

**Speaking Up or Staying Silent: How Self-Esteem and Moral Conviction Impact Vegan  
and Vegetarian Advocacy**

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### Abstract

Advocacy behaviors among vegans and vegetarians (collectively referred to as veg\*ans) play an important role in promoting plant-based diets, yet the psychological factors driving these behaviors remain underexplored. This research examined the influence of *self-esteem*, reflecting individuals' overall sense of self-worth, and *moral conviction*, the extent to which beliefs align with core values, on advocacy behavior. Across two studies, participants' willingness to sign a petition to increase meat replacements was assessed. Study 1 involved a real-life scenario with confederates in a lab setting ( $N = 4$ ), while Study 2 used an online hypothetical scenario with a larger sample ( $N = 83$ ). Self-esteem, moral conviction, and their interaction did not significantly predict advocacy behavior in either study. Results did show that vegans reported higher moral conviction than vegetarians, but no significant differences in advocacy behavior emerged between the groups. An evaluation scale for the petition was included, revealing that individuals who signed the petition tended to evaluate it more positively, with moral conviction serving as a significant predictor. The results were limited by methodological issues, such as small sample sizes and little variation in the dependent variables. The role of context and individual differences in promoting moral action is highlighted in this study, which contributes to a better understanding of the complexity of advocacy behavior among veg\*an.

*Keywords:* moral conviction, self-esteem, advocacy behavior, vegans, vegetarians

## **Speaking Up or Staying Silent: How Self-Esteem and Moral Conviction Impact Vegan and Vegetarian Advocacy**

Over the past few years, people have become more aware of the environmental, ethical, and health benefits of eating a plant-based diet (Ruby & Heine, 2012). Choosing to switch to a vegan or vegetarian diet reduces one's environmental impact by consuming less meat. The growing awareness of animal agriculture's role in deforestation, water shortages, and greenhouse gas emissions has made plant-based diets important when dealing with environmental damage (Bryant, 2019; Poore & Nemecek, 2018). In particular, vegan diets produce significantly lower carbon emissions and are more sustainable than meat-based diets (Leroy & Praet, 2015). Research on this subject is crucial because, despite these clear advantages, the social movement to eat less meat is still progressing slowly.

In order to promote this social movement, it is essential that people stand up for their values. (Bolderdijk & Jans, 2021). Visible frontrunners who openly challenge the status quo and advocate for alternatives play an important role in creating momentum, encouraging others to follow, and facilitating more substantial behavioral shifts (Chenoweth & Belgioioso, 2019). Social networks have been shown to affect dietary decisions; for example, people who are surrounded by vegetarian or vegan friends are more inclined to cut back on their own meat intake (Lea & Worsley, 2001). Yet even with the increasing awareness of the ethical and environmental benefits of plant-based diets, many vegans and vegetarians (collectively referred to as veg\*ans) are still reluctant to voice their opinions in social situations where eating meat is the norm. An important question is brought up by this observation: why is it, that veg\*ans often hesitate to voice their dietary preferences?

One possible reason why veg\*ans might be reluctant to voice their opinions is the stigma associated with plant-based diets. According to MacInnis and Hodson (2017), veg\*ans frequently encounter unfavorable opinions since their dietary choices go against the popular

standard of meat consumption. This social backlash can lead to self-silencing, where veg\*ans choose to avoid conflict or rejection in social settings by hiding their ethical views (Greenebaum, 2012). The dominance of meat-eating standards is maintained by this tendency to self-silencing, which promotes the idea that plant-based diets are niche. Consequently, even though people are becoming more aware of the advantages of plant-based diets, their acceptance is still somewhat limited (Viroli et al., 2023).

This study will examine how vegetarians and vegans differ and how their moral convictions and self-esteem influence their willingness to speak up in social situations where they are in a minority position. *Self-esteem*, an individual's overall view of their own value and self-worth (Rosenberg, 1965), can impact how confident individuals feel in expressing their beliefs, particularly in circumstances where social backlash is a concern (Pool et al., 1998). *Moral conviction*, the extent to which people consider their opinions to be essential to their own sense of morality, is also likely to influence advocacy behavior by motivating individuals to act in ways that align with their deeply held values, even in the face of social pressure (Skitka et al., 2021). The study's goal is to better understand how these factors affect veg\*ans' willingness to defend their dietary choices.

### **The Role of Self-Esteem and Moral Conviction in Advocacy Behaviors**

Self-esteem, an individual's total sense of personal value and self-worth, is known to significantly influence behavior, especially in social contexts (Orth & Robins, 2014). High self-esteem has been linked to a greater willingness to express personal beliefs, even in the face of potential social disapproval (Zeigler-Hill, 2013). Given that they are less vulnerable to negative social judgment, those who have high self-esteem typically feel more confident and at ease defending their beliefs (Leary & Baumeister, 2000). In contrast, individuals with low self-esteem may prioritize social acceptance over self-expression, making them more likely to self-silence or conform to dominant norms to avoid conflict or

rejection (Orth & Robins, 2014). This relationship may help to explain why veg\*ans who have low self-esteem could be hesitant to advocate for their dietary choices, especially in environments where eating meat is regarded as the norm. Based on this, it is predicted that veg\*ans who have high self-esteem will be more likely to support plant-based diets in these situations because they may feel more empowered to challenge the norm.

