Article

Intergroup attitudes between meat-eaters and meat-avoiders: The role of dietary ingroup identification

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Abstract

Why might some meat-eaters and meat-avoiders express negative attitudes toward each other? We investigated intergroup attitudes and potential underpinnings of these attitudes across three different dietary groups—veg*ans (vegetarians and vegans), flexitarians (people who restrict their meat intake partially), and meat-eaters—in Turkey ($N_{Study\ 1} = 366$; $N_{Study\ 2} = 450$). In both studies, veg*ans showed the greatest ingroup favouritism and reported the highest ingroup identification and perceived discrimination. Meat enjoyment, moral consideration, and perceived veg*an threat (among meat-eaters) predicted dietary ingroup identification in Study 1, whereas perceived discrimination towards one's dietary group was the strongest predictor of identification among all dietary groups in Study 2. Among meat-avoiders, but not among meat-eaters, stronger dietary ingroup identification was associated with more negative outgroup attitudes. Findings are discussed in light of social identity theories and intergroup perspectives.

Keywords

intergroup attitudes, meat-eating, morality, social identity, vegetarianism

With increased health, ethical, and environmental concerns about food practices around the world today, following a specific diet has become an increasingly powerful symbol of how individuals define themselves. Meat consumption, in particular, is an environmentally taxing behavior that is related to the evaluation of one's masculinity (Rothgerber, 2013), ideology (Dhont & Hodson, 2014), and moral self-image (Minson & Monin, 2012). Not surprisingly then, the decision to consume or eschew meat can become a central aspect

of many people's social identities (e.g., Cherry, 2015; Fox & Ward, 2008; Rosenfeld & Burrow, 2017, 2018; Rosenfeld et al., 2020b), shaping how

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they view people with other dietary patterns—often in negative ways (e.g., MacInnis & Hodson, 2017). Such negativity between different dietary groups is likely to create a polarizing food climate, which may lead to the exclusion of particular groups in society.

Despite growing attention to the implications of social identification processes in meat-eating behavior, comprehensive models integrating personal and group-level factors underlying one's dietary ingroup identification and attitudes towards dietary outgroups are lacking. Drawing on several social psychological theories, the current paper presents two correlational studies that tested the role of meat enjoyment, moral consideration about meat-eating, and discrimination on dietary ingroup identification and on intergroup attitudes among three dietary groups—meat-eaters, veg*ans (denoting both vegans and vegetarians), and flexitarians—in a non-Western sociocultural context, Turkey, where meat consumption is a traditionally and religiously valued practice (Son & Bulut, 2016).

Dietary Ingroup Identification

Scholars have previously highlighted the need to understand meat-eating behavior from a social identity perspective (e.g., Nezlek & Forestell, 2020; Rosenfeld & Burrow, 2017). Strictly avoiding meat is often characterized by a unique motivational profile and social identity (de Boer et al., 2017) through which individuals satisfy various human needs, such as meaning and efficacy, which, in turn, promote their self-esteem (Bagci & Olgun, 2019). At the same time, following a meatless diet is often one aspect of a more incorporated "veg*an lifestyle", which is partly shaped by a moral/ideological framework that is opposed to animal exploitation, thereby suggesting that veg*an identities are not solely about restricting meat, but are manifested in both internal (i.e., identification) and externalized behaviors (i.e., diet; Rosenfeld & Burrow, 2017; Thomas et al., 2019). Yet, like other minority status groups, veg*ans also face various challenges, such as discrimination, which may have

meaningful implications for the formation of group identities (Bagci & Olgun, 2019; LeRette, 2014; MacInnis & Hodson, 2017).

Research in meat-eating practices, meanwhile, has devoted less attention to meat-eater identities, since eating meat is likely to be a relatively less central aspect of one's social identity, as it is often part of an invisible belief system (Joy, 2010). Findings also suggest that social identities and their potential stigmas tend to be less salient among majority compared to minority group members (Dovidio et al., 2008; Verkuyten, 2009a). Yet, majority group members can still experience cognitions of rejection in various intergroup contexts (Barlow et al., 2012), show various defensive responses such as outgroup derogation (Rogers & Prentice-Dunn, 1981), and display increased ingroup investment when they perceive situations of rejection and threat to the status quo (e.g., Craig & Richeson, 2014). Meat symbolizes power and status (e.g., Ruby & Heine, 2011), and its consumption is tied to social dominance orientation and right-wing authoritarianism (Dhont & Hodson, 2014), as well as carnism (Monteiro et al., 2017). Meat-eaters may perceive veg*anism as a threat to the status quo and in turn express anti-veg*an attitudes (Dhont & Hodson, 2014), particularly when they believe that veg*ans perceive themselves as morally superior to meat-eaters (Minson & Monin, 2012).

Social identities around meat-eating behavior may be more complex than a dichotomous distinction between veg*ans and meat-eaters (Rosenfeld & Burrow, 2018). Flexitarianism, which is the partial avoidance of meat (limiting meat to some extent, but not eschewing it entirely), is thought to yield a more fluid and intermediate social identity, located between fully omnivorous and fully vegetarian (Rosenfeld et al., 2020b). Research comparing meat-eaters' and veg*ans' dietary ingroup identifications is currently limited and studying flexitarians along with these groups may provide a more comprehensive account. Drawing on social identification processes across group statuses (e.g., Dovidio et al., 2008) and research showing asymmetries between vegetarian and nonvegetarian identities (de Boer et al., 2017) as well as between

conscientious omnivores and veg*ans (Rothgerber, 2015), we expected veg*ans to identify more strongly with their dietary group compared to flexitarians or meat-eaters, and flexitarians to identify with their ingroup less than meat-eaters, who potentially have clearer assumptions about the role of meat in their diet.

Predictors of Dietary Ingroup Identification

Beyond mere dietary group membership, additional factors that vary continuously across dietary groups may predict dietary ingroup identification. We considered three potential predictors of dietary ingroup identification: (a) meat enjoyment, (b) moral consideration about meat-eating, and (c) perceived discrimination towards one's social group (represented by veg*an threat among meat-eaters in Study 1).

Meat Enjoyment

Attitudes towards meat and liking meat are important determinants of meat-eaters' antivegan attitudes (Earle & Hodson, 2017; Ruby et al., 2016). Links exist between meat consumption and national identity, social status, prestige, and masculinity (e.g., Bogueva et al., 2017; Rothgerber, 2013), as well as political ideologies of power and dominance (Dhont & Hodson, 2014). Hence, greater meat consumption and desire to eat meat are likely to increase one's perception of positive social norms towards meat, thus empowering meat-eaters by providing a sense of greater social status and power. At the same time, enjoying the taste of meat is one of the most prevalent justifications meat-eaters use for their continued meat-eating behavior (Piazza, 2020). Especially in Turkey, where meat ranks as a top-status food product, liking meat may reinforce and justify the formation of meat-eater identity (Rothgerber, 2013) and may become a source of power through which identification satisfies human needs of self-esteem and efficacy. Positive affect toward meat may be coupled with perceptions of veg*an threat, leading meat-eaters to view veg*ans

as an opposing group whose existence threatens the future of their beloved food choice.

For people who avoid meat, on the other hand, meat aversion and meat disgust are often salient variables. For example, a comparison of conscientious omnivores (individuals who only consume animal flesh that has met certain ethical standards) to veg*ans demonstrated that veg*ans displayed greater disgust towards meat and evaluated its sensory qualities lower (Rothgerber, 2015). Among veg*ans, meat disgust is likely to be associated with positive attitudes towards animals and negative attitudes towards animal-killing, and disgust may also reinforce the decision to become veg*an (Rozin et al., 1997).

Moral Consideration

Morality can play a critical role in the formation of group-based identities (Ellemers et al., 2013), and greater moral concerns about meat consumption/avoidance relate to more negative dietary outgroup attitudes (Rosenfeld & Burrow, 2018). Hence, as a main motivation behind meat-avoidance, considering morality as a critical aspect of meat-eating behavior is likely to enhance particularly veg*ans' dietary ingroup identification. Effects of moral consideration on group identities may be weaker among flexitarians (compared to veg*ans), who have been shown to be less concerned about animal rights (De Backer & Hudders, 2015) and dietary moral motivations (Rosenfeld et al., 2020a), and instead to be more motivated by health concerns (De Backer & Hudders, 2014).

Meat-eaters, on the other hand, hold moral ideologies that often encourage meat consumption, including social dominance orientation and right-wing authoritarianism (Veser et al., 2015), which, in turn, justify prejudice against veg*ans (Hodson et al., 2020). Meat-eaters may also hold ambivalent attitudes towards meat, as meat symbolizes power and tastes good, while implicating troublesome moral concerns about animals and the environment (Ruby et al., 2016). Therefore, many meat-eaters experience a cognitively dissonant situation and engage in various strategies for dissonance reduction to enhance their moral

self-image (Loughnan et al., 2010). As meat-eaters' moral consideration increases, they may cope with such an ambivalent situation by identifying with meat-eating less, which may constitute a dissonance-reduction technique.

