

# Motivated Moral Outrage Among Meat-Eaters

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## Abstract

Many meat-eaters experience cognitive dissonance when aware that their eating behaviors contradict their moral values, such as desires to protect the environment or animals from harm. One way in which people morally disengage from their behaviors—and thus avoid dissonance—is to displace responsibility onto others. Aligning with this notion, results of three studies (total  $N = 1,501$ ) suggest that expressing moral outrage at third-party transgressors reduces dissonance and preserves moral identity among meat-eaters. When participants understood their in-group as responsible for factory farming's negative impact or read about factory farming's harms to animals, expressing moral outrage at third-party transgressors reduced guilt and elevated self-rated moral character. Moreover, reflecting on the morally troublesome nature of meat-eating led participants to express more moral outrage at a third-party organization responsible for animal abuse, an effect eliminated by self-affirmation. These findings substantiate moral outrage as a new mechanism to justify meat consumption.

## Keywords

moral outrage, cognitive dissonance, motivated reasoning, moral responsibility, eating behavior

As meat consumption faces criticisms for compromising animal welfare and environmental sustainability, meat-eaters encounter increasing pressure to justify their behavior and reduce ensuing guilt. Readily, people can experience *meat-related cognitive dissonance* (MRCD)—recognizing that one's status as a meat-eater contradicts a held belief, attitude, or value, such as care for animals or the physical environment (Rothgerber, 2020; Rothgerber & Rosenfeld, 2021). Because cognitive dissonance involves negative arousal, individuals are motivated to prevent MRCD from occurring and to reduce the dissonant state once it has occurred. How exactly do individuals eat meat regularly without feeling consciously dissonant?

Meat-eaters can reduce cognitive dissonance through several strategies. Direct, unapologetic strategies to reduce MRCD include denial of animal mind (Bastian et al., 2012; Loughnan et al., 2010; Rothgerber, 2014b; Tian et al., 2016) and justifications of meat consumption through appeals to hedonism, necessity, social norms, and human dominance over the natural world (Piazza et al., 2015; Rothgerber, 2013). Individuals more ambivalent about consuming meat may reduce MRCD indirectly by remaining willfully ignorant about food production (Onwezen & Van der Weele, 2016; Rothgerber, 2020; Te Velde et al., 2002); dissociating the animal from the food product (Benningstad & Kunst, 2020; Kunst & Hohle, 2016); or claiming that the moral issues of meat-eating do not apply to them, such as by self-reporting lower meat consumption levels

(Rothgerber, 2014a, 2019) or stating that the animals they consume were treated humanely (Rothgerber, 2015a, 2015b).

Research highlighting these pathways to dissonance-reduction elucidates how individuals reconcile conflicting beliefs and behaviors. Such reconciliation may provide insights into why ethical, health, and sustainability efforts aimed at curtailing meat consumption seemingly meet little success (Animal Charity Evaluators, 2017; Bianchi et al., 2018). Notably, missing from current empirical discussion of these pathways is consideration of moral outrage—specifically, how meat-eaters might maintain a positive moral self-concept by placing moral responsibility on an entity *beyond* the self, such as the food system or the animal entertainment industry. We theorize that motivated expressions of moral outrage at third-party transgressors enable meat-eaters to reduce MRCD.

## Displaced Responsibility and Moral Outrage

One way in which people morally disengage from their harmful conduct is to displace responsibility to others, thus obfuscating

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or minimizing their active role in causing harm (Bandura, 1990, 1999; Cooper & Fazio, 1984). Such displacement of responsibility has been implicated in genocides such as the Holocaust (Andrus, 1969) and the My Lai massacre (Kelman, 1973) and in well-known laboratory demonstrations of obedience (Milgram, 1974). Bandura (2016) illustrates how major industries rely on displacement of responsibility to deflect moral condemnation. In the gun industry, for example, manufacturers claim exemption from gun violence because they are too far removed from the point of sale, whereas wholesalers claim exemption because they are not selling guns to the public; both groups defer responsibility to the U.S. government to license and monitor gun dealers.

In the case of eating meat, individuals may obscure personal responsibility for the mistreatment of farmed animals by blaming other entities in the food system. At the producer level, many industrialized societies maintain a division of labor within animal farming (e.g., breeding, growing, slaughtering) that allows each farmer to evade the full burden of responsibility (Serpell, 1986). Moreover, farmers can readily blame consumers for not wanting to spend more money to accommodate better animal welfare practices (Te Velde et al., 2002). Yet concurrently, consumers generally claim that they are powerless to improve animal welfare standards (Harper & Henson, 2001), believing that their voice matters little (Mayfield et al., 2007). Rather, consumers apportion responsibility to other agents, such as governments for failing to implement necessary laws and to retailers for failing to offer humanely produced meat (Harper & Henson, 2001; Te Velde et al., 2002). The result is that individual consumers morally disengage from eating meat; their dissonance is attenuated by motivated beliefs that fault lies not with themselves as the eater but with another entity in the supply chain.