Moral conviction, the extent to which an individual's beliefs are perceived as a reflection of their core values and sense of morality, is another important factor that influences advocacy behaviors (Skitka et al., 2021). For many veg\*ans, their dietary choices are deeply tied to moral principles about animal welfare and environmental protection (Ruby & Heine, 2012). These moral convictions make their dietary choices a fundamental part of their identity, making it hard to remain silent when witnessing behavior that conflicts with these values (Aramovich et al., 2012). People with strong moral convictions are generally more resilient in maintaining their beliefs, even in adverse social environments, as their actions are motivated by an intrinsic sense of right and wrong rather than social acceptance (Skitka & Morgan, 2014). Therefore, veg\*ans with strong moral convictions may be more inclined to speak up for their values, even if it means facing social backlash. This study expects that veg\*ans with stronger moral convictions will be more likely to advocate for their values, especially in social settings where meat consumption is widespread.

### **Distinguishing Vegans and Vegetarians**

While vegans and vegetarians are often grouped together, distinguishing between these groups allows for a more nuanced understanding of their advocacy behaviors and underlying motivations. Vegans typically avoid all animal products (Ruby & Heine, 2012). Vegetarians, on the other hand, may still consume animal by-products, with their motivations often combining health considerations with ethical concerns (Piazza et al., 2015). These differences may also influence how each group is perceived socially. Vegans, whose strict

dietary choices more directly challenge societal norms around animal consumption, tend to face greater social stigma than vegetarians (MacInnis & Hodson, 2017). This increased stigma could make it more difficult for vegans to openly advocate for their dietary preferences.

However, it is important to consider the role of moral conviction. Vegans' stricter adherence to ethical principles and more significant lifestyle changes likely reflect stronger moral convictions than vegetarians, who may be less motivated by deeply held moral beliefs (Skitka & Morgan, 2014). This stronger moral conviction of vegans may increase their willingness to advocate for plant-based diets, despite the challenges posed by social stigma. Consistent with this reasoning, vegans are expected to exhibit stronger moral convictions than vegetarians and to be more likely to advocate for their values.

### **Summary and Hypotheses**

In summary, this study investigates how self-esteem and moral conviction influence the likelihood that veg\*ans will advocate for their dietary preferences in social situations where meat consumption is the norm, also exploring the differences between vegans and vegetarians in this context. The following hypotheses will be tested:

**Hypothesis 1.** Veg\*ans with higher self-esteem are more likely to advocate for their dietary values when they are the minority.

**Hypothesis 2.** The stronger a person's moral convictions, the more likely they are to advocate for their veg\*an diet when they are in the minority.

**Hypothesis 3.** Veg\*ans with both high self-esteem and strong moral conviction are more likely to advocate for their values.

**Hypothesis 4.** Vegans have stronger moral convictions than vegetarians.

**Hypothesis 5.** When being a minority, vegans are more likely to advocate for their plant-based diets than vegetarians.

### **Overview of the Studies**

This research includes two studies. Study 1 looks at advocacy behavior in a controlled, in-person setting, building on the work of Bolderdijk and Cornelissen (2022). While their study focused on how veg\*ans advocate in social settings with and without an ally, this study specifically looks at participants' behavior in a situation where they do not have an ally. It aims to explore how moral conviction and self-esteem influence advocacy behavior in this context. Study 2 builds on this by using an online format with a larger and more diverse group of participants. By examining how moral conviction, self-esteem, and dietary identity work together, this study hopes to provide a deeper understanding of what drives advocacy. The findings could help shape strategies to encourage more sustainable and ethical food choices by helping veg\*ans feel more confident expressing their beliefs.

### **Study 1**

#### **Methods**

##### ***Participants***

The target sample size was set at 90 participants, based on the study by Bolderdijk and Cornelissen (2022), which forms the basis for this research and found significant effects with a similar sample size. To be eligible, participants needed to be 18 years or older, fluent in English and self-identified as vegan or vegetarian. Participation was voluntary, and no compensation was provided. Despite efforts of the research team, the final sample included four participants: one vegan and three vegetarians. Among them, two identified as male, one as female, and one as non-binary. Three participants were students, and one was not. Two participants were between 18 and 25 years old, while the other two were between 26 and 38 years old.

##### ***Procedure***

Data collection occurred between December 16, 2024, and December 19, 2024, in Groningen. Ethical approval for the study was obtained from the Ethics Committee of the



Faculty of Behavioral and Social Sciences at the University of Groningen (Study Code: PSY-2425-S-0081). Participants for this study were recruited using both physical and digital methods. Flyers including a QR code (see Appendix A) were distributed at vegan restaurants, university buildings, and other relevant locations. The research team also used WhatsApp for digital outreach, sending an invitation link to acquaintances and sharing it in group chats. The recruitment materials invited individuals to share their perspectives on veg\*an food alternatives. To avoid raising suspicions about the group discussion's setup, the flyers did not specify that participation was limited to veg\*ans. Interested individuals could access the study details and sign-up form through an online survey platform. Interested individuals accessed the study details, an eligibility check and a sign-up form via an online survey platform. After filling this out, eligible participants could select a time slot for a group discussion at a designated location in Groningen. Those who did not meet the criteria were redirected to the end of the questionnaire and thanked for their time.

