Framing fatness as a matter of equal treatment and respect ("fat rights") may be more effective for bias reduction. In a preregistered experiment ($N = 401$), we directly compared the effects of disease and fat-rights framing on attitudes toward fat people. Participants read a news article that affirmed or negated (a) the claim that fatness is a disease and (b) the unacceptability of weight discrimination, and then expressed their attitudes toward fat people. Disease-affirming articles yielded more negative attitudes than disease-negating articles, but only for participants who explicitly recognized that the article influenced their attitudes. For these participants, fat-rights framing also had a significant impact: those who read a disease-affirming article expressed less negative attitudes toward fat people when the article also affirmed rather than negated fat rights. These results show that language can shift public opinion about fatness when people are aware of its persuasive power. Our findings support a social-pragmatic account of linguistic framing and have implications for real-world anti-bias efforts.

KEYWORDS

framing, language, anti-fat bias, pragmatic inference, fat rights, attitude change

1 Introduction

Obesity is a "disease," declared the American Medical Association (AMA) in a controversial 2013 statement (American Medical Association, 2013). This message was intended to draw attention to the presumptive severity of the condition, spur research and education on its causes, and reduce stigma against fat people[1] (Pollack, 2013). Critics feared, however, that the disease label would undermine anti-bias efforts: characterizing fat bodies as diseased, and fatness as "a major public health problem" (American Medical Association, 2013, p. 3), would only stigmatize fat people further (Campos et al., 2006; Garrey, 2013; Hansen, 2014).

The hopes and fears associated with framing fatness as a disease align with research on the subtle implications of linguistic messages and their consequences for thought and behavior (Lakoff and Johnson, 1980; Flusberg et al., 2022b, in revision; Holmes et al., 2022). According to cognitive theories of language comprehension, framing a concept like fatness in a particular way encourages the listener to construct a mental model of the concept that corresponds to the speaker's intended message (Zwaan and Radvansky, 1998; Bergen, 2012).

1 Following fat-rights advocacy (Gordon, 2020), we use *fat* and *fatness* (not *obese* and *obesity*) as value-neutral descriptors of body size, analogous to *tall* and *height*, respectively. In using the term *anti-fat bias* or *stigma*, we adopt the standard definition from the literature: negative attitudes, beliefs, or behavior toward people perceived as fat (Daníelsdóttir et al., 2010).

Labeling fatness a disease communicates that it is grounded in genetic and physiological causes beyond one's control and that fat people therefore do not deserve blame (Crandall and Reser, 2005). A number of studies have demonstrated that this disease frame—whether instantiated in real news articles or researcher-constructed language—has a measurable impact on observers' attitudes and beliefs (e.g., Saguy et al., 2014; Thibodeau et al., 2015; Hoyt et al., 2017; Ata et al., 2018). For example, reading that fatness is caused by biogenetic factors can lead people to question whether weight is controllable (Ata et al., 2018) and reduce their support for weight-based health insurance fees (Thibodeau et al., 2015). Such findings seem to corroborate the AMA's assumption that framing fatness as a disease would mitigate anti-fat bias.

Other research suggests, however, that disease framing communicates a more complex message about the etiology of fatness. According to the stigma asymmetry model, labeling fatness a disease implies that it is a static, unchangeable characteristic, absolving fat people from responsibility but suggesting that they share a deep-seated negative essence (Hoyt et al., 2017). Disease framing therefore communicates that fat people, like diseases, are inherently undesirable and should be avoided (Haslam and Kvaale, 2015). Moreover, analyses of news media language indicate that disease framing does not fully eliminate blame: when medical "solutions" to fatness are unsuccessful, this is cast as a personal failing (Atanasova and Koteyko, 2017; Baker et al., 2020). Consistent with these analyses, several studies have shown that disease framing often exacerbates anti-fat bias (Saguy et al., 2014; Frederick et al., 2016a; Hoyt et al., 2017). Frederick et al. (2016a), for example, found that participants who read a news article that described fatness as a public health crisis expressed more negative attitudes toward fat people (e.g., judging them unattractive and lazy), compared to those who read an article about another health condition. Therefore, contra the AMA's endorsement, using disease framing to combat anti-fat bias can backfire (cf. Hoyt et al., 2017).