Rothgerber (2020) has speculated that at times, this deflection of responsibility may intensify into expressions of moral outrage at third-party transgressors in the food system or even at others who mistreat animals outside of the food context. Such moral outrage may in part be motivated by an effort to assuage personal guilt and to cast dispersions on others (Rothschild & Keefer, 2017). For example, reminders of one's own environmentally destructive behavior increases one's willingness to blame corporations for harming the environment (Rothschild et al., 2012), as does information blaming one's national in-group for climate change (Rothschild et al., 2012; Rothschild & Keefer, 2017). The opportunity to express outrage reduces guilt and restores perceived personal morality (Rothschild & Keefer, 2017). In line with self-affirmation accounts of cognitive dissonance (Steele, 1988), which emphasize that individuals may repair a damaged self-concept by considering any good actions that they do, affirming one's moral identity in an unrelated context can eliminate motivated expressions of moral outrage (Rothschild & Keefer, 2017; Rothschild et al., 2012).

As such, we conceive of expressed moral outrage as a vehicle for *moral hypocrisy* (Batson et al., 1997), a motive to appear moral while minimizing the costs of actually being moral.

Typically, moral hypocrisy has been demonstrated in contexts where individuals justify an anticipated selfish act by couching their decision in fair procedural grounds (e.g., Batson et al., 1997, 1999). Moral hypocrisy has been mistaken for self-serving or leniency biases and behavior-standard discrepancies (Batson, 2016). Self-serving/leniency bias could arise from insider knowledge of intent and mitigating circumstances, and behavior-standard discrepancies because of other motives' overpowering strength. In a different vein, moral hypocrisy is concerned with appearance: creating the illusion to oneself and others that one is motivated by moral integrity.

We suggest that expressions of anger at third-party wrongdoers in the meat industry may create the illusion that one is moral, which allows one to justify prior meat-eating and to continue eating meat with moral impunity from either self or other judgments. In this sense, moral outrage accomplishes what the action-based model of dissonance (Harmon-Jones et al., 2015) proposes: enabling desired behavior. However, the threat at hand is not one of cognitive inconsistency but one of self-integrity. That is, from a self-affirmation lens, cognitive dissonance occurs when negative information about eating meat threatens a meat-eater's sense of the self as moral (Steele, 1988). Moral hypocrisy thus reduces dissonance and is enabled by self-deception and disconnecting one's behavior from one's moral standards (Batson et al., 1999).

Ultimately, we suggest that moral outrage helps to reduce the dissonance threat arising when behavior reflects negatively on the self as ideally a moral individual. Individuals convey that they are moral, despite their behavior, which offers a credential to themselves and others. In turn, this credential allows them to maintain a positive self-image.

### The Present Research

We posit that, to avoid experiencing cognitive dissonance, meat-eaters bolster their moral self-image by expressing moral outrage at others who harm animals. We conceptualized two components to this phenomenon: First, expressing moral outrage should reduce feelings of guilt and bolster one's perceived moral character; and second, threats to moral identity should promote greater expression of moral outrage.

We hypothesized that:

1. Meat-eaters would feel less guilt and perceive themselves as more moral when led to believe their salient national in-group (vs. out-group) was the source of meat-related moral threat (Study 1) and when presented (vs. not presented) with meat-related morally threatening information (Study 2), provided they were allowed to express moral outrage at factory farms (vs. not expressing outrage).
2. A reminder that meat-eating is morally problematic would lead meat-eaters to express greater moral outrage at animal abuse (Study 3).
3. The effect of reminding participants of meat's moral problems on outrage expression would be attenuated if

participants were allowed to self-affirm their moral character before expressing outrage (Study 3).

All variables assessed in all studies are reported, and data for all studies were analyzed after the final sample was achieved. Study 2 was preregistered. Data are available at <https://osf.io/gt7kv/>

## Study 1

In Study 1, we tested whether expressing moral outrage can restore moral identity among meat-eaters. Following modifications to Rothschild and Keefer (2017), U.S. participants read a scenario depicting either the American in-group or Chinese out-group as responsible for animal abuse in factory farming. Half of the participants at random were given a chance to express moral outrage whereas the other half were not, with ensuing guilt and perceived self-moral character being outcomes of interest. Given the premise that moral outrage serves to restore threatened moral identity among meat-eaters, we hypothesized that: *Following the moral identity threat of in-group (vs. out-group) responsibility for harm, guilt would increase and moral character would decrease to greater extents among participants unable to express moral outrage than for participants able to express moral outrage (i.e., a responsibility  $\times$  moral outrage interaction).*

## Method

### Participants

Four hundred thirty-three U.S. adults participated in this study on Amazon Mechanical Turk (MTurk) on April 16, 2019. Thirty-two participants were excluded for failing attention checks, 89 for reporting being vegetarian, and two for not reporting their diet status; thus, data from the remaining 310 participants (153 males, 155 females, and two nonbinary) were analyzed. This sample provided 87% power to detect a small-medium effect size of  $\eta_p^2 = .03$ , which parallels the magnitude of results for the critical interaction reported by Rothschild and Keefer (2017).

### Procedure and Materials

Each participant was randomly assigned to read a newspaper article created for the study depicting the animal abuse associated with factory farming. The article was based on information available from People for the Ethical Treatment of Animals (2017; <https://www.peta.org/issues/animals-used-for-food/factory-farming/>) and described severe space constraints, lack of fresh air, deprivation of natural behaviors, use of antibiotics, genetic manipulations, and brutal slaughter endemic to factory farming (see Appendix A for the full text). The last line of the article was manipulated to blame the prevalence of factory farms on either the United States or China. In the *in-group responsible* condition, participants read that “The U.S. is the world’s largest meat producer, meaning that more animals are being tortured and

consumed here in the U.S. than any other nation.” In the *out-group responsible* condition, the text stated that “China is the world’s largest meat producer, meaning that more animals are being tortured and consumed in China than any other nation.”