Threat and Discrimination Towards Dietary Group Identity

Perceived threat to one's social identity is an important construct underlying the strength of one's ingroup identification and in turn one's outgroup attitudes (e.g., Riek et al., 2006). The group identity reaction model suggested by Verkuyten (2009b) proposes that people are likely to cope with social identity threat by endorsing a stronger ingroup identity. Other research has shown that both majority and minority status group members are likely to respond to group-based rejection with increased ingroup identification (Barlow et al., 2012). Hence, among the dominant meat-eater group, perceptions of threat may challenge one's position in society and promote stronger meat-eater identification. Supporting this, meat-eaters' perception of threat and belief that the world is a dangerous place have been related to more meat consumption and more negative attitudes toward veg*ans (Dhont & Hodson, 2014; Judge & Wilson, 2019; MacInnis & Hodson, 2017).

For veg*ans, perceived discrimination due to one's veg*an status may constitute threat to one's veg*an identity and thereby enhance attachment to the ingroup. This phenomenon, described in the rejection identification model (RIM, Branscombe et al., 1999), refers to group members reacting to negative, threatening intergroup experiences by embracing a stronger ingroup identity. The rejection identification model has been proven in various social groups such as ethnic minorities, immigrants, elderly people, and international students (Garstka et al., 2004; Schmitt et al., 2003), as well as veg*ans (Bagci & Olgun, 2019). While flexitarians may be less likely to perceive threat or discrimination based on their meat-eating pattern, which is less strict than those of the other two groups, they may

still bolster ingroup identities out of rejection experiences, albeit to a lesser extent. Nevertheless, for all dietary groups, we expected perceived threat/discrimination to be associated with stronger ingroup identification and in turn associate with more negative outgroup attitudes.

Intergroup Attitudes Between Different Dietary Groups

According to self-categorization and social identity theories (Tajfel & Turner, 1979; J. C. Turner et al., 1987), people construe social identities in order to elevate their personal-level self-esteem, and thus strong ingroup attachment eventually leads to the negative evaluation of outgroups in order to enhance one's ingroup status. This suggests that activation of one's social identity as veg*an, flexitarian, or meat-eater likely influences how one sees members of other dietary groups.

To date, a few studies in food practice research have investigated intergroup attitudes among various meat-eater and meat-avoider groups. Comparing intergroup attitudes among meat-eaters, meat-avoiders, vegetarians, and vegans, Povey et al. (2001) found that each group was most negative towards the dietary group that was most different to their own. In a qualitative study in Turkey, social norms and pressures on veg*ans were suggested to fuel veg*ans' negative reactions towards meat-eaters (Üzeltüzenci, 2018). On the other hand, findings regarding meat-eaters' attitudes towards veg*ans are mixed, with some research showing meat-eaters to display a high level of negativity towards veg*ans (MacInnis & Hodson, 2017) and other research indicating fairly neutral attitudes or even some admiration towards vegetarians (Judge & Wilson, 2019; Ruby et al., 2016).

Even less is known about intergroup attitudes regarding flexitarianism. Existing evidence suggests that flexible vegetarians who occasionally eat meat are often considered as a threat to vegetarian group identities; such "impostors" (unlike "true" vegetarians) are negatively evaluated by full vegetarians, whereas they are rated as more

likeable than authentic vegetarians by meat-eaters (Hornsey & Jetten, 2003). This suggests that flexitarians may be evaluated more positively by meat-eaters than they are by veg*ans, who may see flexitarians as a source of threat to the meat-avoider group's cohesiveness or distinctiveness (Rothgerber, 2014). On the other hand, meat-eaters may show more positive attitudes towards flexitarians, who do not pose as serious of a threat to their dominant social status. Flexitarians may also favor their ingroup compared to either outgroup, with one outgroup (veg*ans) increasing their guilt about meat consumption and the other outgroup (meat-eaters) eating meat without restriction and thus appearing to lack consideration for any moral concern.

The Current Research

Across two studies, we aimed (a) to investigate the extent to which meat-eaters, veg*ans, and flexitarians differ from each other on the main variables reviewed before, and (b) to understand social identity processes and associated intergroup attitudes. In Study 1, we specifically tested whether meat enjoyment, moral considerations, and perceived veg*an discrimination (among/veg*ans)/perceived veg*an threat (among/meat-eaters) predicted ingroup identification and, in turn, outgroup attitudes. In Study 2, we investigated a similar model where meat enjoyment, moral considerations, and perceived discrimination towards one's own dietary group predicted ingroup identification and, in turn, outgroup attitudes among meat-eaters, veg*ans, as well as flexitarians.

We hypothesized that as a meat-avoiding minority group, veg*ans would report the least meat enjoyment, greatest moral consideration, greatest group-based discrimination, strongest dietary ingroup identification, and most negative outgroup attitudes compared to either meat-eaters or flexitarians. We expected both meat-eaters and flexitarians to also show ingroup favouritism to some degree. We did not presume any a priori hypothesis regarding the pattern among flexitarians, as the term flexitarian is a recently established construct and psychological research on flexitarianism remains sparse.

We further hypothesized that meat enjoyment and perceived veg*an threat would be positively related to meat-eater identification, whereas moral consideration about meat-eating would be negatively associated with identification among meat-eaters. Among meat-avoiders, we expected meat enjoyment to be negatively related to dietary group identification, and perceived discrimination as well as moral consideration to positively predict ingroup identification. For all groups, we posited that a strong dietary ingroup identification would be associated with more negative attitudes towards dietary outgroups, and that ingroup identification would mediate the links between predictor variables (meat enjoyment, moral consideration, perceived dietary threat/discrimination) and outgroup attitudes.

The current research provides novel perspectives to the existing literature in a number of ways. First, although previous research has provided comparisons across various dietary groups, such as between vegetarians and semivegetarians or between low and high meat-eaters on a number of variables (e.g., de Boer et al., 2017), veg*ans' attitudes towards meat-eaters have been particularly understudied. Even less attention has been devoted to veg*ans' and meat-eaters' attitudes towards flexitarians. Second, drawing upon recent research on social identity processes involved in meat-eating behavior (Nezlek & Forestell, 2020; Plante et al., 2019; Rosenfeld & Burrow, 2017, 2018), we focused on the predictors and outcomes of dietary ingroup identification across three different groups. Third, we investigated our research questions in a non-Western sociocultural context. The preference of meat-eating, avoiding, as well as restricting may be particularly important in Turkey for two main reasons: (a) Turkey is a largely Muslim country where animal sacrificing (*kurban*) and eating animal flesh are cultural and religious practices, and (b) the Turkish cuisine itself is mainly dominated by meat-based products (Altaş, 2017), which makes the practice of intentionally avoiding meat nonnormative.

Theoretically, despite recent increases in the study of veg*anism with an intergroup perspective (e.g., Dhont & Hodson, 2020), few studies have incorporated individual and group-level factors in the prediction of ingroup identification using an intergroup approach. Such a perspective may advance understanding of the motivational factors underlying both meat-eaters' and meat-avoiders' ingroup identification and their negative intergroup attitudes. At the applied level, studying ingroup identification might help to explain how and to what extent veg*ans adhere to a strict diet (Cruwys et al., 2020; Plante et al., 2019). Moreover, examining ingroup identification among meat-eaters may elucidate the extent to which such individuals continue their eating pattern and resist veg*anism, which could inform health, advocacy, and sustainability efforts related to meat consumption reduction. With regard to improving dietary intergroup and interpersonal relations, understanding ingroup identification's association with intergroup attitudes around meat-eating behavior may help in reducing of antiveg*an stigma, which is likely to have detrimental consequences for veg*ans' psychological well-being (Bagci & Olgun, 2019).

Study 1

Method

Participants and procedure. A total of 366 Turkish participants (M_{age} = 28.39, SD = 10.68; 265 female, 92 male, and nine self-identified as "other"; 151 veg*ans, 149 meat-eaters, and 66 flexitarians) took part in the current study online in October 2019. This provided 80% power to detect small–medium effects of d = 0.32 between veg*ans and meat-eaters, and of d = 0.42 between flexitarians and either of the other dietary groups. The mean socioeconomic status, assessed with a subjective measure ("How would you rate your socioeconomic status?"; 1 = *very low*, 5 = *very high*), indicated that the sample was, on average, slightly above middle class (M = 3.30, SD = 0.68). More than half of the sample was Muslim (50.5%), with the remaining participants indicating atheism (18%), deism (13.1%), and other religions (18.3%) as their religious beliefs.

The mean level of religiosity ("How much are you devoted to your religious group?"; 1 = *not at all*, 5 = *a lot;* M = 2.54, SD = 1.24) and political view ("Which one describes best your political view?"; 1 = *liberal*, 5 = *conservative;* M = 1.93, SD = 0.88) indicated a slightly religious and liberal sample. Data were collected through convenience sampling with the help of research assistants who advertised the study on various social media channels (e.g., Facebook, Instragram, Twitter, etc.).

Measures. Unless otherwise stated, all response scales ranged from 1 (*strongly disagree; not at all*) to 5 (*strongly agree; a lot*).

Dietary group membership was assessed with a single item (adapted from Rosenfeld et al., 2020b) asking participants to evaluate their general meat-eating pattern by selecting one of the following statements: "I prefer not to eat meat; I am vegan or vegetarian" (veg*an), "I prefer to restrict my meat intake" (flexitarian), or "I prefer to include meat in my diet; I eat both meat and plants" (meat-eater).