Two alternatives to disease framing, derived from grassroots social movements, have been proposed as more promising routes to bias reduction. The Health at Every Size (HAES) movement decouples fatness from health, citing evidence that health is influenced more by lifestyle factors such as nutrition and exercise than by body mass (Bacon, 2010). Compared to disease framing, this message has been found to elicit more favorable attitudes toward fat people (Saguy et al., 2014; Frederick et al., 2016a,b, 2020). Nevertheless, critics argue that HAES ultimately stigmatizes fatness by implying that "good fatties"—those who care about their appearance and prioritize their health—are more deserving of acceptance than other fat people (Gibson, 2021).

The fat-rights movement, by contrast, centers the goal of eliminating anti-fat bias. It rejects medicalizing terms like "obesity" and asserts that people of all sizes—like all genders and races—deserve equal treatment and respect, regardless of their ability or desire to engage in health-promoting behaviors (Saguy, 2013; Hansen, 2014; Gordon, 2020). Although fat-rights and HAES messages are often paired in framing studies as "fat-positive" frames (e.g., Frederick et al., 2016b, 2020), some evidence suggests that fat-rights messages are more effective for bias reduction. In the aforementioned study by Frederick et al. (2016a), a HAES-framed article and a fat-rights-framed article both reduced support for a punitive weight-based policy intervention, but only the fat-rights-framed article reduced anti-fat attitudes. By characterizing weight discrimination as a basic human-rights issue, fat-rights messages may be especially persuasive in combatting stigma.

Importantly, however, the effects of fat-rights framing have never been directly compared to those of disease framing, independent of other weight-related framing messages. Such a comparison is important for establishing fat-rights framing as an effective alternative that does not carry the stigmatizing implications of HAES. Moreover, research on disease and fat-rights framing has given little attention to the psychological mechanisms that underlie their effects. Recent work on framing in other domains highlights pragmatic inference—"reading between the lines" and interpreting language in context—as a key mechanism (e.g., Leong et al., 2017; Flusberg et al., 2022a,b; Holmes et al., 2022). As people process language, they draw inferences about the communicator's intentions, trusting that the language used to describe the topic at hand was chosen to be relevant and informative (Grice, 1975; Goodman and Frank, 2016; Christiansen and Chater, 2022). For example, readers might infer from an article that frames the alleged perpetrator of a crime as the "real" victim (i.e., of false allegations) that the writer chose the victim label to signal who deserved support. A recent study showed that this kind of pragmatic inference underlies the effects of so-called "victim framing": applying the victim label to an alleged perpetrator of sexual assault increased support for him and decreased support for his accuser, but only for participants who explicitly cited the label as influencing their evaluations (Flusberg et al., 2022b). Disease and fat-rights framing may work in a similar way. Observers may infer that a given frame was chosen because it communicates relevant information about fatness, leading them to update their own attitudes toward fat people accordingly.

In the present study, we directly compared the effects of disease and fat-rights framing and explored pragmatic inference as a mechanism underlying them. Participants read a news article that affirmed or negated both (a) a disease-focused message and (b) a fat-rights message (i.e., that weight discrimination is unacceptable). This enabled us to assess the independent and joint effects of the two messages. After reading the article, participants expressed their attitudes toward fat people and indicated whether the article had influenced those attitudes—an index of pragmatic inference. We expected that the disease-affirming message and the fat-rights-negating message would yield more negative attitudes toward fat people than the disease-negating and fat-rights-affirming messages, respectively. Following other framing research (e.g., Flusberg et al., 2022b), we also expected that these framing effects would be driven by participants who inferred that the article was relevant to the topic at hand—that is, those who explicitly cited it as influencing the attitudes they had expressed.

2 Materials and methods

We preregistered our methods and analysis plan (https://aspredicted.org/FJ3_3G1), and all materials and data are available on the Open Science Framework (https://osf.io/cvfr8/).

2.1 Participants

In February 2022, we recruited 436 participants from Amazon Mechanical Turk via CloudResearch (Litman et al., 2017). All were U.S. residents and had ≥95% approval on ≥100 prior studies. Participants who failed an initial attention check ("… check the option 'Other' below and enter the number 8 in the text box;" $n = 15$) were excluded, as were those who did not complete all measures ($n = 20$).