Once they finished reading the article, half of the participants in each group at random were given the opportunity to express moral outrage at factory farm owners and operators before completing outcome measures, whereas the other half proceeded directly to outcome measures. Participants expressing moral outrage did so by completing a scale derived from Rothschild and Keefer (2017) but adapted for factory farming (e.g., sample item: “Knowing that animals are helpless against factory farming companies make me angry on their behalf”). Each of the four items were answered with a *yes* or *no*.

**Guilt.** To assess guilt, we adopted the same measure of personal guilt administered by Rothschild and Keefer (2017), assessed by three items ( $\alpha = .92$ ): Participants reported the extent to which they felt *guilty*, *regretful*, and *apologetic* for the contribution to the harsh environment animals in factory farms experience, on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). These items were imbedded with seven other items including jittery, irritable, tired, annoyed, scared, hostile, and nervous.

**Moral character.** Following Rothschild and Keefer (2017), perceived moral character was assessed by participants’ evaluating their moral character relative to other people on a scale ranging from 1 (0%; *worse than all others*) to 5 (100%; *better than all others*). This item was included with five distractor self-ratings including creativity, sense of humor, leadership, sociability, and fitness.

### Design

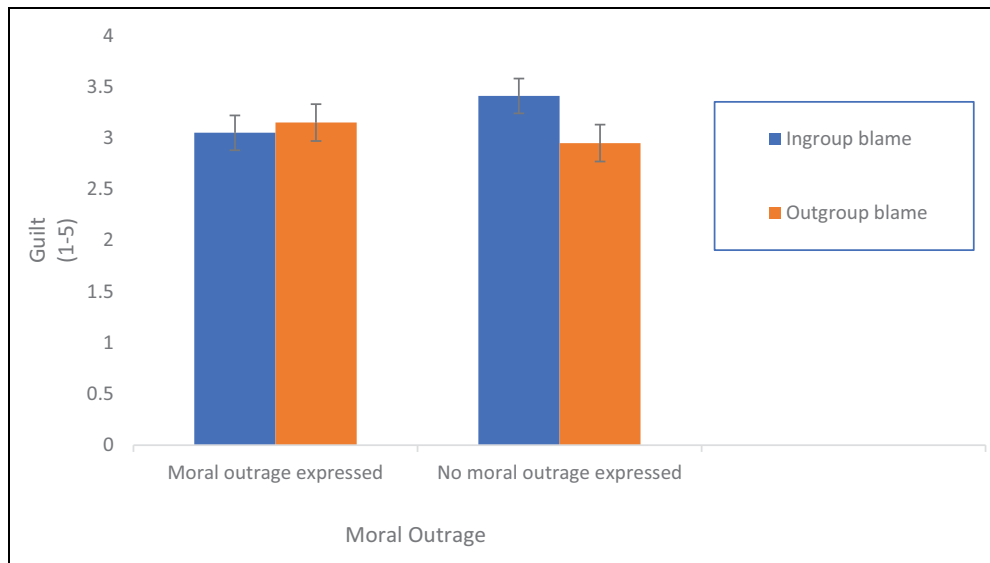
The study consisted of a 2 (Moral Outrage: expressed, not expressed)  $\times$  2 (Responsibility: in-group responsible, out-group responsible) between-subjects design. Bonferroni-adjusted pairwise comparisons were used to scrutinize significant interactions in all the studies, resulting in a critical value of  $p = .025$ . We first report the critical interactions that test the hypotheses and then, for thoroughness, present the main effect results.

## Results

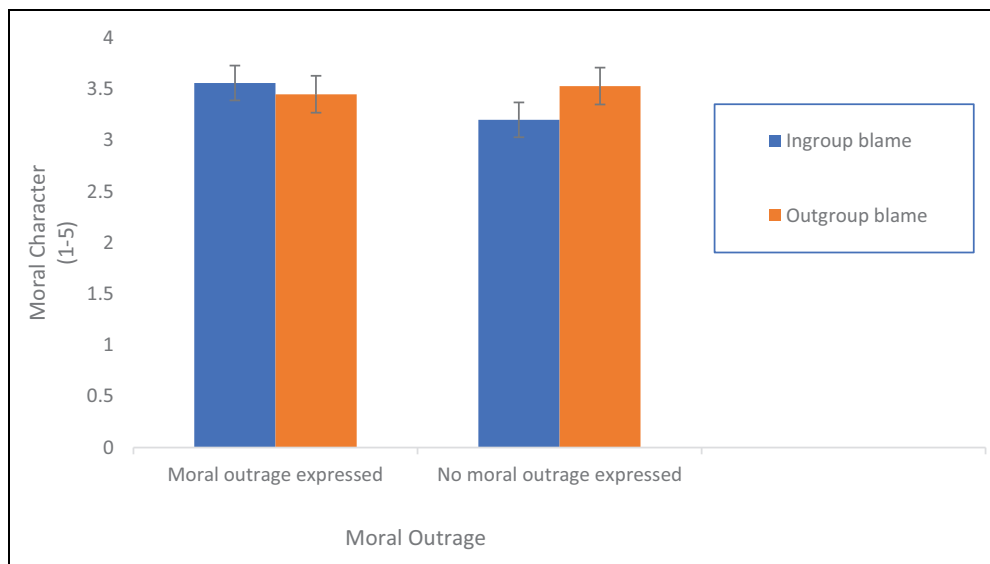
Guilt and moral character were negatively associated with each other,  $r(310) = -.35, p < .001$ .