Meat enjoyment (α = .67) was assessed with three items (adapted from Hodson & Earle, 2018) including meat consumption ("How much meat do you consume in a week?"; 1 = *none*, 2 = *1–3 times a week*, 3 = *4–7 times a week*, 4 = *8–12 times a week*, 5 = *every meal*), meat desire ("How much more meat would you consume if you had the opportunity?"; 1 = *none*, 5 = *a lot*), and meat-liking ("How much do you like meat?"; 1 = *not at all*, 5 = *a lot*).

Moral consideration was assessed with a single item measuring the extent to which participants considered morality to be an important factor in meat-eating preferences ("I think morality has an important role in one's decision to eat/restrict/avoid meat").

Perceived veg*an threat was measured with an adapted version of a scale developed by Dhont and Hodson (2014). We used three items measuring the extent to which participants perceived symbolic and realistic threat from vegetarians ("The rise of vegetarianism poses a threat to our country's cultural customs," "Important culinary traditions which are typical of our country are starting to die out due to the rise of vegetarianism," and

"Vegetarianism has a negative influence on the Turkish economy"; α = .77).

Perceived veg*an discrimination was assessed with a single item ("People who prefer not to eat meat – vegan or vegetarian - perceive discrimination from others") measuring participants' perception of discrimination experienced among veg*ans.

Dietary ingroup identification was assessed with three items (adapted from the Dietarian Identity Questionnaire developed by Rosenfeld & Burrow [2018]) measuring how strongly participants identified with their dietary group ("My preference for not eating meat/restricting meat/eating meat is an important aspect of my identity," "My preference for not eating meat/restricting meat/eating meat defines a significant aspect of who I am," and "My preference for not eating meat/restricting meat/eating meat has a big impact on how I think of myself"; α = .95).

Intergroup attitudes were assessed with feeling thermometers commonly used in intergroup relations research (e.g., Esses et al., 1993). Three single-item thermometers asked participants to rate the degree of warmth they felt towards people who prefer to eat meat (meat-eaters), people who prefer to restrict meat partially (flexitarians), and people who prefer to avoid meat (veg*ans). The response scale ranged from 0 degrees (*maximum unfavorable*) to 100 degrees (*maximum favorable*), with 50 degrees indicating neutral attitudes towards the target group.

Analytical Strategy

We first examined group-level differences in our main variables through a series of between-subjects ANOVA tests. Next, we compared attitudes towards different groups using a 3 (target outgroup: veg*ans, flexitarians, and meat-eaters) x 3 (dietary group: veg*an, flexitarian, and meat-eater) mixed ANOVA, with the first term as the within-subjects variable.

Next, we used Mplus Version 7 (Muthén & Muthén, 1998) to test our theoretical models separately for each dietary group.[1] The variables of meat enjoyment, dietary ingroup identification, and veg*an threat were represented as latent variables,

whereas other variables were indicated as observed variables. For meat-eaters, we theorized a model where meat enjoyment, moral consideration, and veg*an threat predicted dietary ingroup identification, and dietary ingroup identification, in turn, predicted attitudes towards veg*ans and flexitarians. For veg*ans, we applied the same model with two alterations: We replaced perceived veg*an threat with perceived veg*an discrimination, and replaced attitudes towards veg*ans with attitudes towards meat-eaters. Model fit in structural equation models was achieved by obtaining the following cut-off points: $\chi^2/df < 3$, CFI ⩾ .93, RMSEA ⩽ .07, and SRMR ⩽ .07 (Bagozzi & Yi, 2012; Marsh et al., 2004). Indirect effects were computed with bootstrapping method (1,000 samples) using 95% confidence intervals.

Results

Group differences. An initial one-way ANOVA indicated that meat enjoyment differed between dietary groups, $F(2, 363) = 483.97$, $p < .001$, $\eta_p^2 = .73$. Least significance difference (LSD) post hoc tests revealed that each group was significantly different from the others (all ps < .001), such that meat-eaters enjoyed meat more than flexitarians, who enjoyed meat more than veg*ans. Perceived veg*an threat was also significantly different across dietary groups, $F(2, 335) = 28.63$, $p < .001$, $\eta_p^2 = .15$, such that both meat-eaters and flexitarians perceived more veg*an threat than veg*ans (both ps < .001). Perceived threat did not differ significantly between meat-eaters and flexitarians ($p = .262$). Perceived discrimination towards veg*ans was significantly different across groups, $F(2, 335) = 46.73$, $p < .001$, $\eta_p^2 = .22$; veg*an discrimination was rated as significantly higher by veg*ans than it was by either meat-eaters or flexitarians (both ps < .001). Meat-eaters and flexitarians did not significantly differ in terms of perceived veg*an discrimination ($p = .475$). There was also a significant difference across the three groups in terms of moral consideration in meat-eating, $F(2, 350) = 154.60$, $p < .001$, $\eta_p^2 = .47$. Veg*ans considered morality to be more important than did either

Table 1. Means and standard deviations across dietary groups: Study 1.

Dietary group	Meat enjoyment	Perceived veg*an threat	Perceived veg*an discrimination	Moral consideration	Dietary ingroup identification
Veg*ans (n = 151)	1.18 (0.38)	1.18 (0.44)	4.08 (1.13)	4.44 (1.17)	4.01 (1.24)
Flexitarians (n = 66)	2.29 (0.60)	1.70 (0.83)	2.65 (1.46)	2.27 (1.46)	2.24 (1.26)
Meat-eaters (n = 149)	3.25 (0.71)	1.83 (0.94)	2.78 (1.29)	2.03 (1.20)	2.11 (1.15)

Table 2. Correlations between main variables among veg*ans: Study 1.

Variables	1	2	3	4	5	6	7	8
1. Meat enjoyment	-							
2. Veg*an threat	.01	-						
3. Perceived veg*an discrimination	.04	−.11	-					
4. Moral consideration	.12	−.12	.30***	-				
5. Dietary ingroup identification	−.16*	−.13	.24**	.35***	-			
6. Attitudes towards veg*ans	−.07	−.02	.17*	.22**	.18*	-		
7. Attitudes towards flexitarians	.26**	.03	−.17*	−.17*	−.30***	−.29***	-	
8. Attitudes towards meat-eaters	.16*	.08	−.18*	−.17*	−.26**	−.14	.81***	-

Note. *p < .05. **p < .01. ***p < .001.

Table 3. Correlations between main variables among flexitarians: Study 1.

Variables	1	2	3	4	5	6	7	8
1. Meat enjoyment	-							
2. Veg*an threat	−.05	-						
3. Perceived veg*an discrimination	.26*	.15	-					
4. Moral consideration	−.20	−.06	.35***	-				
5. Dietary ingroup identification	−.06	−.01	.32**	.53***	-			
6. Attitudes towards veg*ans	−.19	−.02	.20	.31*	.37**	-		
7. Attitudes towards flexitarians	.04	.18	−.23	−.27*	−.32**	.23	-	
8. Attitudes towards meat-eaters	−.24*	.03	.30*	.09	.06	.43***	. 23	-

Note. *p < .05. **p < .01. ***p < .001.

meat-eaters or flexitarians (both $ps < .001$), whereas meat-eaters and flexitarians did not differ on moral consideration ($p = .203$). Finally, there was a significant difference in terms of dietary ingroup identification, $F(2, 363) = 105.82$, $p < .001$, $\eta_p^2 = .37$, with veg*ans indicating a higher level of ingroup identification than did either meat-eaters or flexitarians (both $ps < .001$). Ingroup identification did not differ between flexitarians and meat-eaters ($p = .443$). Descriptive statistics across groups are presented in Table 1; Tables 2–4 present bivariate correlations between the main variables across groups.
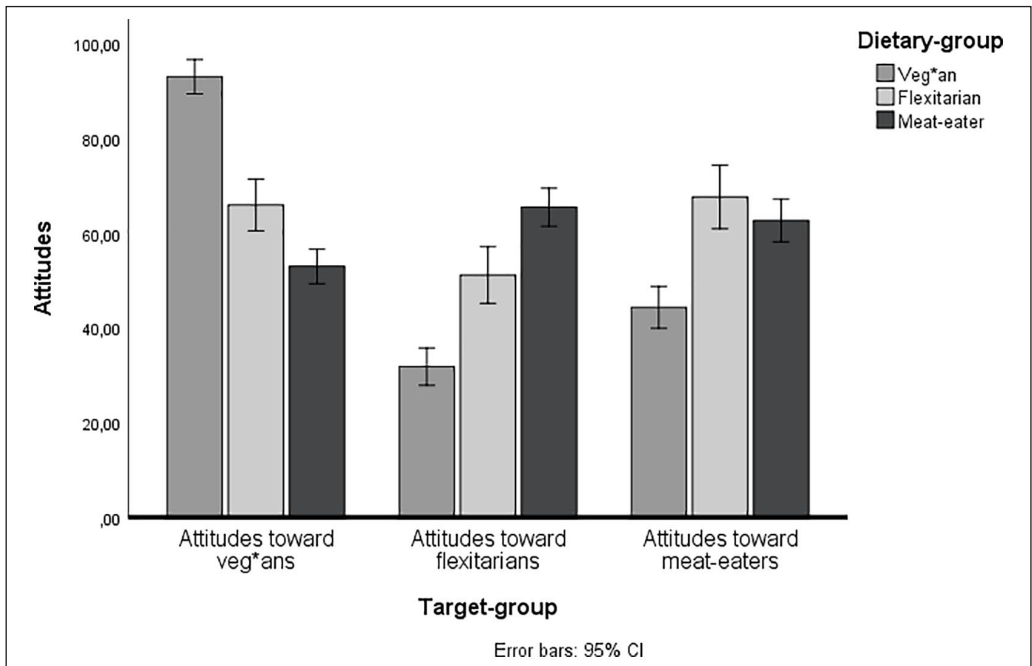
A mixed ANOVA indicated that there was a main effect of target dietary group on attitudes, $F(2, 690) = 92.10$, $p < .001$, $\eta_p^2 = .21$. Accordingly, attitudes towards veg*ans were more positive compared to attitudes towards flexitarians and

Table 4. Correlations between main variables among meat-eaters: Study 1.