The final sample consisted of 401 participants, with roughly 100 per condition following other framing research (e.g., Flusberg et al., 2022b). The sample included 200 women, 191 men, and 10 participants of other genders, with a mean age of 43.0 ($SD = 12.9$). Most participants (75%) identified as white; 10% identified as Asian/Asian American/Indian, 10% as African American/Black, 4% as Hispanic/Latinx, 1% listed other races or ethnicities, and 2% did not specify their race/ethnicity (participants who selected multiple identities are included in each category above). The sample included 176 participants who identified as fat, obese, or overweight and 81 who indicated they had experienced weight discrimination. See the Supplementary material for additional demographics.

2.2 Design and materials

The study had a 2 (disease framing: affirming/negating) × 2 (fat-rights framing: affirming/negating) design. Four fictionalized news articles, purportedly from the *New York Times*, represented all combinations of the two types of framing (adapted from Frederick et al., 2020; see Table 1). Each article described findings from a scientific study on how weight affects people's health and social lives. The order of the disease and fat-rights segments within each article was counterbalanced across participants. The affirming and negating versions of each segment were written to be minimally different and to reflect contrasting ideas about fatness from real news media (Saguy, 2013; Frederick et al., 2020). These ideas mirror the mixed body of scientific evidence on weight and health: while fatness has been linked to increased risk of serious health conditions and mortality (Bray, 2004), the evidence falls short of establishing a causal influence and suggests that fatness can even be protective (Campos et al., 2006).

To verify the content of the articles, we presented them to a separate group of 101 participants. Each participant read one of the articles and rated the extent to which it communicated 24 fatness-related claims on a 7-point scale (1, *not at all*; 7, *a great deal*; $\alpha = 0.87$; see Supplementary material). These statements were adapted from measures of anti-fat bias that include items equating fatness with a disease (e.g., "Being fat is very bad for your health;" Crandall, 1994; Saguy et al., 2014) and from a measure of attitudes toward transgender individuals that includes items endorsing fat-rights values (e.g., "Fat people should be treated with the same respect and dignity as any other person;" Kanamori et al., 2017). We included the latter set of items because their content is underrepresented in weight-related framing research.

An exploratory factor analysis indicated that the items clustered into three categories, which we labeled health concern (6 items, several disease-related; $\alpha = 0.93$), devaluation (9 items, several fat-rights-related; $\alpha = 0.87$), and negative emotion (8 items; $\alpha = 0.93$). As expected, articles with disease-affirming language ($M = 6.21$, $SD = 0.93$) communicated greater health concern than articles with disease-negating language ($M = 3.39$, $SD = 1.71$), $F_{(1,97)} = 115.06$, $p < 0.001$, $\eta_p^2 = 0.54$, and articles with fat-rights-negating language ($M = 4.27$, $SD = 1.59$) communicated greater devaluation than articles with fat-rights-affirming language ($M = 3.58$, $SD = 1.20$), $F_{(1,97)} = 7.49$, $p = 0.007$, $\eta_p^2 = 0.07$. These results confirm that the content of the four articles differed along the relevant dimensions. See the Supplementary material for factor loadings and additional analyses of the content ratings.

The main study included an anti-fat bias measure with 24 items similar to those in the content-rating study but reworded to assess participants' own attitudes toward fat people ($\alpha = 0.87$; see Table 2). We averaged agreement ratings across all items to create a composite anti-fat bias score for each participant.

2.3 Procedure

The study was presented online via Qualtrics. Following the attention check, participants were shown one of the articles. After 1 min, they were given the option to advance to the next screen. There they completed the anti-fat bias measure, rating their agreement with each statement on a 7-point scale (1, *strongly disagree*; 7, *strongly agree*). The instructions emphasized that participants should respond based on their personal beliefs. On the following screen, participants indicated whether they thought the article had influenced their responses, even slightly. If they indicated that it had, the article was shown again and participants were asked to copy and paste the part they found most influential into a text box. Finally, participants answered a series of demographic questions.

3 Results

3.1 Main analyses

To assess the effects of framing, we conducted a preregistered 2 (disease framing) × 2 (fat-rights framing) × 2 (order: disease/fat-rights segment first) ANOVA on composite anti-fat bias scores. As shown in Figure 1, there was a main effect of disease framing, $F_{(1,393)} = 9.80$, $p = 0.002$, $\eta_p^2 = 0.02$, with disease-affirming articles ($M = 3.76$, $SD = 0.76$) eliciting more negative attitudes toward fat people than disease-negating articles ($M = 3.50$, $SD = 0.86$). No other main effects or interactions were significant ($ps > 0.09$).