### Guilt

A 2  $\times$  2 analysis of variance (ANOVA) indicated that the predicted Moral Outrage  $\times$  Responsibility interaction was significant,  $F(1, 306) = 4.36, p = .038, \eta_p^2 = .01$  (see Figure 1), and thus we examined simple effects through one-way ANOVAs within each outrage condition. For participants who were not given the opportunity to express moral outrage, guilt was higher when the in-group ( $M = 3.41, SD = 1.09$ ) rather than the



**Figure 1.** Guilt as a function of expressed moral outrage and responsibility, Study 1 (error bars denote 95% confidence intervals).



**Figure 2.** Moral character as a function of expressed moral outrage and responsibility, Study 1 (error bars denote 95% confidence intervals).

out-group ( $M = 2.95$ ,  $SD = 1.24$ ) was blamed for factory farming,  $F(1, 145) = 5.72$ ,  $p = .018$ ,  $\eta_p^2 = .04$ . However, participants who were given the opportunity to express moral outrage showed no difference in reported guilt depending on whether they read about in-group ( $M = 3.05$ ,  $SD = 1.23$ ) versus out-group ( $M = 3.15$ ,  $SD = 1.12$ ) blame,  $F(1, 161) = 0.28$ ,  $p = .600$ ,  $\eta_p^2 = .00$ .

Main effects for moral outrage,  $F(1, 306) = 0.35$ ,  $p = .554$ ,  $\eta_p^2 = .00$ , and for responsibility,  $F(1, 306) = 1.85$ ,  $p = .175$ ,  $\eta_p^2 = .01$ , were not significant.

### Moral Character

For moral character, a  $2 \times 2$  ANOVA indicated that the Moral Outrage  $\times$  Responsibility interaction was significant,  $F(1,$

$306) = 4.10$ ,  $p = .044$ ,  $\eta_p^2 = .01$  (see Figure 2). As expected, when participants were not allowed to express moral outrage, those who read that their in-group was responsible ( $M = 3.20$ ,  $SD = 0.94$ ) evaluated their moral character as being lower than did those who read that the out-group was responsible ( $M = 3.53$ ,  $SD = 0.96$ ),  $F(1, 145) = 4.50$ ,  $p = .036$ ,  $\eta_p^2 = .03$ , but this difference did not rise above the threshold of the Bonferroni correction. For those expressing moral outrage, the responsibility manipulation had no impact on moral character ratings (in-group: [ $M = 3.56$ ,  $SD = 0.89$ ]; out-group [ $M = 3.45$ ,  $SD = 1.00$ ]),  $F(1, 161) = 0.48$ ,  $p = .448$ ,  $\eta_p^2 = .00$ .

Once again, main effects for moral outrage,  $F(1, 306) = 1.67$ ,  $p = .198$ ,  $\eta_p^2 = .01$ , and for responsibility,  $F(1, 306) = 1.16$ ,  $p = .283$ ,  $\eta_p^2 = .00$ , were not significant.

## Discussion

Supporting our main hypothesis, when meat-eaters were threatened with information that their national in-group was largely responsible for the ills of factory farming, those who were given an opportunity to express moral outrage felt less guilt than did those not afforded a chance to express moral outrage. Presumably, moral outrage served to restore such individuals' desires to feel moral and to reduce tension from the animal welfare concerns associated with eating meat.

## Study 2

Study 1 provided evidence consistent with our account of motivated moral outrage, though perceived moral character did not significantly depend on the manipulations correcting for alpha error accumulation. To allow for a more robust test of our hypotheses, we conducted a more highly powered, preregistered second study using a cleaner and more direct manipulation of moral threat. In Study 1, the threat was linked to participants' national in-group being primarily responsible for animal harm in factory farming. This type of threat may be limited in its internal validity, as it (a) does not preclude individuals from feeling some moral responsibility in the out-group condition and (b) allows for the possibility that some threat may have resulted simply from exposure to a tarnished in-group (as opposed to a feeling of morally relevant dissonance). Accordingly, in Study 2, we used a moral threat directed solely at the individual level, in the form of exposure to (or not) a passage similar to that used in Study 1. We made similar predictions to Study 1: Following a moral threat, guilt would increase and moral character would decrease to greater extents among participants unable to express moral outrage than for participants able to express moral outrage (i.e., a Threat  $\times$  Moral Outrage interaction).

## Method

This study's sample size, materials, procedure, hypotheses, and analyses were preregistered at [https://osf.io/sh2zm/?view\\_only=91aefc77ca024dc595004e4ec32e8aa5](https://osf.io/sh2zm/?view_only=91aefc77ca024dc595004e4ec32e8aa5)

### Participants

To achieve 81% power to detect a small effect size of  $\eta_p^2 = .01$  for the critical interaction, we predetermined a final sample of 800 participants. This desired sample was achieved by recruiting additional participants to replace people who failed the attention/dietary checks. In the end, 965 U.S. adults participated in this study on MTurk on January 11–12, 2021. Fifty-nine participants were excluded for failing attention checks, as were 106 participants who reported abstaining from meat; thus, data from the remaining 800 participants (408 males, 387 females, four nonbinary, one missing) were analyzed.

### Procedure and Materials

First, participants were randomly assigned to either a *meat threat* or *no threat* condition. Each participant in the *meat threat* condition read the newspaper article used in Study 1 that depicted animal abuse associated with factory farming. Participants in the *no meat threat* condition did not complete any task at this point in the survey.