Variables	1	2	3	4	5	6	7	8
1. Meat enjoyment	-							
2. Veg*an threat	.01	-						
3. Perceived veg*an discrimination	−.05	−.01	-					
4. Moral consideration	−.07	.14	.23**	-				
5. Dietary ingroup identification	.15	.25**	.04	.28**	-			
6. Attitudes towards veg*ans	−.04	−.24**	.25**	.13	.06	-		
7. Attitudes towards flexitarians	.30***	.08	−.01	.07	.14	.35***	-	
8. Attitudes towards meat-eaters	.10	−.12	.20*	−.01	.01	.59***	.65***	-

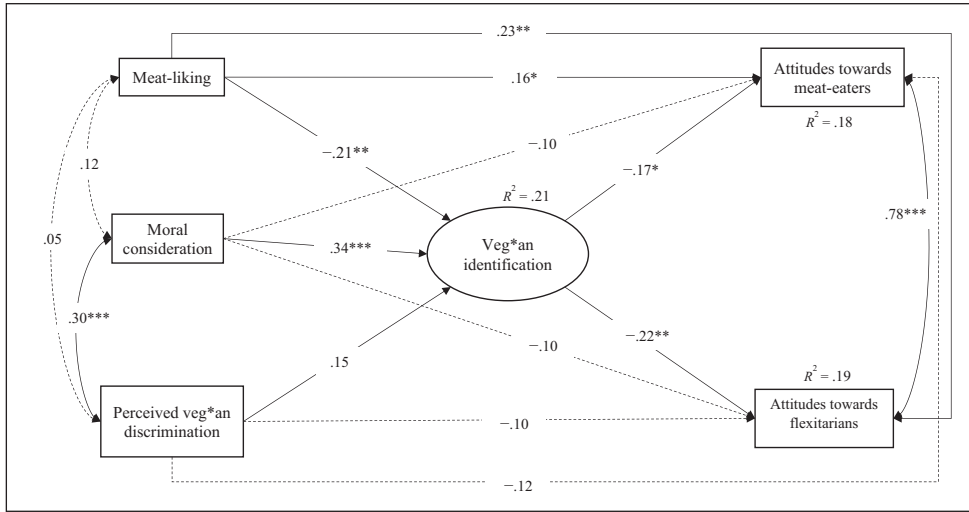*Note.* **$p <$ .01. ***$p <$ .001. *$p <$ .05

Figure 1. Attitudes towards dietary groups by participant's own dietary group: Study 1.

meat-eaters (both $ps <$ .001). Flexitarians were the target of most negative attitudes among the three groups (both $ps <$ .001, compared to veg*ans and meat-eaters). There was no significant effect of one's own dietary group on outgroup attitudes, $F(2, 345) = 2.36$, $p = .096$, $\eta_p^2 = .01$. However, there was a large and significant interaction between target outgroup and one's own dietary group, $F(4, 690) = 153.76$, $p <$ .001, $\eta_p^2 = .47$. Specifically, veg*ans displayed greater ingroup favouritism than did either flexitarians or meat-eaters (both comparisons' $ps <$ .001). While meat-eaters favoured their own group over veg*ans ($p <$ .001) but not over flexitarians ($p = .108$), flexitarians reported equally more positive attitudes towards both outgroups compared to their ingroup (the difference between own group attitudes towards both outgroups, $ps <$ .001; the difference between attitudes towards teach of the two outgroups, $p = .600$). Figure 1 displays the relevant interaction.

Figure 2. Model predicting outgroup attitudes and veg*an identification among veg*ans: Study 1.

Note. *p < .05. **p < .01. ***p < .001.

The veg*an model. An initial MANCOVA indicated that gender, socioeconomic status (SES), and political view had significant effects on our main variables of interest, so we controlled for these demographics in the main analyses (see Table S1 in the supplemental material for covariate effects).

A first model with all the variables of interest demonstrated that meat consumption and meat desire did not significantly load on the meat enjoyment latent variable; thus, we used the single item of meat-liking in the subsequent model. The final structural model demonstrated a good fit, $\chi^2(25) = 24.23$, $p = .506$, $\chi^2/df = 0.97$, RMSEA = .00, CFI = 1.00, SRMR = .04, with significant item loadings (all loadings > .80, all ps < .001).
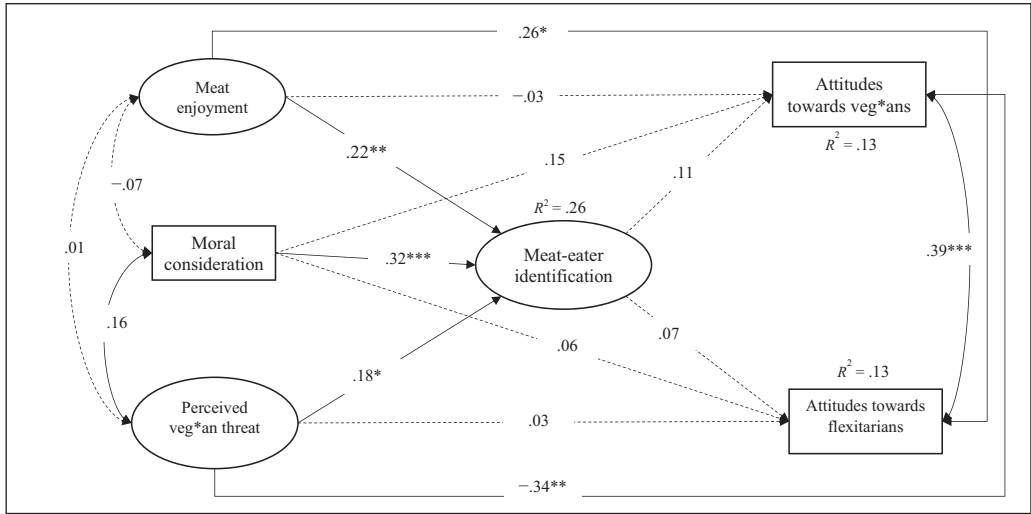
Among the covariates, only political view was significantly associated with attitudes towards meat-eaters ($\beta = -.17$, $p = .025$), indicating that the more conservative veg*ans displayed less positive attitudes towards meat-eaters. Meat-liking was negatively associated with dietary ingroup identification ($\beta = -.21$, $p = .006$), whereas moral consideration was positively related to dietary ingroup identification ($\beta = .34$, $p < .001$). Perceived veg*an discrimination's association with ingroup identification was positive but nonsignificant ($\beta = .15$, $p = .066$). In turn, ingroup identification negatively predicted attitudes towards both flexitarians ($\beta = -.22$, $p = .009$) and meat-eaters ($\beta = -.17$, $p =$

.050). Meat-liking was positively associated with attitudes towards both flexitarians and meat-eaters ($\beta = .23$, $p = .003$ and $\beta = .16$, $p = .040$, respectively), whereas neither moral consideration nor perceived veg*an discrimination exhibited direct links to either of these attitudes.

The effects of meat-liking and perceived discrimination on attitudes towards meat-eaters were not significantly mediated by ingroup identification (IE = 1.00, 95% CI [−0.11, 2.86] and IE = −0.68, 95% CI [−1.88, 0.21], respectively). The association between moral consideration and attitudes towards meat-eaters via ingroup identification approached significance (IE = −1.53, 95% CI [−4.23, 0.16]). Without the covariates, the indirect effects of meat-liking and moral consideration via ingroup identification were significant (see Table S2 in the supplemental material).

The effects of meat-liking and moral consideration on attitudes towards flexitarians were mediated by ingroup identification (IE = 1.04, 95% CI [0.09, 2.64] and IE = −1.59, 95% CI [−3.96, −0.17], respectively). The indirect effect of perceived discrimination on attitudes towards flexitarians through ingroup identification was not significant (IE = −0.71, 95% CI [−1.89, 0.10]). Figure 2 displays the final mediation model.

Figure 3. Model predicting outgroup attitudes and meat-eater identification among meat-eaters: Study 1.