To examine the role of pragmatic inference, we compared the anti-fat bias scores of participants who recognized that the article they had read influenced their responses ("recognizers;" $n = 144$) and those who indicated that it did not ("non-recognizers;" $n = 257$). A 2 (disease framing) × 2 (fat-rights framing) × 2 (recognizers/non-recognizers) ANOVA yielded a three-way interaction, $F_{(1,393)} = 4.12$, $p = 0.04$, $\eta_p^2 = 0.01$. To unpack this interaction, we conducted separate 2 (disease framing) × 2 (fat-rights framing) ANOVAs for recognizers and non-recognizers.

TABLE 1 Framing articles.

Segment	Representative portion
Introduction	New statistics reveal some startling new conclusions that should lay to rest the controversy about how weight affects people's health and social lives. The research, published in this month's issue of the Journal of the American Medical Association (JAMA), reports on the latest data from the Harvard Physicians' Health Study. The study—long considered the most definitive assessment of the health of Americans—has rigorously tracked a representative sample of 413,000 Americans born in 1958–1961 up through adulthood.
Disease framing	
Disease-affirming	Being fat is relatively unsafe and unhealthy. According to the research, people diagnosed as fat were more likely to die and develop health conditions than people classified as normal weight [. . .] "After seeing these data, it is crystal clear to me that fatness itself is the danger people have always said it is; the obesity epidemic is real." said Dr. Jackie Levine.
Disease-negating	Being fat is relatively safe and healthy. According to the research, fat people were not more likely to die or develop health conditions than normal weight people [. . .] "After seeing these data, it is crystal clear to me that fatness itself is not the danger people have always said it is; the idea of an 'obesity epidemic' is unsupported." said Dr. Jackie Levine.
Fat-rights framing	
Fat-rights-affirming	According to Dr. Kerry Fletcher of the National Association to Advance Fat Acceptance, "People need to realize that it is completely unacceptable (and even illegal in some places) to treat people differently if they are fat. Employers do not have the right to discriminate against applicants based on their weight."
Fat-rights-negating	According to Dr. Kerry Fletcher of the National Association to Combat Fatness, "People need to realize that others are going to treat them differently if they are fat. Employers have the right to hire applicants who will put the best face on the company."

These articles were adapted from Frederick et al. (2016b, 2020). See the Supplementary material for the full text of each article.

For recognizers, there was an interaction between the two types of framing, $F_{(1,140)} = 9.06$, $p = 0.003$, $\eta_p^2 = 0.06$. As shown in Figure 2, disease-affirming articles elicited less negative attitudes toward fat people when they affirmed fat rights ($M = 3.66$, $SD = 0.56$, $n = 24$) than when they negated fat rights ($M = 4.06$, $SD = 0.67$, $n = 41$), $t_{(63)} = -2.42$, $p = 0.02$, $d = -0.62$. In contrast, there was no significant difference in anti-fat bias for disease-negating articles that affirmed fat rights ($M = 3.42$, $SD = 0.67$, $n = 40$) and those that negated fat rights ($M = 3.09$, $SD = 0.85$, $n = 39$), $t_{(77)} = 1.94$, $p = 0.056$, $d = 0.44$. Additionally, disease framing exacerbated anti-fat bias for articles that negated fat rights, $t_{(78)} = 5.69$, $p < 0.001$, $d = 1.27$, but had no significant impact for articles that affirmed fat rights, $t_{(62)} = 1.47$, $p = 0.15$, $d = 0.38$. For non-recognizers, there were no significant framing effects ($ps > 0.8$).[2]

3.2 Additional analyses

To explore background characteristics that might distinguish recognizers from non-recognizers, we entered the following demographic predictors into a logistic regression model (recognizers coded as 1, non-recognizers as 0): age, gender (male, 1; female, 2; other genders not included); race/ethnicity (white, 1; other races/ethnicities, 0), political conservatism (rated from *extremely liberal*,−50, to *extremely conservative*, 50), highest level of education completed (from *some high school*, 1, to *doctorate/professional degree*, 9), and annual household income (from *<$25,000*, 1, to *>$200,000*, 5), body weight self-identification (fat/obese/overweight, 1; none of these, 0), and whether participants had experienced weight discrimination (yes, 1; no, 0).