Once they finished reading the article (or no article), half of the participants in each condition at random were given the opportunity to express moral outrage at factory farm owners and operators, whereas the other half proceeded directly to outcome measures. Participants expressing moral outrage did so by answering the items used in Study 1. Guilt was assessed in the same manner as in Study 1 ( $\alpha = .90$ ), as was perceived moral character.

### Design

The study consisted of a 2 (Meat Threat: yes, no)  $\times$  2 (Moral Outrage: expressed, not expressed) between-subjects design.

## Results

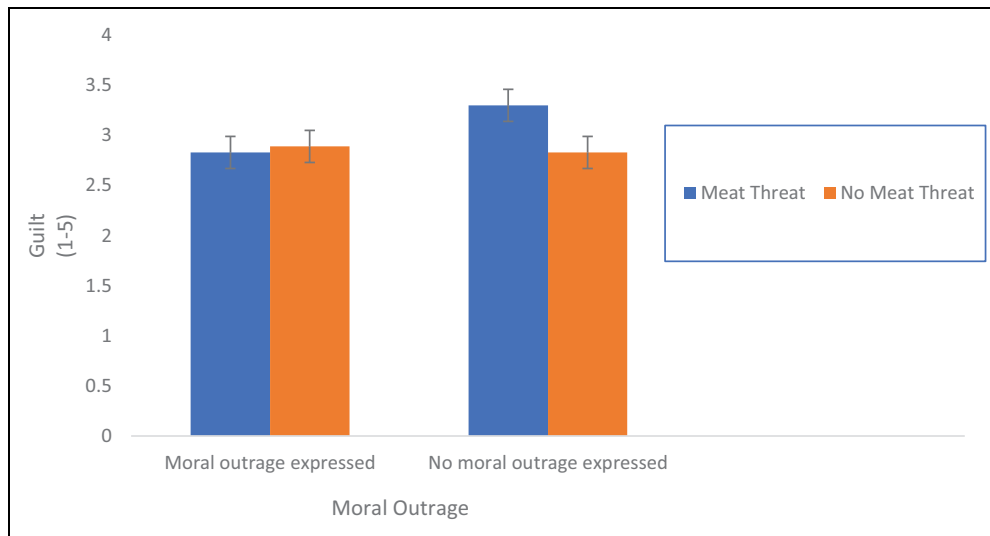
Guilt and moral character were negatively associated with each other,  $r(800) = -.44, p < .001$ .

### Guilt

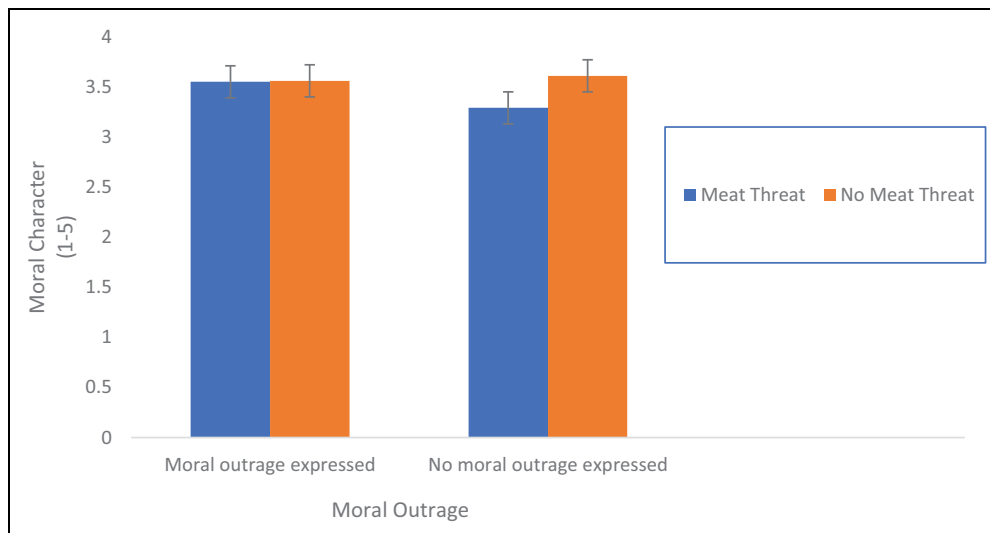
A 2  $\times$  2 ANOVA indicated significant main effects for meat threat,  $F(1, 796) = 6.92, p = .009, \eta_p^2 = .01$ , and for moral outrage,  $F(1, 796) = 7.16, p = .008, \eta_p^2 = .01$ . These main effects are best understood in the context of the significant Meat Threat  $\times$  Moral Outrage interaction,  $F(1, 796) = 11.27, p = .001, \eta_p^2 = .01$  (see Figure 3). For participants who were not given the opportunity to express moral outrage, guilt was higher when confronted with meat threat ( $M = 3.30, SD = 1.12$ ) than no meat threat ( $M = 2.83, SD = 1.15$ ),  $F(1, 395) = 16.75, p < .001, \eta_p^2 = .04$ . However, participants who were given the opportunity to express moral outrage showed no difference in reported guilt between those exposed to meat threat ( $M = 2.83, SD = 1.02$ ) versus not exposed ( $M = 2.89, SD = 1.10$ ),  $F(1, 401) = 0.28, p = .595, \eta_p^2 = .00$ .