The meat-eater model. An initial MANCOVA test including dietary ingroup identification and attitudes towards flexitarians and veg*ans as dependent variables and gender as the between-subjects factor, as well as other continuous demographic variables (age, SES, religiosity, political view) as covariates, indicated that age and religiosity had significant effects. Thus, these two variables were controlled for in the main model (see Table S3 in the supplemental material for these effects).

The structural model demonstrated a good fit, $\chi^2(59) = 93.78$, $p = .003$, $\chi^2/df = 1.59$, CFI = 0.95, RMSEA = .06, SRMR = .07, after the addition of correlations between two items' residuals (meat consumption and meat desire). All individual items loaded significantly on the corresponding latent variables (all indicator loadings > .40, all $ps < .001$).

Among the covariates, age ($\beta = .19$, $p = .014$) was related to higher levels of dietary ingroup identification. Religiosity was not related to ingroup identification ($\beta = .14$, $p = .056$) or attitudes towards flexitarians ($\beta = .15$, $p = .059$). Among the main variables, meat enjoyment ($\beta = .22$, $p = .008$), perceived veg*an threat ($\beta = .18$, $p = .032$), and moral consideration regarding meat-eating ($\beta = .32$, $p < .001$) each positively predicted ingroup

identification. Ingroup identification, in turn, was not a predictor of attitudes towards flexitarians ($\beta = .07$, $p = .460$) or veg*ans ($\beta = .11$, $p = .253$).

Meat enjoyment directly predicted more positive attitudes towards flexitarians ($\beta = .26$, $p = .019$). Whereas perceived veg*an threat directly predicted more negative attitudes towards veg*ans ($\beta = -.34$, $p < .001$), moral consideration was nonsignificantly associated with attitudes towards veg*ans ($\beta = .15$, $p = .092$). Because ingroup identification did not predict outgroup attitudes, further indirect effects were not reported (see Tables S3 and S4 in the supplemental material for full effects, and Figure 3 for the final model among meat-eaters).

Discussion

Study 1 demonstrated that veg*ans enjoyed meat the least and reported the highest level of veg*an discrimination, moral consideration, and ingroup identification compared to the other two groups (meat-eaters and flexitarians). Flexitarians were generally more similar to meat-eaters than to veg*ans. Veg*ans also displayed the greatest ingroup favouritism. While meat enjoyment predicted lower identification among veg*ans, it

predicted greater meat-eater identification among meat-eaters. Moral consideration as well as perceived veg*an threat (among meat-eaters) were associated positively with ingroup identification. In turn, while stronger ingroup identification predicted more negative attitudes towards dietary outgroups among veg*ans, it was not associated with outgroup attitudes among meat-eaters.

Study 2

A preregistered Study 2 (https://osf.io/y2wvu/?view_only=67991f7eee024c4fb9c6ad26b290e9e3) aimed to replicate the findings of Study 1 with two main improvements. First, we aimed to obtain an increased and balanced sample size for each dietary group—including flexitarians, for whom the theoretical model could not be tested in Study 1 due to low power. Second, some of the measures (such as attitudes) were single-item measures in Study 1; therefore, we used multi-item measures in Study 2. Finally, because we used different measurements for rejection experiences across dietary groups in our theoretical model in Study 1 (perceived veg*an discrimination among veg*ans and veg*an threat among meat-eaters), we introduced the construct of perceived discrimination towards one's own dietary group in Study 2, to use a more consistent measure across groups. In a similar vein as for veg*ans, meat-eaters can also perceive discrimination toward them for their diet, given that meat-eaters often expect veg*ans to look down on them morally (Minson & Monin, 2012).

Our hypotheses were specified as the effects observed in Study 1 and can be found in full detail through the aforementioned open access preregistration link. As in Study 1, we expected veg*ans to enjoy meat the least, to perceive the highest ingroup discrimination, to exhibit the highest identification, and to give the highest consideration to morality. We expected flexitarians to be mostly similar to meat-eaters (except for meat enjoyment). We also expected that some ingroup favouritism across dietary groups would be observed, with veg*ans reporting the greatest level of it. We further proposed that meat

enjoyment, perceived discrimination towards one's dietary group, and moral consideration would be associated with ingroup identification among all dietary groups (positive effects, except a negative effect for meat enjoyment among veg*ans), but that ingroup identification would negatively predict attitudes towards both dietary outgroups, particularly among veg*ans.

Method

Participants and procedure. A total of 450 adults (151 meat-eaters, 133 flexitarians, and 166 veg*ans; M_{age} = 29.09, SD = 11.26; 308 female, 137 male, three self-identified as "other," two did not want to report) completed an online questionnaire in August–September 2020. Participants were recruited via voluntary research assistants and veg*an organizations who distributed the survey on social media. Our sample provided 80% power to detect small–medium effects from $d = 0.32$ to $d = 0.33$ between each dietary group. The mean self-reported socioeconomic status (1 = *very low*, 7 = *very high*) was indicated to be middle–high (M = 4.44, SD = 1.09). The sample was mostly Muslim (30.9%), atheist (29.6%), and deist (21.4%), with the rest from other religions (18.1%). The mean religiosity was low (M = 2.28, SD = 1.38), with participants reporting mostly a liberal political view (M = 1.86, SD = 0.99).

Materials. Dietary group membership was assessed with the same measures as in Study 1, as was dietary ingroup identification (α = .95). Meat enjoyment (α = .90) was measured with five items combining different aspects of meat-liking (e.g., "How much do you like the taste of meat?"; 1 = *dislike strongly*, 5 = *like strongly*; Rozin et al., 1997) and meat consumption (e.g., "How much more meat would you consume if you had the opportunity?"; 1 = *none*, 5 = *a lot*; Hodson & Earle, 2018). Moral consideration (α = .87) was assessed with four items and measured the extent to which one thinks morality is an important aspect of meat-eating, restricting, or avoiding (e.g., "When it comes to eating meat, one should first consider whether meat consumption is morally right"; 1 =

Table 5. Means and standard deviations across dietary groups: Study 2.

Dietary group	Meat enjoyment	Perceived discrimination	Moral consideration	Dietary ingroup identification
Veg*ans ($n = 166$)	1.50 (0.64)	3.34 (1.12)	3.44 (1.59)	4.04 (1.26)
Flexitarians ($n = 151$)	2.38 (0.79)	2.11 (1.26)	3.12 (1.17)	2.63 (1.35)
Meat-eaters ($n = 133$)	3.65 (0.69)	1.55 (0.92)	2.86 (1.20)	2.11 (1.23)

strongly disagree, 5 = *strongly agree*). Perceived discrimination (α = .92) targeting one's dietary group was measured with three items (e.g., "Have you ever been treated differently in a negative way because of your preference of eating/not eating/restricting meat?"; 1 = *not at all*, 5 = *very much*). Intergroup attitudes (α between .87 and .90) were measured with three semantic differential items assessing negative/positive, cold/warm, and hostile/friendly evaluation of outgroups (ranging from 1 to 5, with higher scores indicating more positive attitudes; Wright et al., 1997).

Results

We used the same analytical strategy as in Study 1, first comparing our main variables across groups and then testing our theoretical model in the three different groups (including flexitarians in this study).

Group differences. Table 5 displays means and standard deviations across dietary groups for the main variables. A first ANOVA test demonstrated that all three groups significantly differed on meat enjoyment (all pairwise comparisons $p < .001$), with the veg*an group enjoying meat the least, $F(2, 447) = 339.94, p < .001, \eta_p^2 = .60$. Perceived discrimination was also significantly different across groups, $F(2, 447) = 101.74, p < .001, \eta_p^2 = .31$, with veg*ans and flexitarians reporting more discrimination than meat-eaters; the difference between veg*ans and flexitarians was also significant, with veg*ans reporting more discrimination (all $ps < .001$). There was a significant main effect of group on moral consideration, $F(2, 447) = 7.13, p = .001, \eta_p^2 = .03$, with veg*ans reporting greater moral concern

regarding meat-eating behavior than flexitarians ($p = .032$) and meat-eaters ($p < .001$), with no significant differences between meat-eaters and flexitarians ($p = .102$). There was also a strong effect of group on identification, $F(2, 447) = 92.83, p < .001, \eta_p^2 = .29$, showing veg*ans to be more strongly identified with their dietary group compared to meat-eaters and flexitarians. Flexitarians also indicated a significantly higher level of ingroup identification than meat-eaters (all pairwise comparisons, $p < .001$).

A 3 (dietary group) x 3 (target dietary group) mixed ANOVA indicated that there was a main effect of target dietary group on attitudes, $F(2, 894) = 19.54, p < .001, \eta_p^2 = .04$; while attitudes towards veg*ans were the most positive, these attitudes were only significantly different compared to those towards meat-eaters ($p < .001$), but not compared to those towards flexitarians ($p = .662$). There was a significant interaction between dietary group and target outgroup, $F(4, 894) = 48.07, p < .001, \eta_p^2 = .18$, such that veg*ans were more negative towards meat-eaters than towards flexitarians; however, they rated both groups as significantly lower than their ingroup ($ps < .001$). Meat-eaters were also biased towards their ingroup mostly over the veg*ans ($p < .001$), but not over the flexitarians ($p = .052$). Flexitarians were also biased towards their ingroup compared to both groups, but more strongly over meat-eaters ($p < .001$) than over veg*ans ($p = .024$). Figure 4 indicates intergroup attitudes across groups.