At the research site, participants were welcomed by the moderator and given detailed study information presented on a laptop via an online survey platform. They gave informed consent and confirmed their dietary status as vegan or vegetarian. Participants also completed demographic questions, including their age, gender, student status, and how long they had identified as veg\*an. Following this, they filled out a randomized questionnaire assessing family cohesion, moral identity, self-identity, moral conviction, and self-esteem. However, only the data on self-esteem and moral conviction were examined for the purposes of this study. After completing the survey, participants were escorted by the moderator to a small room where three confederates were already seated around a table. These confederates, who were part of the research team, were portraying meat-eaters and acted as if they were also participants in the study. To emphasize the participant's minority status, the moderator asked the group to raise their hands if they identified as meat-eaters, at which point all the

confederates raised their hands. Afterwards the group was presented with a petition (see Appendix B) advocating for more plant-based products in supermarkets. The petition was passed around, with the participant always receiving it last after all confederates declined to sign. The moderator clarified that signing the petition was optional and stated that they, too, would not be signing it. To not raise suspicion, a discussion about different kinds of meat replacements then proceeded according to a script (see Appendix C). Afterward, a suspicion check was conducted to identify potential biases. Participants were debriefed via email after the study was completed.

### ***Materials***

#### *Brief Rosenberg Self-Esteem Scale*

Self-esteem was measured using the Brief Rosenberg Self-Esteem Scale (Monteiro et al., 2022), a widely used measure of this construct. Participants rated their agreement with five items, such as “On the whole, I am satisfied with myself” and “All in all, I am inclined to think I am a failure,” on a 4-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree). Two negatively worded items were reverse-coded to ensure that higher scores indicated higher self-esteem. Descriptive statistics ( $M = 2.80$ ,  $SD = 0.28$ ) revealed that the mean score for the four items was above the midpoint, indicating generally positive self-esteem in this sample. However, with a low internal consistency ( $\alpha = .21$ ), these results should be interpreted with caution.

#### *Moral Conviction Scale*

The moral conviction scale was adapted from items developed by Skitka and Morgan (2014) to reflect the connection between participants' dietary preferences and their sense of morality. The scale measured how much participants saw their diet as part of their core values. Example items included: “Following a vegetarian or vegan diet is connected to my beliefs about fundamental right and wrong” and “Following a vegetarian or vegan diet is a

moral stance for me.” Participants responded using a 5-point Likert scale (1 = Not at all, 2 = Slightly, 3 = Moderately, 4 = Much, 5 = Very much). The mean score of the four items ( $M = 4.75$ ,  $SD = 0.50$ ) indicated very high levels of moral conviction in this group. However, due to the small sample size and the fact that all participants gave identical responses ( $\alpha = 1.00$ ), these results should be interpreted with caution.

### *Petition*

The petition was adapted from Bolderdijk and Cornelissen (2022) and featured a picture of a pig to evoke empathy and highlight the ethical concerns surrounding meat consumption. The petition advocated for the increased availability of veg\*an meat replacements, emphasizing both environmental and ethical benefits. It included the call to action: “Do the morally right thing. Sign this petition!” urging participants to reflect on the moral implications of their dietary choices. Participants’ responses were recorded as a dichotomous outcome (0 = not signed, 1 = signed).

### *Discussion Script*

The discussion followed a pre-written script, also adapted from Bolderdijk and Cornelissen (2022). It focused on debating the availability of plant-based products in supermarkets, simulating a realistic social context while maintaining experimental control.

## **Results**

This study involved only four participants, all of whom signed the petition. This small sample size and lack of variability in the dependent variable made it impossible to statistically analyze how self-esteem, moral conviction, or their interaction influenced signing behavior. Consequently, the first three hypotheses could not be tested in this subset of the data. Notably, the sample exhibited a very high mean score on the moral conviction scale ( $M = 4.75$ ,  $SD = 0.50$ ), which could suggest a potential connection between strong moral convictions and the

decision to advocate by signing the petition. However, findings from the in-person study should be interpreted with caution and cannot inform the broader research questions.

#### ***Hypothesis 4: Moral Conviction and Diet Type***

The fourth hypothesis proposed that the relationship between moral conviction and advocacy behavior would be stronger for vegans than for vegetarians. Descriptively, the vegan participant reported a higher mean ( $M = 5.00$ ) on the moral conviction scale than the vegetarians ( $M = 4.67$ ,  $SD = 0.58$ ). Although these scores suggest slightly stronger moral conviction for the vegan participant, the lack of variability in signing behavior and the insufficient sample size prevent any statistical testing or reliable conclusions.

#### ***Hypothesis 5: Comparing Vegans to Vegetarians in Advocacy***

The fifth hypothesis was that vegans would be more likely to sign the petition than vegetarians. In this study, one vegan and three vegetarians participated, and all signed the petition. While this aligns with the hypothesis that vegans may be more likely to advocate for their dietary beliefs, the uniform signing behavior and extremely small sample size prevent any meaningful statistical analysis. These findings should be interpreted cautiously and are not generalizable.