### Moral Character

For moral character, a 2  $\times$  2 ANOVA indicated a significant main effect for meat threat,  $F(1, 796) = 5.42, p = .020, \eta_p^2 = .01$ , but not for moral outrage,  $F(1, 796) = 2.32, p = .128, \eta_p^2 = .00$ . The significant main effect was qualified by the predicted Meat Threat  $\times$  Moral Outrage interaction,  $F(1, 796) = 4.95, p = .026, \eta_p^2 = .01$  (see Figure 4). As expected, when participants were not allowed to express moral outrage, those who received the meat threat ( $M = 3.29, SD = 1.04$ ) evaluated their moral character as being lower than did those who did not receive the meat threat ( $M = 3.61, SD = 0.96$ ),  $F(1, 395) = 9.93, p = .002, \eta_p^2 = .03$ . For those



**Figure 3.** Guilt as a function of meat threat and expressed moral outrage, Study 2 (error bars denote 95% confidence intervals).



**Figure 4.** Moral character as a function of meat threat and expressed moral outrage, Study 2 (error bars denote 95% confidence intervals).

expressing moral outrage, the meat threat manipulation had no impact on moral character ratings (meat threat: [ $M = 3.55$ ,  $SD = 1.00$ ]; no meat threat [ $M = 3.56$ ,  $SD = 0.94$ ]),  $F(1, 401) = 0.01$ ,  $p = .941$ ,  $\eta_p^2 = .00$ .

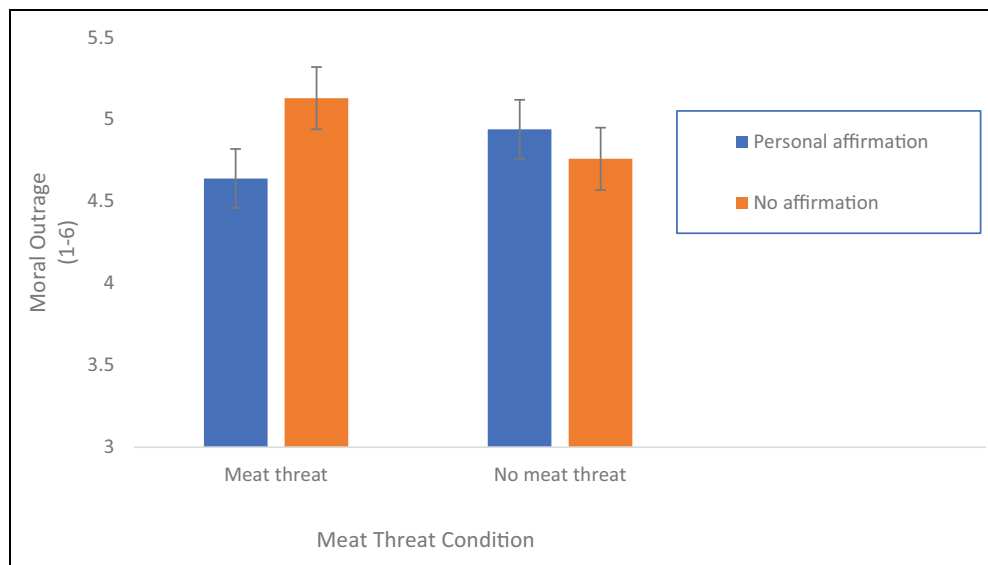
affected by moral outrage than in Study 1. As such, the results provide further evidence suggesting that moral outrage satisfies meat-eaters' desires to feel moral and to reduce tension from meat's animal welfare concerns.

## Discussion

Supporting our main hypothesis, when meat-eaters were threatened with information that called the morality of their eating behavior into question, those given an opportunity to express moral outrage felt less guilt and perceived their moral character as higher than did those unafforded this opportunity. These results conceptually replicate those of Study 1 using a larger sample and a manipulation of meat threat independent of national identity concerns. With a more robust test, moral character ratings of the self were more strongly shown to be

## Study 3

Studies 1 and 2 provided evidence to suggest that expressing moral outrage at transgressors in the food system may reduce dissonance stemming from the morally troublesome nature of meat consumption. In Study 3, we investigated whether this dissonance-reduction mechanism may also work outside the food system and when guilt from eating meat results from consequences unrelated to animal welfare. While Studies 1 and 2 revealed the self-evaluative effects of expressing moral outrage, in Study 3, we conceptualized moral outrage as an



**Figure 5.** Moral outrage following a meat threat (vs. none) and personal affirmation (vs. none), Study 3 (error bars denote 95% confidence intervals).

outcome and measured it in response to a threat to the self. Specifically, we examined whether a reminder of meat’s morally troublesome nature promotes expressing moral outrage at unrelated instances of animal abuse, and whether moral self-affirmation would moderate this effect. Positing that moral outrage can serve to bolster a threatened moral identity, we expected that an intervening chance to personally affirm one’s moral standing would disincentivize moral outrage (i.e., an interaction effect between threat and affirmation on outrage).

## Method

### Participants

Three hundred ninety-five U.S. adults participated in this study on MTurk on April 6, 2020. Twenty-six participants were excluded for failing comprehension checks, as were 69 participants who reported abstaining from eating meat; thus, data from the remaining 300 participants (180 males, 120 females) were analyzed. This sample provided 86% power to detect a small-medium effect size of  $\eta_p^2 = .03$  for the predicted interaction.