Bivariate correlations between main variables are reported in Tables 6–8. We used the same analytical strategy as in Study 1.[2] Unless otherwise stated, items measuring meat enjoyment were parceled into two components as liking and

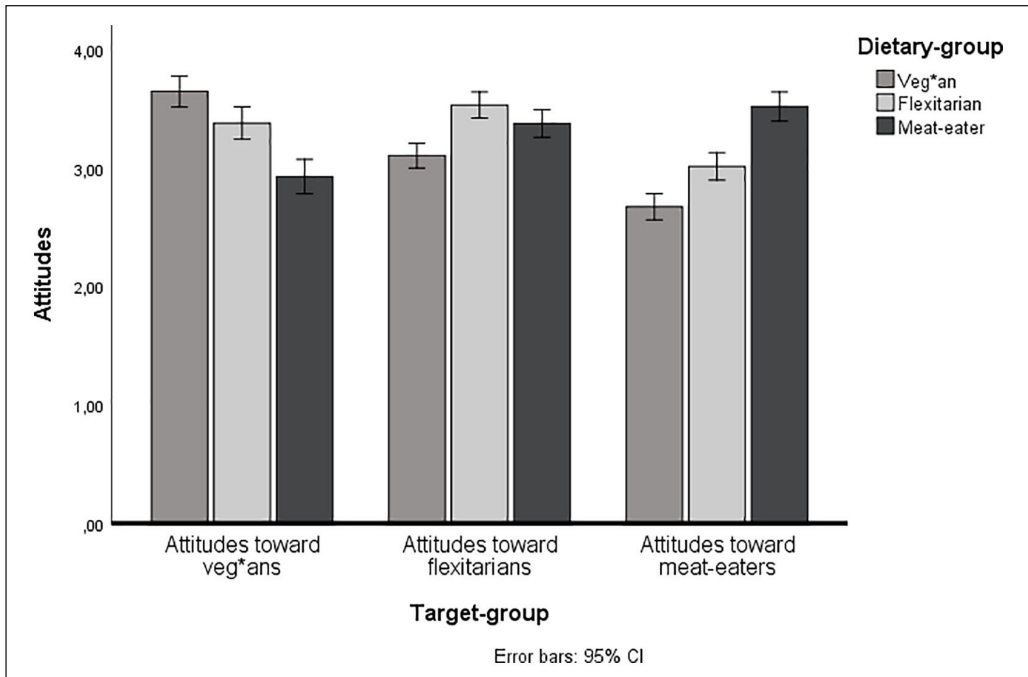**Figure 4.** Attitudes towards dietary groups by participant's own dietary group: Study 2.

Table 6. Correlations between main variables for veg*ans: Study 2.

Variables	1	2	3	4	5	6
1. Meat enjoyment	-					
2. Moral consideration	−.01	-				
3. Perceived discrimination	−.22**	.10	-			
4. Dietary ingroup identification	−.12	.19*	.24**	-		
5. Attitudes towards flexitarians	.03	.13	−.04	−.07	-	
6. Attitudes towards meat-eaters	.27**	.01	−.26**	−.25**	.35***	-

Note. $*p < .05.$ $**p < .01.$ $***p < .001.$

consumption, and the four items measuring moral consideration were indicated each by two averaged manifest variables, which has been suggested to improve model fit (e.g., Wu & Wen, 2011).

*The veg*an model.* An initial assessment of the measurement model with all the latent variables indicated that the two parcels' loadings on the meat enjoyment construct were lower than .50 (both $ps > .05$). A factor analysis with direct oblimin rotation indicated that the extraction of meat consumption items was low (due to very low variance), thereby we remodeled our meat enjoyment latent construct to be presented by three liking items. After this modification, the measurement model's fit was good, $\chi^2(104) = 141.21$, $p = .009$, $\chi^2/df = 1.36$, CFI = 0.98, RMSEA = .05, SRMR = .05 (with all item loadings > .67, all $ps < .001$).

The structural model whereby age, SES, religiosity, and political view were controlled (see Table

Table 7. Correlations between main variables for flexitarians: Study 2.

Variables	1	2	3	4	5	6
1. Meat enjoyment	-					
2. Moral consideration	−.13	-				
3. Perceived discrimination	−.41***	.05	-			
4. Dietary ingroup identification	−.34***	.13	.52***	-		
5. Attitudes towards veg*ans	−.26**	−.01	.14	.24**	-	
6. Attitudes towards meat-eaters	.26**	.06	−.32***	−.37***	−.07	-

Note. **$p < .01$. ***$p < .001$.

Table 8. Correlations between main variables for meat-eaters: Study 2.

Variables	1	2	3	4	5	6
1. Meat enjoyment	-					
2. Moral consideration	−.24**	-				
3. Perceived discrimination	−.10	.00	-			
4. Dietary ingroup identification	.14	−.01	.35***	-		
5. Attitudes towards veg*ans	−.12	.10	−.19*	−.12	-	
6. Attitudes towards flexitarians	.00	.02	.32***	.16	.30***	-

Note. *$p < .05$. **$p < .01$. ***$p < .001$.

S5 in the supplemental material for these effects), and perceived discrimination, moral consideration, and meat enjoyment were entered as predictors of veg*an identification (which were then related to attitudes towards flexitarians and meat-eaters) demonstrated—final model fit: $\chi^2(160) = 228.66$, $p = .0003$, $\chi^2/df = 1.43$, CFI = 0.96, RMSEA = .05, SRMR = .05—that only SES as a covariate had a significant and positive effect on attitudes towards meat-eaters ($\beta = .30, p < .001$).
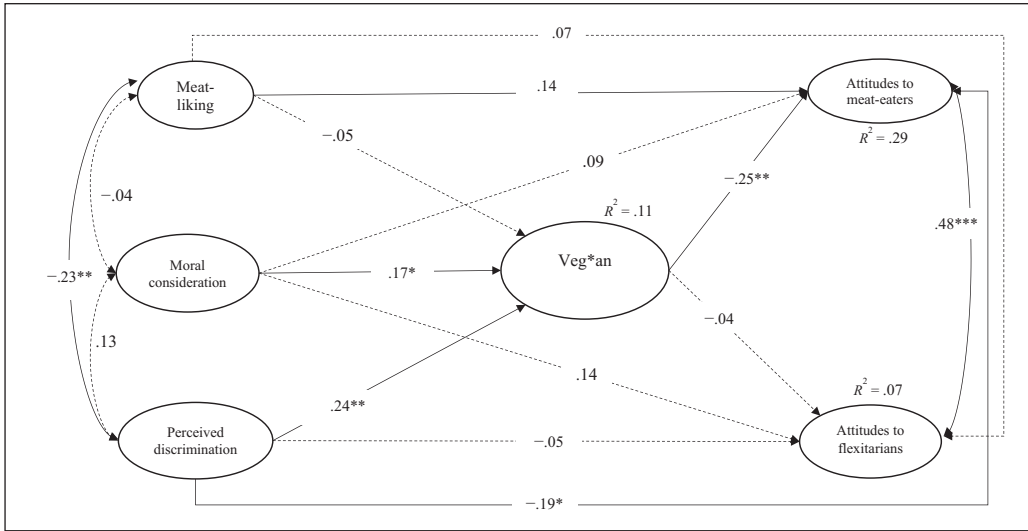
Meat-liking was not associated with veg*an identification ($\beta = −.05, p = .542$), whereas perceived discrimination as well as moral consideration, as expected, were associated with greater dietary ingroup identification ($\beta = .24, p = .006$ and $\beta = .17, p = .023$, respectively). Ingroup identification, in turn, was associated with more negative attitudes towards meat-eaters ($\beta = −.25, p = .002$), but not towards flexitarians ($\beta = −.04, p = .698$). While meat enjoyment was not significantly associated with more positive attitudes towards meat-eaters ($\beta = .14, p = .089$), perceived discrimination was significantly associated with anti-meat-eater attitudes ($\beta = −.19, p = .027$). The

indirect effect on attitudes towards meat-eaters was significant through ingroup identification for perceived discrimination (IE = −0.05, 95% CI [−0.10, −0.01]) and approached significance for moral consideration (IE = −0.02, 95% CI [−0.04, 0.003]). Figure 5 indicates standardized path coefficients (see Tables S5 and S6 for all effects).

The flexitarian model. The measurement model with the flexitarian group demonstrated that the second parcel of the moral consideration scale did not significantly load on the relevant construct (.39, $p > .05$) which was refined by using the four morality items as separate indicators and including two covariance terms (Item 1–Item 2 and Item 3–Item 4). The final measurement model's fit was excellent, $\chi^2(118) = 138.18$, $p = .099$, $\chi^2/df = 1.17$, CFI = 0.99, RMSEA = .03, SRMR = .07 (item loadings > .53, all $ps < .001$).