### **Study 2**

In Study 2, the hypotheses from Study 1 were re-examined with the addition of a scale evaluating participants' perceptions of the petition's fairness and efficacy. It was anticipated that signers would rate the petition more positively than non-signers and that self-esteem, moral conviction, and their interaction would enhance these positive evaluations.

### **Methods**

#### ***Participants***

Participants had to be at least 18 years old and self-identify as vegetarian or vegan to meet the inclusion requirements. Participation was voluntary and anonymous, with no

compensation provided. The final sample had 83 participants, including 22 vegans (27%) and 61 vegetarians (73%). Most participants were aged 18–25 (83%), followed by 26–38 (13%), 46–58 (2%), and 59–65 (1%). The majority of respondents (81%) identified as female, followed by males (17%) and non-binary or other (2%). Furthermore, university students made up most participants (80%).

### ***Procedure***

Data collection took place between December 20, 2024, and January 10, 2025, in Groningen. This study followed the fast-track ethical review process, meaning that the research plan, data management plan, participant information form, and consent form were all registered before the study began, but they were not reviewed. The principal investigator verified that the study complied with the guidelines for running a low-risk study and made sure that it was carried out in accordance with the relevant codes and regulations.

Recruitment took place through flyers (see Appendix D) distributed in university buildings and survey links distributed via WhatsApp among the research team's acquaintances and relevant groups. Both the flyers and messages invited veg\*ans to share their perspectives to help explore their values, habits, and traits. Participants accessed a questionnaire via an online survey platform, where they received study information, consent forms, and instructions. They then responded to demographic questions about their age, gender, student status, and how long they had identified as veg\*an. After this, participants completed the same set of randomized scales used in Study 1, which included assessments of family cohesion, moral identity, self-identity, moral conviction, and self-esteem. However, only the self-esteem and moral conviction scales were taken into account for this analysis.

Upon completing the scales, participants were presented with a hypothetical petition scenario (see Appendix E). The petition advocated for increasing the availability of vegetarian and vegan alternatives in the supermarkets and was accompanied by the statement, “So far,

very few residents in the Netherlands have signed this petition.” Participants were then asked whether they would sign it. This scenario was designed to measure advocacy behavior in situations where participants were in a minority position. Following this, a new scale was introduced to evaluate participants' perceptions of the petition, enabling an examination of how people assess these kinds of petitions when they belong to a minority group. After completing the survey, participants were debriefed and thanked for their participation.

## ***Materials***

### *Brief Rosenberg Self-Esteem Scale*

The Brief Rosenberg Self-Esteem Scale (Monteiro et al., 2022) was used to measure self-esteem. It includes five items, such as “On the whole, I am satisfied with myself” and “All in all, I am inclined to think I am a failure.” The statements were rated in terms of agreement using a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Two negatively worded items were reverse-coded so that, for these items, higher scores reflected higher self-esteem. The mean score of the four items ( $M = 2.87$ ,  $SD = 0.48$ ) indicated a moderately high self-esteem score among participants. The standard deviation suggests a moderate level of variability in responses. The scale demonstrated good internal consistency ( $\alpha = .81$ ), reflecting that the items effectively measured the same underlying construct and were reliably assessing the intended concept.

### *Moral Conviction Scale*

Moral conviction was measured using items adapted from Skitka and Morgan, (2014). Sample items included statements such as “Following a vegetarian or vegan diet is connected to my beliefs about fundamental right and wrong” and “Following a vegetarian or vegan diet is a moral stance for me.” Participants rated their agreement on a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). The mean of the combined score of these items was above the midpoint ( $M = 3.77$ ,  $SD = 1.15$ ), suggesting that participants generally viewed their

dietary choices as being moderately to strongly influenced by moral conviction. The scale showed excellent internal consistency ( $\alpha = .95$ ).

#### *Evaluation Scale*

The evaluation scale was adapted from (Eriksson et al., 2008) and was included to assess how participants would evaluate the hypothetical petition's fairness and perceived effectiveness. It consisted of four items, including: "The petition would be fair to me" and "The petition would be effective at reducing the amount of meat consumed in the Netherlands." Agreement with these statements was measured using a 7-point Likert scale (1 = completely disagree, 4 = neither agree nor disagree, 7 = completely agree). Scores were averaged to create a composite measure of petition evaluation, where higher scores indicated a more favorable perception of the petition. The mean score ( $M = 4.96$ ,  $SD = 1.36$ ) indicated a generally positive evaluation of the petition. The scale showed an acceptable internal reliability ( $\alpha = .71$ ), suggesting good consistency in participants' responses to the petition evaluation items.

#### *Hypothetical Petition*

The hypothetical petition (Appendix E) was adapted from Bolderdijk and Cornelissen, (2022) and designed to highlight the ethical and environmental advantages of increasing vegetarian and vegan food options in supermarkets. The petition emphasized the potential impact of consumer demand on sustainability and animal welfare, directly addressing the Association of the Supermarket Sector in the Netherlands (CBL) with a call to action. It included a target goal of 2,000 signatures to be reached before February 1, 2025, urging participants to contribute to this effort. Additionally, it featured the statement, 'So far, very few residents in the Netherlands have signed this petition,' to emphasize the minority position of its supporters. Participants were presented with the choice to either sign it "Yes, I will sign

the petition” or not “No, I will not sign the petition.” Responses were recorded as a binary variable, with 1 representing those who agreed to sign and 0 for those who declined.