### Procedure and Materials

First, participants were randomly assigned to either a *meat threat* or *no threat* condition. To provoke feelings of defensiveness from eating meat, participants randomly assigned to the meat threat condition read a newspaper article depicting how eating meat is harmful to the environment and to the global poor (see Appendix B for the full text). The intent of the text was to heighten individuals’ discomfort as links between their eating behavior and harmful outcomes were made explicit.

After reading either the threat article or no article, to inspire anger at the mistreatment of animals, all participants were

directed to read a brief article describing abuse suffered by dolphins at the hands of SeaWorld, derived from the “SeaWorld of Hurt” (2017) website (<https://www.seaworldofhurt.com/features/dolphins-whales-dont-belong-at-seaworld/>). The article described recurrent stress, disorientation, pain, and even death inflicted upon dolphins at the sea park (see Appendix C for the full text) and was supplemented with photographs depicting the animal abuse.

At this point, the *personal affirmation* manipulation was introduced. In the personal affirmation condition, participants were asked to briefly describe something about themselves that made them feel like a good and decent person. In the control condition, participants were asked in a few sentences to describe their preference between Mac and Dell products.

Next, all participants reported their moral outrage using a 6-item scale (1 = *not at all*, 6 = *very much*) similar to that used in Study 1 but modified toward the animal theme park, SeaWorld ( $\alpha = .96$ ). A sample item included, “It makes me feel angry when I think about how some dolphins may have suffered during SeaWorld performances.” After this, participants were debriefed on the true purpose of the study and were provided with the contact information of the researcher should any questions arise.

### Design

The study consisted of a 2 (Meat Threat: Yes, No)  $\times$  2 (Personal Affirmation: Yes, No) between-subjects design.

### Results

A 2  $\times$  2 ANOVA indicated that the predicted Meat Threat  $\times$  Affirmation interaction was significant,  $F(1, 296) = 6.10$ ,  $p = .014$ ,  $\eta_p^2 = .02$  (see Figure 5). Among participants who received a meat threat, affirmation had a significant effect on

moral outrage,  $F(1, 154) = 7.22, p = .008, \eta_p^2 = .05$ , such that participants who personally affirmed ( $M = 4.64, SD = 1.21$ ) expressed less moral outrage than those who did not affirm ( $M = 5.13, SD = 1.01$ ). Among participants who did not receive a meat threat, type of affirmation had no effect on expressed moral outrage,  $F(1, 142) = 0.81, p = .368, \eta_p^2 = .01$  (personal affirmation:  $M = 4.94, SD = 1.08$ ; control:  $M = 4.76, SD = 1.34$ ).

Main effects for meat threat,  $F(1, 296) = 0.09, p = .769, \eta_p^2 = .00$ , and for affirmation,  $F(1, 296) = 1.25, p = .264, \eta_p^2 = .00$ , were not significant.

## Discussion

Results of Study 3 showed that, in the absence of self-affirming their moral identity, encountering a moral threat to meat consumption led meat-eaters to express more moral outrage at an unrelated animal abuse scenario. That affirming one's moral identity negated this effect suggests that the amount of moral outrage meat-eaters express under induced dissonance is likely motivated, at least partially, by a desire to preserve a positive moral self-image. Study 3 also demonstrates that such motives may entangle transgressors outside the food system and when guilt from eating meat results from consequences unrelated to animal welfare. The boundary conditions for the moral outrage phenomenon are unclear. Would threatened meat-eaters express moral outrage at any type of third-party transgressor to preserve moral self-image or must the transgression implicate harm to animals? Are the outcomes different if the transgressor is a corporation as opposed to an individual? Such questions are ripe for future research.

## General Discussion

Taken together, the current findings suggest that expressing moral outrage at third-party transgressors reduces the cognitive dissonance people feel from eating meat. When feeling accountable for the abuses of factory farming, expressing moral outrage at factory farm directors enabled meat-eaters to reduce guilt and to enhance self-rated moral character. Motivated moral outrage may even apply outside the food system; when reminded of meat's immorality, meat-eaters were more likely to express moral outrage at animal abuses at SeaWorld park, provided they had not just affirmed their moral self-worth. That self-affirmation negated the need for moral outrage suggests that motivations behind outrage reflect aims to repair moral self-image.

These findings elucidate how meat-eaters negotiate moral conflicts and states of ambivalence. They relate meat-eating to other domains in which moral judgments and reactions have been shown to be motivated by self-evaluative concerns (Rothschild & Keefer, 2017). By highlighting psychological strategies maintaining meat consumption, these results may inform efforts to reduce public meat consumption levels for the improvement of health and sustainability. One interpretation of the observed self-affirmation effects is that meat-eaters may

express greater moral concern for certain animals, such as pets, precisely *because* they eat meat—not despite it. This dichotomization between animals people eat and animals people care for enables people to psychologically maintain the status quo regarding farmed animals (Rothgerber, 2013, 2020). A potential implication is that when meat-eating is under threat, and meat-eaters mitigate guilt through moral outrage at third-party transgressors, they may feel even more emboldened to consume meat. Additional research is needed to identify how to best interrupt this process. For example, it is unclear whether making individuals consciously aware of this phenomenon would be effective, as individuals may simply employ a different strategy to reduce dissonance (e.g., Rothgerber, 2020). Future research should test campaigns designed to delegitimize the belief that voicing displeasure at one injustice grants moral capital to participate in other injustices.