The final structural model where age, SES, religiosity, and political view were controlled for, $\chi^2(178) = 225.25$, $p = .010$, $\chi^2/df = 1.26$, CFI = 0.97, RMSEA = .04, SRMR = .07, demonstrated

Figure 5. Model predicting outgroup attitudes and ingroup identification among veg*ans: Study 2.
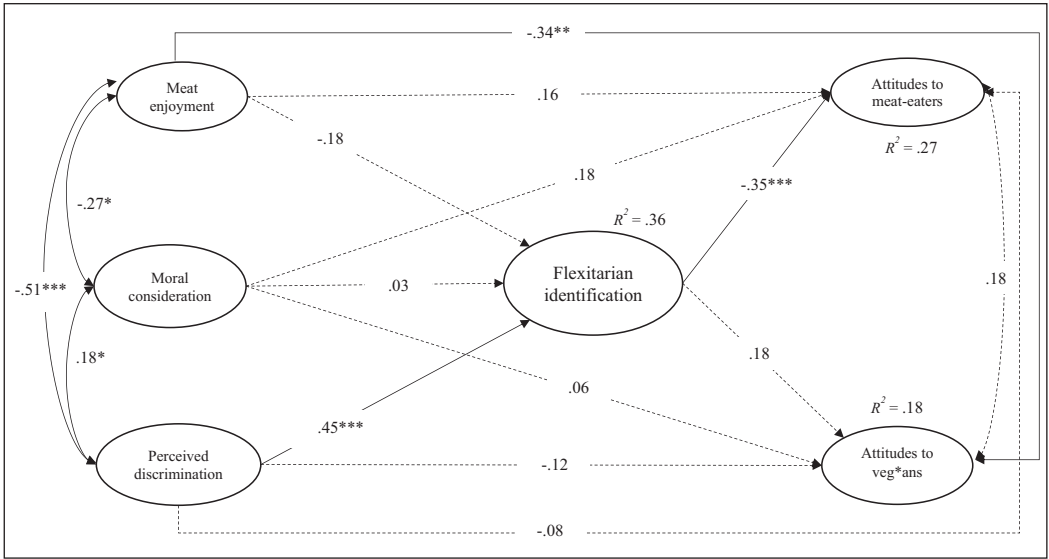

Note. *p <.05. **p < .01. ***p < .001.

that age and religiosity were not significantly associated with flexitarian identification (β = −.13, p = .083 and β = −.14, p = .080, respectively). Political view was associated with more positive attitudes towards meat-eaters (β = .22, p = .012), indicating that more conservative flexitarians were more positive towards meat-eaters (see Table S7 for all covariate effects in the model).

Meat enjoyment was not a significant predictor of flexitarian identification (β = −.18, p = .095), nor was moral consideration a predictor of flexitarian identification (β = .03, p = .780). Perceived discrimination was strongly and significantly associated with greater identification (β = .45, p < .001). In turn, flexitarian identification was significantly associated with more negative attitudes towards meat-eaters (β = −.35, p < .001), but nonsignificantly with attitudes towards veg*ans (β = .18, p = .115). Meat enjoyment was further directly associated with negative attitudes towards veg*ans (β = −.34, p = .007), whereas moral consideration was not associated with attitudes towards meat-eaters (β = .18, p = .054). Only the indirect effect of discrimination on attitudes towards meat-eaters

through dietary group identification was significant (IE = −0.09, 95% CI [−0.17, −0.02]). Tables S7 and S8 in the supplemental material summarize all direct and indirect effects, and Figure 6 displays the final mediation model among flexitarians.
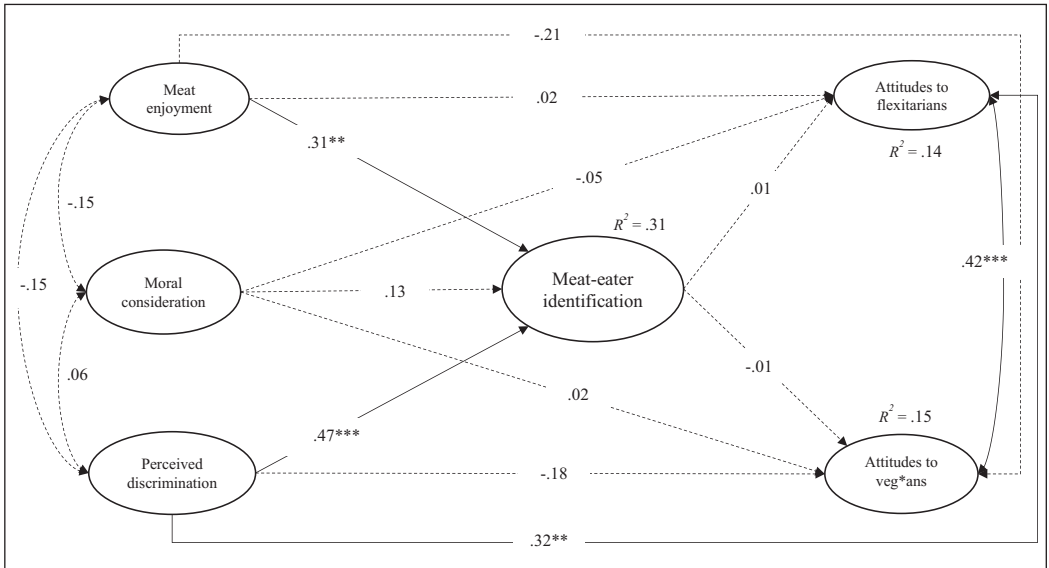
The meat-eater model. As in the flexitarian model, the two parcels of the morality variable did not significantly load on their relevant construct; a check of all indicators showed that the loading of Item 2 was low (item loading = .28, p = .001). With the exclusion of this item, all item loadings were above .56 (all ps < .001) and the measurement model was acceptable, $\chi^2(104)$ = 193.72, p < .001, χ^2/df = 1.86, CFI = 0.94, RMSEA = .08, SRMR = .06. After including age, SES, political view, and religiosity, the final structural model, $\chi^2(160)$ = 266.68, χ^2/df = 1.67, CFI = 0.93, RMSEA = .07, SRMR = .07, indicated that SES was related to less positive attitudes towards flexitarians (β = −.17, p = .050) and political view was associated with less positive attitudes towards veg*ans (β = −.26, p = .017), showing that more conservative meat-eaters displayed more anti-veg*an attitudes

Figure 6. Model predicting outgroup attitudes and ingroup identification among flexitarians: Study 2.

Figure 7. Model predicting outgroup attitudes and ingroup identification among meat-eaters: Study 2.

(see Table S9 in the supplemental material for all covariate effects).

Both meat enjoyment ($\beta = .31$, $p = .002$) and perceived discrimination ($\beta = .47$, $p < .001$) were positively associated with meat-eater identification, whereas the association between moral consideration and ingroup identification was nonsignificant ($\beta = .13$, $p = .157$). In turn, ingroup identification was not associated with outgroup attitudes, thereby indirect effects were not further tested. Figure 7

displays the final mediation model. All direct and indirect effects are fully reported in the supplemental material (Tables S9 and S10).

General Discussion

Group Differences

Both studies suggested that, of the three dietary groups evaluated (veg*ans, flexitarians, and meat-eaters), veg*ans were the most psychologically distinct; they exhibited the lowest meat enjoyment, greatest moral consideration, greatest discrimination perception, and greatest dietary ingroup identification, compared to flexitarians and meat-eaters. This finding is in line with previous research which indicates that veg*ans construe their dietary identities more uniquely compared to low, medium, or high meat-eaters (de Boer et al., 2017). It also supports findings from the more general social psychological literature suggesting that minority group members form stronger social identities than majority group members (e.g., Dovidio et al., 2008; Verkuyten, 2005).

We further found that veg*ans expressed particularly strong ingroup favouritism in Study 1, whereas all three groups showed some ingroup favouritism in Study 2. Veg*ans displayed notably negative attitudes towards flexitarians, who may be seen as a group that contaminates the vegetarian ingroup's purity and morality by being "impostor veg*ans" who claim to consider meat-eating ethically but eat meat in practice (Hornsey & Jetten, 2003). Veg*ans and flexitarians are clearly different from one another, as only veg*ans forgo meat entirely. Yet at varying levels of self-categorization, veg*ans and flexitarians might at times see themselves as comprising a more common and encompassing category of meat-avoiders. As flexitarians still consume meat and thereby indicate that eating meat (occasionally) is acceptable, veg*ans who are presumably "stricter" meat-avoiders may evaluate flexitarians negatively. If flexitarians are seen as categorically similar to veg*ans, veg*ans might judge flexitarians negatively because flexitarians' acceptance of

meat-eating undermines the group message of avoiding meat (Rothgerber, 2014).

Meat-eaters, on the other hand, consistently expressed favouritism for their ingroup over veg*ans, but not over flexitarians. We speculate that this effect may stem from flexitarians posing a weaker threat to meat-eaters' status quo and moral self-image than stricter veg*ans do. Previous research has indicated that one reason for meat-eaters' negativity towards veg*ans is that meat-eaters expect veg*ans to see themselves as morally superior to meat-eaters (Minson & Monin, 2012). Because flexitarians still eat meat, they are less likely to be seen by meat-eaters as having the same strict, morally superior image ascribed to veg*ans; thus, flexitarians are less likely to seem threatening to meat-eaters and, in turn, meat-eaters are less likely to have negative attitudes toward flexitarians.