## **Results**

All analyses were performed using JASP (Version 0.19.3; [JASP Team, 2024](#)). A visual inspection of the plot of the independent variables against the log odds of the dependent variable and the relationship was not linear. Every hypothesis was examined separately, including the evaluation of model fit, statistical significance, and effect sizes.

### ***Hypothesis 1: Self-Esteem and Advocacy***

According to the first hypothesis, greater willingness to advocate plant-based diets would be predicted by higher self-esteem. This association was examined using a logistic regression model. The goodness of fit of the model was assessed ( $X^2(81) = 0.02, p = .90$ ), indicating a poor fit. Additionally, McFadden's  $R^2$  was 0, meaning that the model did not explain a significant amount of variance. The odds ratio for self-esteem was 1.01 [ $LLCI = 0.24, ULCI = 4.99$ ], indicating that the likelihood of signing the petition increased by roughly 9.9% for every unit increase on the self-esteem score. However, this effect was not statistically significant ( $p = .90$ ), indicating no clear evidence that self-esteem predicted signing behavior in this sample.

### ***Hypothesis 2: Moral Conviction and Advocacy***

Stronger moral convictions would predict greater advocacy behavior, according to the second hypothesis. To determine if moral conviction affected the likelihood of signing the petition, a logistic regression analysis was performed. The model fit was evaluated with the likelihood ratio test ( $X^2(81) = .17, p = .68$ ) and McFadden's  $R^2 = .003 (p = .68)$ , suggesting that the model provides a poor fit to the data. The odds ratio for moral conviction was 1.15 [ $LLCI = 0.59, ULCI = 2.23$ ], indicating that for each one-unit increase in moral conviction score, the likelihood of signing the petition increased by 15.1%. However, this effect was not



statistically significant ( $p = .68$ ), suggesting that moral conviction does not appear to be a significant predictor of petition signing behavior in this sample.

### ***Hypothesis 3: Interaction Between Self-Esteem and Moral Conviction***

The third hypothesis predicted that moral conviction and self-esteem would interact, making those who have both strong moral convictions and high self-esteem the most likely to support the petition. To test this, a logistic regression analysis was performed using an interaction variable. The model fit was evaluated with the likelihood ratio test ( $X^2(81) = 0.11$ ,  $p = .74$ ) and McFadden's  $R^2 = 0.002$ , indicating a poor fit. The odds ratio for the interaction between moral conviction and self-esteem was 1.03 [ $LLCI = 0.85$ ,  $ULCI = 1.26$ ], indicating that people who have both strong moral conviction and high self-esteem may be slightly more likely to sign the petition. Nevertheless, this effect was not statistically significant ( $p = .74$ ), indicating that the sample's petition signing behavior appears to be unaffected by the interaction between moral conviction and self-esteem.

### ***Hypothesis 4: Diet Type and Moral Conviction***

The fourth hypothesis was that vegans would have stronger moral conviction than vegetarians. This effect was investigated using an independent samples  $t$ -test. The assumption that the variances were homogeneous was confirmed by the non-significant results of the equality of variances test (Levene's) ( $F(1,81) = 3.55$ ,  $p = .06$ ). However, the Shapiro-Wilk test revealed a significant deviation from normality in the data ( $W = .92$ ,  $p < .001$ ). Despite this, the  $t$ -test indicated a significant difference in moral conviction scores ( $t(81) = 4.05$ ,  $p < .001$ ), with vegans ( $M = 4.50$ ,  $SD = 0.74$ ) reporting higher levels of moral conviction compared to vegetarians ( $M = 3.51$ ,  $SD = 1.05$ ). Given the violation of normality, a Mann-Whitney U test was used as a non-parametric alternative. Consistent with the  $t$ -test, the Mann-Whitney U test demonstrated a significant difference between these groups ( $U = 1056.50$ ,  $p <$

.001). According to these results, vegans in this study have a stronger moral conviction than vegetarians.

#### ***Hypothesis 5: Vegans vs. Vegetarians in Advocacy***

The final hypothesis was that the petition would be more likely to be signed by vegans than by vegetarians. To determine whether there was a significant difference in advocacy behavior of these groups, a chi-square test of independence was used. No significant difference between the two groups was found by the analysis ( $\chi^2 (1, N = 83) = .89, p = .44$ ). One vegan did not sign the petition, whereas 21 vegans (95.5%) did. By contrast, seven vegetarians did not sign the petition, while 54 vegetarians (88.5%) did. Given the small effect size (Cramér's  $V = .10$ ), it appears that there is little relationship between advocacy behavior and diet type in this sample. The idea that vegans are more inclined than vegetarians to support meat substitutes is not supported by these results.