Three variables distinguished recognizers from non-recognizers: recognizers were relatively older, $\beta = 0.24$, $p = 0.04$, less likely to be white, $\beta = -0.25$, $p = 0.03$, and more likely to have experienced weight discrimination, $\beta = 0.22$, $p = 0.05$. The framing effects exhibited by recognizers, though strongest for participants with these characteristics, were also found for others (e.g., recognizers who had *not* experienced weight discrimination; see Supplementary material). None of the other demographic variables were significant predictors ($ps > 0.3$).

4 Discussion

In the wake of the AMA's recognition of obesity as a disease, the prevalence of disease-focused language about fatness in news media has increased (Baker et al., 2020; Saguy, 2020). Our results show that disease framing has a real impact on attitudes toward fat people. Using an experimental manipulation and researcher-constructed news articles that afforded tight control over extraneous factors, we found that articles affirming the claim that fatness is a disease elicited more negative attitudes than articles negating this claim. Notably, this framing effect was moderated by whether participants explicitly recognized the article as influencing their attitudes. Only recognizers (36% of participants) were affected by disease framing, and for them, this effect was further moderated by whether the article affirmed fat rights. For recognizers, disease-affirming articles that also affirmed fat rights yielded less negative attitudes than otherwise identical articles that negated fat rights. Additionally, for articles that affirmed fat rights, disease framing had no significant impact on recognizers' attitudes. This shows that fat-rights framing—the message that humans deserve equal treatment and respect regardless of their weight—can buffer against

2 As only 8 of 144 recognizers cited the fat-rights segment of the article as most influential (102 cited the disease segment and 34 cited other parts), we were unable to conduct preregistered analyses comparing participants who cited different segments. In the Supplementary material, we report other preregistered analyses assessing framing effects separately for the three content categories identified in the content-rating study. The results converge with the main analyses reported here.

TABLE 2 Anti-fat bias measure.

1. Fat people do not bother me (R)
2. I have friends who are fat (R)
3. I tend to think that people who are fat are a little untrustworthy
4. Although some fat people are surely smart, in general, I think they tend not to be quite as bright as normal weight people
5. I have a hard time taking fat people seriously
6. I feel comfortable around fat people (R)
7. If I were an employer looking to hire, I might avoid hiring a fat person
8. Fat people should be treated with the same respect and dignity as any other person (R)
9. I would find it highly objectionable to see a fat person being teased or mistreated (R)
10. If my doctor was fat, I would want to seek another doctor
11. I feel disgusted with myself when I gain weight
12. One of the worst things that could happen to me would be if I gained 25 pounds
13. I am unconcerned about becoming fat (R)
14. People who weigh too much could lose at least some part of their weight through a little exercise
15. Some people are fat because they have no willpower
16. It is not usually a fat person's fault that they are fat (R)
17. A person's weight depends in part on genetic factors beyond their control (R)
18. A person's weight depends in part on environmental factors beyond their control (R)
19. Treating fatness as a bad thing is important for motivating people to lose weight
20. The rise in the number of fat people over the last 30 years represents a major public health crisis
21. Being fat is very bad for your health
22. Being fat causes people to develop dangerous diseases (e.g., heart disease, diabetes, cancer)
23. Relatively speaking, being fat doesn't really affect one's health very much at all (R)
24. Being fat can actually be good for your health (R)

(R) denotes reverse-scored items.

the bias-enhancing effect of disease framing, at least for people who recognize the persuasive power of the framing language.

The present study advances understanding of language's influence on anti-fat bias in two key ways. First, although our framing stimuli were closely adapted from previous work, our study is the first to directly compare the effects of disease and fat-rights framing. Disease framing may have been more influential overall for our U.S.-based participants because disease-focused messaging dominates American discourse about fatness. The disease-affirming articles likely reinforced participants' preexisting beliefs about fatness, while the disease-negating articles challenged them. In contrast, the fat-rights message may have seemed novel or radical for some participants (Frederick et al., 2016a), even those who endorsed equal rights for other characteristics like gender and race. Fat-rights framing might have a stronger impact in contexts less concerned with links between weight and health. Nevertheless, our results show that even when such links are salient, fat-rights framing has the potential to counteract the effects of disease framing among people who find the language influential.