Another unresolved issue concerns the universality of the moral outrage phenomenon for meat-eaters. Individual differences in empathy (Decety & Yoder, 2016) and justice sensitivity (Schmitt et al., 2010) may predispose certain meat-eaters to be more attentive to guilt and personal shortcomings and to increase the importance of expressing moral outrage to restore morality. An additional limitation is that cultural differences in the reliance on moral outrage to combat MRCD remain untested. Such dissonance is likely experienced differently depending on cultural background, but outside of the dissociation strategy (see Kunst & Haugstad, 2018), there has been little research examining the relative popularity of strategies to prevent or reduce meat-related dissonance. We speculate that meat-eaters in cultures where self-affirmation is highly valued would be especially inclined to reduce dissonance by expressing moral outrage.

## Conclusion

As meat consumption faces scrutiny for its ethical and environmental implications, psychologists can inform social issues through an understanding of moral cognition and eating behavior. A rich literature is emerging on the cognitive strategies that reduce dissonance among meat-eaters and enable them to maintain a positive moral self-image (Rothgerber, 2020). Here, we add to this literature by identifying moral outrage as a novel and effective dissonance-reduction strategy. Our findings deepen the moral psychology of eating behavior and may support interventions aimed at influencing public consumption.

## Appendix A

### Factory Farming Article

On today's factory farms, animals are crammed by the thousands into filthy, windowless sheds and stuffed into wire cages, metal crates, and other tortuous devices. These animals will never raise their families, root around in the soil, build nests, or do anything that is natural and important to them. Most won't even feel the warmth of the sun on their backs or breathe



fresh air until the day they're loaded onto trucks headed for the slaughterhouses.

The factory farming industry strives to maximize output while minimizing costs—always at the animal's expense. The giant corporations that run most factory farms have found that they can make more money by squeezing as many animals into tiny spaces, even though many of the animals die from disease or infection.

Animals on factory farms endure constant fear and torment:

- They're often given so little space that they can't even turn around or lie down comfortably. Egg laying hens are kept in small cages; chickens and pigs are kept in jam-packed sheds; and cows are kept on crowded, filthy feedlots.
- Antibiotics are used to make animals grow faster and to keep them alive in the unsanitary conditions. Research shows that factory farms' widespread use of antibiotics can lead to antibiotic-resistant bacteria that threaten human health.
- Most factory-farmed animals have been genetically manipulated to grow larger to produce more milk or eggs than they naturally would. Some chickens grow so unnaturally large that their legs cannot support their outsized bodies, and they suffer from starvation or dehydration when they can't walk to reach food and water.

When they've grown large enough to slaughter or their bodies have been worn out from producing milk or eggs, animals raised for food are crowded onto trucks and transported for miles through all weather extremes, typically without food or water. At the slaughterhouse, those who survived the transport will have their throats slit, often while they're still conscious. Many remain conscious when they're plunged into the scalding hot water of the defeathering or hair-removal tanks or while their bodies are being skinned or hacked apart.

## Appendix B

### *Meat Threat Text*

*Eating meat is hurting the environment.* Livestock farming has a vast environmental footprint. It contributes to land and water degradation, biodiversity loss, acid rain, coral reef degradation, and deforestation. Nowhere is this impact more apparent than climate change—livestock farming contributes 18% of human-produced greenhouse gas emissions worldwide. This is more than all emissions from ships, planes, trucks, cars, and all other transport put together. Climate change alone poses multiple risks to health and well-being through increased risk of extreme weather events—such as floods, droughts, and heat waves—and has been described as the greatest threat to human health in the 21st century. Reducing consumption of animal products is essential if we are to meet global greenhouse gas emissions reduction targets—which are necessary to mitigate the worst effects of climate change.

*Eating meat hurts the global poor.* Feeding grain to livestock increases global demand and drives up grain prices, making it harder for the world's poor to feed themselves. Grain could instead be used to feed people, and water used to irrigate crops. If all grain were fed to humans instead of animals, we could feed an extra 3.5 billion people. In short, industrial livestock farming is not only inefficient but also not equitable.

## Appendix C

### *SeaWorld of Hurt Article*

In late 2018, a veterinarian observed dolphins at all SeaWorld parks in the United States and found that animals had open wounds and extensive scarring on their faces and bodies. Despite this, trainers still use them as surfboards, standing on their faces and backs for meaningless stunts. The dolphins are forced to perform in exchange for dead fish multiple times per day before raucous crowds and while being subjected to disorienting, amplified music, a constant aural assault that's likely a cause of chronic stress. During these circus tricks, the dolphins' lower jaws, which are highly sensitive and crucial to their hearing, bear nearly the full weight of the trainers. Stunts like these are inherently cruel, but some tricks have also proved fatal to animals.

In 2008, Sharky—a captive dolphin at SeaWorld's Discovery Cove in Orlando—was fatally injured while performing an aerial trick. He collided in midair with another dolphin and subsequently died.

In 2012, at SeaWorld's San Antonio facility, two dolphins performing a jumping trick crashed, ejecting one from the tank onto the concrete walkway below. The dolphin lay bleeding and helpless as guests looked on.

In 2013, during a show at SeaWorld Orlando, a pilot whale became stuck on a ledge and struggled to get back into the water. SeaWorld trainers failed to assist the distressed animal, and the whale struggled for 25 min or more while the audience looked on in horror. The disturbing incident was captured on video by Carlo De Leonibus, who had taken his daughter, Cat, to the park to celebrate her 11th birthday. Cat, who had previously considered pursuing a career as a dolphin trainer, told TakePart that she would never work for SeaWorld after witnessing the traumatic event.


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
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