#### ***Petition evaluation scale***

The petition evaluation scale aimed to determine whether participants evaluated the petition differently depending on whether they signed it. Evaluation scores of signers and non-signers were compared using an independent sample  $t$ -test. Normality was checked using the Shapiro-Wilk test, which showed a significant deviation from normality ( $W = .96, p = .01$ ). Homogeneity of variance was tested using Levene's test, which showed no significant difference in variance between the two groups ( $F = .45, p = .51$ ). The  $t$ -test revealed a significant difference in evaluation scores ( $t (79) = -4.19, p < .001$ ), with participants who signed the petition giving it higher evaluations ( $M = 5.10, SD = 0.88$ ) than those who did not ( $M = 3.69, SD = 1.15$ ). Due to a violation of normality, a Mann-Whitney U test was conducted, confirming the  $t$ -test's finding of a significant group difference ( $U = 68.00, p < .001$ ). This result suggests that signing the petition is associated with a more positive perception of it.

To investigate what might explain this difference in evaluation, a multiple regression analysis was used to examine the influence of moral conviction, self-esteem, and their interaction. While the overall model was not significant ( $F(3,81) = 2.06, p = .11$ ), moral conviction was found to significantly predict more positive petition evaluations ( $b = 1.58, t(81) = 2.03, p = .04$ ). Self-esteem showed no significant effect ( $b = 0.93, t(81) = 1.88, p = .07$ ), and the interaction between moral conviction and self-esteem was also not significant ( $b = -1.68, t(81) = -1.82, p = .07$ ). These findings suggest that moral conviction plays a role in how people evaluate unpopular advocacy efforts like this petition, while self-esteem does not seem to have a notable effect. However, the relatively low explained variance ( $R^2 = .07$ ) indicates that additional factors, not included in the model, may contribute to participants' evaluations of the petition.

## Discussion

### Summary of Findings

In the current research, it was investigated whether self-esteem, moral conviction, and their interaction predicted advocacy behavior among veg\*ans. However, contrary to the hypotheses, neither higher self-esteem nor stronger moral conviction significantly increased the likelihood of advocating for dietary values. Additionally, no significant interaction between self-esteem and moral conviction was found in predicting advocacy behavior. While vegans demonstrated significantly stronger moral convictions than vegetarians, there was no significant difference in advocacy behavior between these two groups.

Participants who signed the petition evaluated it more positively, with moral conviction being a significant predictor of these favorable evaluations. This suggests that individuals with stronger moral convictions were more likely to perceive the petition positively. In contrast, self-esteem and its interaction with moral conviction did not significantly impact participants' perceptions.

### **Interpretation in Context of Literature**

While higher self-esteem is typically linked to greater confidence in expressing personal beliefs (Zeigler-Hill, 2013), and moral conviction is often seen as a strong motivator for advocacy (Skitka et al., 2021), this study did not find a significant connection between self-esteem, moral conviction, their interaction, and the likelihood of advocating for dietary values. It is important to note that almost all participants (75 out of 83) signed the petition, reflecting a high level of advocacy. This suggests that other factors, such as the perceived significance of the petition or the social context, might have been more influential in this study. It is also possible that both factors have a more complex impact on how people react to social dynamics. To influence how people act in social situations, self-esteem may interact with social contexts, such as perceived social norms, by shaping individuals' sensitivity to social approval or disapproval (Leary & Baumeister, 2000). For instance, those with higher self-esteem might feel more confident in deviating from group norms, while those with lower self-esteem may conform more readily to avoid social rejection or conflict.

The findings related to diet type and moral conviction indicate that vegans in this study report significantly higher levels of moral conviction than vegetarians. This aligns with previous research suggesting that vegans often frame their dietary choices in terms of ethical principles related to animal welfare and environmental sustainability (Ruby & Heine, 2012). Vegans' dietary choices are also frequently seen as more closely tied to moral values, which causes them to perceive their diet as an integral part of their ethical identity (Skitka & Morgan, 2014). However, when examining the relationship between diet type and advocacy behavior, the results did not support the hypothesis that vegans would be more likely to advocate for their dietary values. This shows that, despite their stronger moral conviction, vegans were not significantly more likely than vegetarians to advocate for their beliefs in this study. This could imply that although vegans might have more moral convictions, other

factors, like for instance the length of time they have been a vegan ([see Hoffman et al., 2013](#)), might have an impact on their advocacy behavior in addition to diet type. For instance, those who follow a vegan lifestyle for a longer period may feel more confident or experienced in advocating for their dietary values, as they may have had more opportunities to refine their arguments or navigate social challenges. Conversely, newer vegans may still be developing their sense of identity and comfort in addressing potential conflicts, which could affect their willingness to speak up.

The analysis of the petition evaluation scale showed that moral conviction significantly predicted more positive evaluations, indicating that participants with stronger moral convictions were more likely to support the petition. This aligns with previous research that suggests individuals with strong moral beliefs are more inclined to engage with causes they perceive as aligned with their values ([Skitka et al., 2021](#)). One possible factor influencing participants' evaluation of the petition could be the framing of the petition itself. The way an issue is framed has been shown to affect how people perceive it ([Godawska, 2020](#)). If the petition emphasized ethical issues like animal welfare or environmental protection, it may have been more compelling to participants with strong moral convictions. On the other hand, if the petition lacked a strong moral appeal, it may not have influenced those with weaker convictions as much. The framing could therefore explain why moral conviction significantly predicted more positive evaluations, while self-esteem and the interaction between the two predictors did not have a meaningful impact.