Second, our findings dovetail with recent research implicating pragmatic inference as a mechanism underlying the effects of framing (e.g., Flusberg et al., 2022a,b; Holmes et al., 2022). Framing fatness as a disease or a matter of basic human rights communicates a host of implications—that fatness is an inherent negative attribute (Hoyt et al., 2017) or that eliminating weight discrimination is morally imperative (Gordon, 2020). That significant framing effects were observed only for recognizers suggests that these participants picked up on the implications of the frames. Specifically, they may have inferred that the article writer's chosen frame is a fitting characterization of fatness and then incorporated its content into their own attitudes. Non-recognizers—those who reported not finding the article influential—either failed to draw this pragmatic inference or were unmoved by it, and exhibited no framing effects as a result.

The contrast between recognizers and non-recognizers argues against a simple priming explanation for the results. On such an account, the article's content activated certain ideas captured by the anti-fat bias measure, leading participants to reflexively respond in a consistent manner rather than express their genuine attitudes toward fat people. This account does not explain why framing effects were only observed for participants who were explicitly aware of the article's impact (see Flusberg et al., 2022a,b). Moreover, framing affected aspects of anti-fat bias not specifically communicated by the articles. For example, as detailed in the Supplementary material, disease-affirming articles that also affirmed fat rights communicated similar levels of negative emotion toward fat people as those that negated fat rights, but participants who read such articles expressed significantly *less* negative emotion. This suggests that the articles affected participants' general attitudes toward fat people, not just attitudes specific to the articles' content.

Interestingly, in our exploratory analysis of participant background characteristics, we found that recognizers were older, less likely to be white, and more likely to have experienced weight discrimination. Although framing effects were not limited to participants with these characteristics, future research might explore why such participants were especially apt to find the framing article influential. Another approach would be to assess pragmatic inference more directly. For example, participants could be asked to explicitly identify the communicative intentions underlying a writer's choice to use disease or fat-rights framing. The ability to draw pragmatically appropriate inferences about the writer's intentions might predict the strength of the corresponding framing effects, as has been found in other studies (Leong et al., 2017; Wu et al., 2021; Holmes et al., under review).

More generally, future work should give careful consideration to the social-pragmatic context in which messages about fatness are communicated and received. Like our researcher-constructed stimuli, real news articles about fatness often include multiple frames (Baker et al., 2020), which may invite differing pragmatic inferences. Our findings suggest that fat-rights framing—relatively scarce but gaining traction in mainstream media

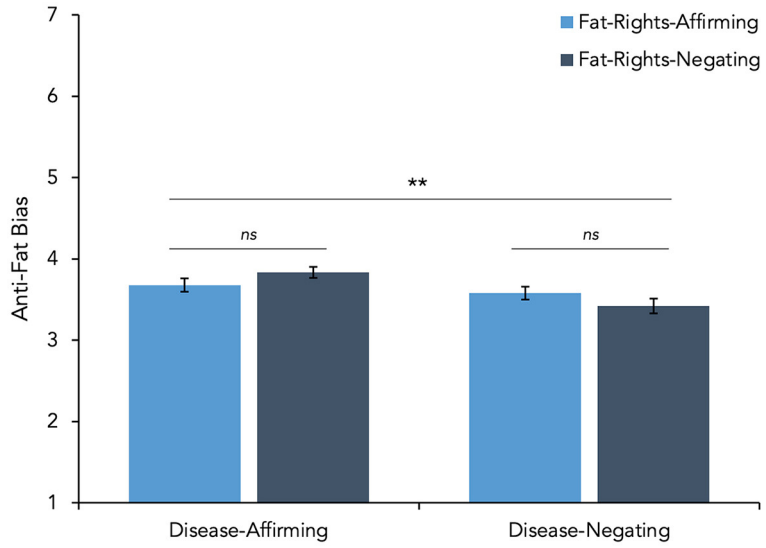

FIGURE 1
Anti-fat bias scores (1, *strongly disagree*; 7, *strongly agree*) for all combinations of disease framing and fat-rights framing. Error bars represent ± SEM. **p <0.01, main effect of disease framing; *ns*, nonsignificant.