While meat enjoyment was a robust factor that clearly distinguished the three dietary groups in both studies, flexitarians ranged in between the two groups in general, scoring more similarly to meat-eaters especially in terms of ingroup identification and moral consideration in Study 1. However, they displayed a more distinct profile in Study 2, differing from both veg*ans and meat-eaters, in line with previous research findings (De Backer & Hudders, 2014, 2015; Rosenfeld et al., 2020a). One reason for this difference may be the larger sample size of flexitarians in Study 2; but it may be also due to the differences in terms of flexitarian identification across studies, demonstrating flexitarians in Study 2 to be slightly more strongly identified with their dietary ingroup compared to the ones in Study 1, which may explain why this group displayed a more distinct profile than meat-eaters in the second study.

Predictors of Dietary Ingroup Identification

As expected, meat enjoyment was a significant predictor of dietary ingroup identification among both veg*ans and meat-eaters in Study 1. In Study 2, meat enjoyment had weak associations with veg*ans' and flexitarians' social identities, whereas it was consistently related to meat-eaters'

identification. Thus, taste preferences for meat may constitute a more consistent predictor of identification among meat-eaters than meat-avoiders. For meat-avoiders, on the other hand, ingroup identification may be predicted more by taste aversion such as meat disgust (Rothgerber, 2015; Rozin et al., 1997) and/or by attitudes towards animals rather than the meat itself, at least for ethical veg*ans (Rothgerber, 2017).

Interestingly, moral consideration about meat-eating was a positive predictor of ingroup identification among both veg*ans (confirming our initial assumption) and meat-eaters (disconfirming our initial assumption) in Study 1. However, in Study 2, this finding replicated only among veg*ans, for whom the central role of moral concerns in the construction of veg*an identities has been previously highlighted in the literature (Rosenfeld et al., 2020b). The idea that moral consideration could also foster stronger ingroup identification among meat-eaters is more provocative, yet less reliable, and needs to be investigated further. While we did not find evidence for this relationship in Study 2, where we had a more elaborate measurement of moral consideration, it is possible that moral consideration is still an important aspect of meat-eating behavior among meat-eaters, since meat-eaters' negative reactions towards veg*ans may stem from an anticipation of moral reproach from veg*ans (Minson & Monin, 2012) and meat-eaters often perceive morally motivated veg*ans in a particularly negative light (MacInnis & Hodson, 2017). Future research may explore more in depth how meat-eater identification is associated with moral evaluation of meat-eating among this group.

In Study 1, perceived veg*an threat (among meat-eaters) and discrimination towards veg*ans (among veg*ans, nonsignificantly) were positively associated with dietary ingroup identification. In Study 2, focusing on each group's perceived discrimination towards their own ingroup and using a multi-item measurement, the consistent role of perceived discrimination in ingroup identification was further replicated among all three dietary groups, in line with previous social psychological models (e.g., RIM; Branscombe et al., 1999).

Perceived discrimination had particularly strong ties to ingroup identification among flexitarians and meat-eaters compared to veg*ans. It is possible that meat-eaters and flexitarians—whose social identities are less salient and central, and who constitute relatively less stigmatized groups than veg*ans—are more sensitive to bolstering their social identification as a response to perceived discrimination.

Consistent with this idea, perceived discrimination is likely to be related to different identity dimensions, such as self-definition (self-stereotyping, ingroup homogeneity) and self-investment (solidarity, satisfaction, centrality; Giamo et al., 2012; Leach et al., 2008), and may have different implications for individuals who are at different stages of identification (such as diffused or achieved identities; Phinney, 1989). Like ethnic identities, veg*an identification is likely to be constructed over time as a result of various identity stages (e.g., Boyle, 2007). As such, veg*ans, who presumably display more achieved dietary identities (explored and committed to) may be less susceptible to variations in identification as a function of discrimination, and thereby may respond to discrimination with relatively weaker ingroup investment than the other two groups. On the other hand, flexitarians and meat-eaters potentially display more diffused (unexplored) identities, which may be more open to changes as a function of triggers in the social environment, including discrimination.

Dietary Ingroup Identification and Outgroup Attitudes

Our results consistently showed no evidence for dietary ingroup identification's association with outgroup attitudes among meat-eaters, but identification was negatively associated with attitudes towards meat-eaters among both veg*ans and flexitarians. The lack of associations between ingroup identification and outgroup attitudes among meat-eaters was unexpected, given social identity theory's assumption about the exclusionary role of social identities among both majority and minority group members

(e.g., Masson & Verkuyten, 1993; Sniderman & Hagendoorn, 2007). While meat-eaters were just as biased as veg*ans in Study 2, such ingroup favouritism seems unlikely to stem from a strong meat-eater identification. Thus, meat-eaters' anti-veg*an prejudice may be less likely driven by social identity processes but may be, at least in part, directly motivated by the perception of veg*an threat (as Study 1 found), as well as various intergroup ideologies that have been previously found to increase anti-veg*an prejudice among meat-eaters (Hodson et al., 2020).

Limitations and Future Directions

With the current study's promising contributions to the existing literature come a number of limitations to be considered. Methodologically, although we recruited subgroups of participants from three different groups (each $n > 100$) and replicated Study 1 with a second preregistered study, our sample size for each group may have been too small to detect certain effects in such an extensive theoretical model. Moreover, both studies were correlational, thus limiting inferences about the directionality of effects; although we conceptualized, for example, dietary ingroup identification to be a response to perceived discrimination, social identities may also function as a "group lens" and influence the extent to which one perceives discrimination or threat to his/her social group (Verkuyten, 2009b). Veg*an or meat-eater identification may also reinforce one's perceived importance of morality in meat-eating behavior, which could in turn affect outgroup attitudes. Further longitudinal and experimental studies should pave the way to the understanding of causal links between these variables.

Although we investigated three different dietary profiles, it may be useful to make more nuanced comparisons across specific subgroups, such as between vegans and vegetarians (grouped here collectively as veg*ans). For example, previous research has found that vegans display higher levels of dietary ingroup identification, perceive more discrimination, and hold more negative attitudes towards meat-eaters than vegetarians do

(Bagci & Olgun, 2019; Rosenfeld, 2019). Various differences also exist between morally motivated and health-motivated meat-avoiders in terms of strength of conviction and dietary adherence (Hoffman et al., 2013), which may further enlighten the links between dietary motivation and outgroup attitudes. Future research may also investigate various motivations behind flexitarians' meat restriction, which may then translate into various intergroup responses.

Our participants' residing in Turkey also constitutes a limitation to the cross-cultural generalizability of our research. Participants in our studies were from a sociocultural context where meat is rated as the most liked and preferred food type (KONDA, 2018). Social norms about meat-eating, attitudes towards meat consumption, and how veg*ans are seen in society differ largely across cultural contexts (Earle & Hodson, 2017; Ruby et al., 2016). Future research may approach cross-cultural investigations of social identities' roles in intergroup attitudes.

Concurrently, at the applied level, understanding psychological processes behind dietary ingroup identification and attitudes towards dietary outgroups may be especially important in Turkey, a traditional country in which meat-eating has long been a powerful norm. The number of people who are following veg*an diets is increasing, and qualitative research among Turkish veg*ans indicates that there is widespread discrimination and marginalization of veg*ans, even from close others such as families and friends (Üzeltüzenci, 2018). Such a pressure on veg*ans, coupled with the symbolic association between meat-eating and social status, may lead veg*ans to feel socially excluded and deter them from adhering to a strict diet. Given that veg*ans and flexitarians choose to avoid meat, meat-eaters may be especially likely to legitimize derogatory behaviors.

Furthermore, as the current study and other research in Turkey (Üzeltüzenci, 2018) suggest, these negative reactions from society may further instigate the formation of ingroup favouritism among veg*ans, reinforcing a hostile intergroup context. Thus, understanding social psychological factors in the formation of prejudice between

dietary groups may help in designing effective intervention strategies to promote tolerance, acceptance, and respect for dietary outgroups. One strategy may involve the use of direct and indirect contact interventions (such as imagined intergroup contact; Turner et al., 2007), which may potentially reduce outgroup prejudice among meat-eaters. Previous experimental research has also shown priming reminders of the connection between meat and the animals from which meat comes to reduce antiveg*an prejudice through increased empathy and reduced veg*an threat (Earle et al., 2019).

Conclusion

There is growing interest in examining meat consumption and avoidance from a social identity and intergroup perspective (e.g., Dhont et al., 2019), and much remains unknown about how people form social identities around their diets in light of factors such as moral consideration and perceived discrimination. Our findings contribute to the group processes literature by extending intergroup relations research more deeply into the domain of meat-eating behavior, particularly at a time when reducing meat consumption is increasingly of interest for its health and environmental advantages. Understanding further social identity processes and the determinants and consequences of intergroup attitudes across different dietary groups may be a valuable step towards promoting a positive food climate.

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Supplemental material

Supplemental material for this article is available online.

Notes

1. Structural equation models (SEM) were only performed among the groups of veg*ans and meat-eaters in Study 1 since the overall sample size for the flexitarian group ($N < 100$) was not sufficient for an SEM including this number of variables.
2. We conducted separate group analysis instead of multigroup analyses since metric invariance across groups was not held across various measures and each model included different dependent variables contingent upon which group was the outgroup.

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