## **Implications**

When creating interventions to support advocacy behavior, the findings point to important considerations. The finding that vegans have higher moral conviction than vegetarians implies that advocacy campaigns aimed at them might be more effective if they capitalize on their core values and sense of morality ([Skitka & Morgan, 2014](#)). By framing

messages around the moral principles that guide their dietary choices, such as animal welfare or environmental protection, campaigns can capitalize on the stronger moral convictions of vegans, potentially causing greater advocacy. In contrast, vegetarians might benefit from messages that more explicitly connect their dietary choices to broader moral or health-related considerations (Piazza et al., 2015). A personalized message emphasizing how their dietary choices promote environmental sustainability or animal welfare could call attention to the morality of their eating habits and inspire people to take up more active campaigning.. Given that vegans and vegetarians hold different moral convictions, this method would recognize this difference and offer a more focused and successful way to encourage advocacy behavior among both groups.

Further, The finding that higher moral conviction was a significant predictor for positive petition evaluations suggests that advocacy campaigns might be more successful if they appeal to participants' moral beliefs, particularly emphasizing the ethical and environmental benefits of plant-based diets. By aligning the message with participants' moral convictions, campaigns may encourage more positive perceptions of advocacy opportunities, which could increase their effectiveness.

### **Limitations and Future Directions**

This study faced several limitations that should be considered when interpreting the results, alongside potential directions for future research. First, the small sample size in Study 1 ( $N = 4$ ) significantly constrained the statistical power of the analyses. The limited number of participants who declined to sign the petition in Study 2 ( $N = 8$ ) also made it difficult to draw meaningful conclusions about the role of self-esteem and moral conviction in advocacy behavior. Increasing the sample size and ensuring greater diversity in future studies could improve the statistical power and provide a broader range of advocacy behaviors. However, given that most veg\*ans signed the petition in this study, future research may need to explore

other forms of advocacy, such as participating in protests or social media campaigns, that might offer greater variability in participant responses. Qualitative methods, such as interviews or focus groups, might add to this and offer a better understanding of the motivations, challenges, and thought processes behind advocacy decisions. While surveys and hypothetical scenarios provide valuable data, qualitative approaches may reveal subtler, context-specific factors that influence participants' willingness to advocate.

One potential factor influencing the results of the in-person study was the design of the petition, which included a picture of a pig and the message "Do the morally right thing!" This strong moral framing may have evoked a shared sense of moral obligation (see [Van Zomeren et al., 2012](#)) among participants, potentially masking individual differences in self-esteem and moral conviction. In contrast, Study 2 used a more neutrally framed petition, not using the image and moral appeal. Instead, it stated, "There should be more vegan and vegetarian meat replacements in the supermarket," which lacked explicit moral framing. This inconsistency between the petitions represents another limitation, as the different designs across studies could have influenced signing rates. Future research should therefore focus on maintaining consistent and more neutral framing in studies to reduce potential confounds and make a clearer evaluation of individual differences in advocacy behavior possible.

Furthermore, the online nature of Study 2 might have affected the advocacy behavior of the participants. Without the presence of direct social pressure, participants might have felt more comfortable expressing their views and signing the petition. A study on the "face effect" revealed that social factors that normally control behavior in group settings can be impacted by the lack of in-person interaction. (Liu et al., 2019). This may have led to a higher rate of petition signing, which could have impacted the variability of advocacy behavior observed in the study. Therefore, the online nature of Study 2 may have contributed to more petition

signing, limiting the ability to fully explore how self-esteem and moral conviction interact with social context in real-world advocacy scenarios.

An additional potential limitation was that the lab-based study's recruitment strategy might have introduced selection bias. Without compensation, the sample might have attracted individuals with stronger moral convictions, who were intrinsically motivated to participate. Previous research has suggested that people with lower moral convictions may require extrinsic rewards to overcome barriers to participation (Bastian et al., 2015). This bias could have led to an overrepresentation of individuals with stronger convictions, possibly explaining the high rate of petition signing in Study 1. Future studies should consider offering compensation to attract a more diverse range of participants, including those with lower moral convictions, to better reflect the variability in advocacy behavior.

Lastly, future research could benefit from examining other social and psychological factors that may influence advocacy behavior, such as social identity. Social identity theory (Tajfel & Turner, 2004) suggests that individuals are more likely to advocate for values they associate with a supportive in-group. Future studies could investigate whether veg\*ans who participate in online veg\*an communities are more likely to engage in advocacy behavior compared to those who do not actively interact with such groups. This research could assess whether perceived group norms (e.g., "vegans should always speak up about animal rights") or levels of social support within these communities enhance their willingness to advocate. Investigating how veg\*ans' perceptions of their social environment, such as perceived group norms or social support, affect their willingness to advocate could help identify moderating factors and provide deeper insights into the dynamics of advocacy behavior. These insights could deepen our understanding of the individual and social factors that shape advocacy behavior and help improve future intervention strategies.

## **Conclusion**



This study found that vegans reported higher levels of moral conviction compared to vegetarians. Notably, moral conviction was positively correlated with higher evaluations of the unpopular petition, suggesting that stronger moral convictions influence how advocacy efforts are perceived. Despite neither self-esteem nor moral conviction predicting petition signing behavior, most participants signed the petition. This demonstrates a strong overall willingness to support plant-based diets. These results show the significance of contextual factors and individual differences in advocacy behavior. By utilizing these insights, more effective methods for promoting plant-based lifestyles could be developed.