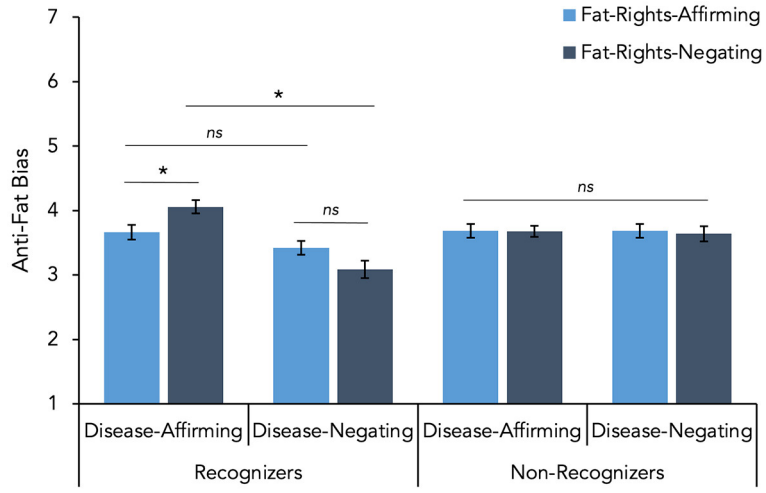

FIGURE 2
Anti-fat bias scores (1, *strongly disagree*; 7, *strongly agree*) for all combinations of disease framing and fat-rights framing, for participants who recognized the article as influential (n = 144) and those who did not (n = 257). Error bars represent ± SEM. *p < 0.05, effect of fat-rights framing for disease-affirming articles among recognizers; *ns*, nonsignificant.

(Atanasova and Koteyko, 2017)—may be effective when presented alongside disease framing in actual articles. That said, many articles also include images that depict fat people in dehumanizing ways (e.g., headless bodies; Heuer et al., 2011). How linguistic framing combines with framing in other modalities to shape anti-fat bias in real-world contexts is an important question for future research.

Our study had two other limitations that raise additional research questions. First, do the varieties of linguistic framing investigated in the present study affect implicit, not just explicit, anti-fat bias? This question is timely because implicit anti-fat bias has been on the rise in the U.S. From 2007 to 2016, there was a 15% increase in such bias, as assessed by implicit association tests, even as explicit anti-fat bias and implicit bias toward other marginalized groups (e.g., Black, gay, older, and disabled people) held steady or decreased over the same period (Charlesworth and Banaji, 2019). Some previous framing studies have used implicit measures of anti-fat bias that could be readily adapted to the present paradigm (e.g., Ata et al., 2018).

Second, how do the effects of disease and fat-rights framing compare not just to each other but also to language about fatness

that avoids framing altogether? This question, while interesting, poses several methodological challenges. Some studies on disease and fat-rights framing have included control stimuli about unrelated health issues (e.g., alcohol use or cancer; O'Brien et al., 2010; Frederick et al., 2016a), but these stimuli may differ from their intended equivalents on a host of uncontrolled dimensions, including vividness, concreteness, and affective content (Thibodeau and Boroditsky, 2015). Moreover, even seemingly neutral language invites pragmatic inferences. For example, readers of an article about fatness with no common weight-related frames might attempt to infer the writer's motive for evading them (cf. Moty and Rhodes, 2021). Such an article is a *different* stimulus—not a truly neutral one—and may function as a frame in itself (Flusberg et al., in revision). These are important considerations in interpreting all linguistic framing effects, not just those pertaining to fatness.

In conclusion, contrary to the AMA's declaration, our findings show that framing fatness as a disease does not reduce anti-fat bias. Rather, this framing has the opposite effect, at least for people who recognize its persuasive power. Fat-rights framing, however, can serve to counteract this effect. Although reducing stigma was one of the AMA's stated goals in labeling obesity a disease, its ultimate objective was to lower the prevalence of the condition and encourage people to lose weight, on the assumption that fatness is "a major public health problem" (American Medical Association, 2013, p. 3). The message that fat people have a disease that should be treated and eliminated conveys sympathy or pity for them rather than dignity and respect. The fat-rights movement offers the alternative perspective that fatness is value-neutral or even desirable, and that weight discrimination is unacceptable. We suggest that this message should be taken seriously in research investigating how language is deployed to perpetuate—and resist—anti-fat bias.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found below: Open Science Framework; https://osf.io/cvfr8/.

Ethics statement

The studies involving humans were approved by Reed College Institutional Review Board. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

ER: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Writing—original draft. KH: Conceptualization, Formal analysis, Supervision, Writing—review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fcomm.2023.1284074/full#supplementary-material

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