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## Appendix A

## Flyer – Study 1



# **We would like to hear your opinion!**

## **Vegetarian and vegan products**

We are interested in your thoughts regarding vegetarian and vegan food alternatives. If you are interested in participating in this study, please sign up through this QR code. The study will take place in December 2024 and possibly January 2025.





## Appendix C

### Script – Study 1

The moderator gets one participant from the waiting area and brings him/her to the survey room, and tells the participant:

*“Welcome to my study on vegetarian and vegan products! In this study you are going to join a short group discussion together with other participants. Before the discussion starts, I need you to fill in some preliminary background questions at the computer. Once you have finished answering the questionnaire, you will see a message asking for a p-number. I will fill that in so let me know.”*

The participant starts the survey and then he/she will be asked to join a group for the discussion. The participant finishes and calls for the **moderator**, who says:

*“We have one spot left for a group discussion in another room. Please come with me to fill up the group and join the discussion.”*

The moderator takes the participant to the discussion room. Here are three other ‘participants’ (confederates) waiting for the group to be completed in order to get the discussion started. The **moderator** makes the participant sit down at the end of the row and introduces the next part of the experiment:

*“Okay, thank you all for coming, and thank you guys for waiting (towards the confederates). We had a low number of vegan/vegetarian responses, so can I know who here eats meat, please?” (Confederates raise their hands)*

Before the discussion actually starts, the **moderator** informs the group of a petition (which is placed on the desk behind the moderator) on getting more veggie alternatives in the assortment of supermarkets:

*“Before we start the discussion, I would like to ask you to take a look at this petition. It’s a petition of a friend of mine who wants to get more vegetarian and vegan alternatives in the assortment of supermarkets because he thinks it’s the ethically right thing to do regarding animal rights and environmental issues. I promised to ask you, but don’t feel obliged to sign it. I didn’t sign it either. Here, have a look.”*

The moderator gives the petition to confederate number 1, who will pass it on to number 2, who will subsequently pass it on to number 3, who eventually passes it on to the participant. All confederates look at, but do not sign the petition.

The discussion starts when the participant hands over the petition to the moderator, who places the petition behind them on the table. The **moderator** starts the discussion by saying:

*“Okay, I would like to talk with you about your experiences with vegetarian/vegan alternatives. During the last couple of years, you probably realized that the availability of vegetarian and vegan alternatives increased considerably. One large ‘trend’ was vegetarian and vegan meat substitutes, like tofu burgers, vegetarian shawarma, whatsoever. Can anyone tell me about personal experiences you had with these kinds of substitutes? Or what do you think of the taste in general?”*



**Confederate 1** will say:

*"Well, last summer I was organizing a barbecue with a friend of mine. We were in the supermarket buying all the stuff for the barbecue, including different kinds of meat. And we came across this new product, a shaslik or however you call it. So, we saw this new product and just took it. In the evening we had a nice barbeque and after trying the new product, we looked at each other and my friend asked me whether I thought it tasted funny or not. I told him I was thinking the same, so we went through the garbage to look for the packaging, we found it and it turned out to be some vegetarian meat replacement. But it tasted quite good to be honest."*

**Confederate 2** will say:

*"Ah, in my case, I occasionally eat a veggie burger when I go out to eat, but only for a change, not on like a daily or even regular basis. I did realize that more places do have meat-free options now. It tastes a bit funny indeed, but only at the beginning. I think it's something you get used to with time. Regardless, I would never cook it myself. I would be too scared to cook it wrong."*

Then the last confederate and the participant share their experience shortly.

**Confederate 3** will say:

*"Oh! I actually really like falafel. I eat it with my flatmates, and its always great fun."*

After that, the moderator will tell the group she has enough information and thank the participants.

The moderator ends the experiment for the majority of the group:

*"Well, that was it already, Before you leave, I wanted to ask you one more thing. For the debrief of this study, I need to collect your email address. Could you please write this down on this piece of paper, together with what you think the study was about?"*

*"Thank you so much. I don't want to keep you guys here longer than necessary. Thank you so much for your input and participation."*

The confederates stand up to put on their jackets and wish the moderator good luck on her research.

The moderator writes on the participant's paper their participant number from the screen in the other room.

## Appendix D

## Flyer – Study 2

# Are you a vegan or vegetarian?

## Please share your perspective!

We are conducting a study to understand the values, habits and traits of people living a vegan or vegetarian lifestyle. If you are interested in participating in this study, please fill in this brief questionnaire through this QR code! The survey is available in the second week of January 2025.



## Appendix E

### Hypothetical Petition – Study 2

**There should be more vegetarian and vegan alternatives in the assortment of supermarkets.**

We want to send the Association of the Supermarket Sector in the Netherlands (CBL) a strong signal that many consumers would welcome more vegetarian, and thus environmentally friendly, food alternatives. Help us reach 2000 signatures before the 1st of February 2025. So choose for a sustainable environment and animal welfare, and sign this petition!

**So far, very few residents in the Netherlands have signed this petition. Will you sign?**

- ☐ Yes, I will sign the petition
- ☐ No, I will not sign the petition