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“How do you know someone’s vegan?” They won’t always tell you. An empirical test of the do-gooder’s dilemma

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ABSTRACT

A growing number of people (privately) endorse the benefits associated with adopting a meat-free diet. Yet, the societal transition to a more plant-based diet is taking place rather slowly. Why do people’s private meat-free preferences fail to materialize in their daily food choices? One potential explanation is that vegetarians and vegans, at this time still a minority group, are worried about eliciting stigma and thus may not feel comfortable expressing their meat-free preferences during social interactions with meat-eaters. Their self-silencing could reinforce the notion that adopting a meat-free diet is nothing more than a niche phenomenon, and in turn discourage others from eliminating meat from their diet as well, thus perpetuating the non-vegetarian norm. Adapting the classic conformity paradigm by Asch, we found that vegetarian and vegan participants were hesitant to express their meat-free preferences. Vegan and vegetarian participants avoided signing a petition that promoted veg*an food options after a majority of confederates had declined to do so. When the experimenter endorsed veg*an food options, however, participants went against the majority, and did sign the petition. Together, these findings point to a pivotal role for exemplars and institutions: by signaling that there are allies who endorse a meat-free diet, they may liberate vegetarians and vegans to publicly express their deviant, meat-free preferences, and thus speed up wider societal change.

1. Introduction

An increasing number of people recognize that reducing meat consumption would benefit the collective good, as it would lead to improvements in terms of animal wellbeing, health, environmental conservation, and climate stability (Bryant, 2019; Latvala et al., 2012; Neff et al., 2018). At the same time, we have not witnessed a ‘tipping point’ yet: in many societies, a majority still consumes meat on a near-daily basis (Leroy & Praet, 2015; Smil, 2002; Speedy, 2003). Why do our private preferences fail to materialize in our daily food choices? Why is the meat-eating norm so pernicious?

In this paper, we empirically examine one, social-psychological, explanation: vegetarians and vegans (from now on referred to as veg*ans) may choose to avoid expressing their meat-free preferences during social encounters with non-vegetarians, in order to avoid social costs. By self-silencing, they unintentionally reinforce the perception that veg*anism is nothing more than a niche phenomenon. Considering

the important role of social norms, and having examples to follow, for the diffusion of socially responsible behavior (Goldstein, Cialdini, & Griskevicius, 2008; Sparkman & Walton, 2017), the self-silencing of veg*ans in social settings could slow down the wide-spread transition to a meat-free diet.

In other words, the collective transition to a reduction of meat consumption would benefit from interventions that facilitate vegans and vegetarians to publicly express their meat-free preferences, against the majority position. In addition to exploring the existence of self-silencing among veg*ans while in the presence of meat-eaters, we therefore also test an intervention to overcome this self-silencing: the endorsement of a meat-free diet by an ally.

1.1. The importance of visible frontrunners

Prior work has pointed to the pivotal role of frontrunners in bringing about social change (e.g., Bolderdijk & Jans, 2021). By challenging the

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status quo, pointing out alternatives and making like-minded individuals feel they are not alone, frontrunners pave the way for others to join in, thus increasing the chance of gaining momentum (Chenoweth & Belgioioso, 2019) and reaching a societal ‘tipping point’ (Nyborg et al., 2016). Indeed, people who have more vegetarian friends tend to eat less meat (Lea & Worsley, 2001), and people are more likely to adopt a meat-free diet when they are under the impression that an increasing number of peers is doing so too (Sparkman & Walton, 2017, 2019). In other words, just like many other types of behaviors (e.g., obesity: Christakis & Fowler, 2007), meat-free diets seems to be ‘contagious’: when people are exposed to peers in their social network who reduce their meat consumption, they are more likely to reduce their own meat consumption. However, for this social contagion to occur, existing and aspiring veg*ans need to express their meat-free preferences publicly. As long as majority members think that veg*anism is nothing more than a niche phenomenon, they may not reconsider their own dietary choices.

Based on popular wisdom (e.g., expressed in the joke ‘How do you know someone’s vegan? Don’t worry, they’ll tell you’) and a reading of the current literature on how virtuous behavior is rewarded (Yoeli, Hoffman, Rand, & Nowak, 2013) one might expect that (aspiring) veg*ans should be happy to express their meat-free preferences while in the presence of meat-eating peers. After all, there are social rewards associated with taking a virtuous position, such as signaling uniqueness (Ariely & Levav, 2000), moral integrity (Yoeli et al., 2013), and earning social status (Griskevicius, Tybur, & Van den Bergh, 2010). However, in this paper we argue that, as long as eating meat is still the dominant norm, the opposite may hold as well: veg*ans may be motivated to cover up rather than advertise their meat-free preferences while in the presence of a majority of meat-eaters, in order to avoid social costs. Their self-silencing could slow down social change.

1.2. Avoiding the plant-based stigma

People have various reasons to believe that it is beneficial to decrease their meat consumption, or to cut it out of their diet altogether. Most of these reasons have some virtuous basis: from the elimination of animal suffering, boycotting factory farming, to health benefits, environmental protection, or a concern about climate change (Faver, 2013; Laestadius, Neff, Barry, & Frattaroli, 2013; Tilman & Clark, 2014).

Despite this widespread support, consuming meat is still the norm in many Western societies (Leroy & Praet, 2015; Speedy, 2003). Choosing to cut meat from one’s diet, therefore, implies taking a minority position. Going against the norm can be socially costly, and invite a range of social sanctions, even when deviants are motivated by virtuous principles that observers agree with (Kawamura & Kusumi, 2020; Monin, Sawyer, & Marquez, 2008). This phenomenon, labeled “do-gooder derogation”, has been demonstrated in a wide range of contexts and cultures (Herrmann, Thöni, & Gächter, 2008), but most prominently in the context of individuals who choose to eliminate meat from their diet (Cramwinckel, van Dijk, Scheepers, & van den Bos, 2013; MacInnis & Hodson, 2017; Minson & Monin, 2012; Monin et al., 2008; Rothgerber, 2020): vegetarians and vegans.

Veg*ans elicit discomfort (Rothgerber, 2014) and can be disliked (Minson & Monin, 2012) by those who do consume meat, because their choice to act on a virtuous principle triggers a fear in others, who do not live up to the same principle, of being judged as morally inadequate. Such anticipated judgment is experienced as a threat to the moral self-concept (Monin, 2007). Since people consider it very important to maintain a positive moral self-view (Aquino & Reed, 2002; Blasi, 1983), this threat produces discomfort and can mobilize self-defense responses (Monin, 2007). For example, a confederate who refused to eat meat in an ostensible ‘taste test’ was disliked by other participants, especially when the confederate’s refusal was motivated by moral arguments (e.g., killing animals is wrong), compared to non-moral arguments (e.g., I don’t like the taste of meat; Cramwinckel et al., 2013). These defensive responses can take the form of social sanctions imposed on the

“do-gooders” (Rothgerber, 2020), such as ridicule, dislike, or exclusion from the social group (Minson & Monin, 2012; Parks & Stone, 2010).

In short, the choice to adopt a plant-based diet is associated with a social stigma (Bresnahan, Zhuang, & Zhu, 2016; Markowski & Roxburgh, 2019). Previous work has documented vegetarians’ experiences with hostile or otherwise dismissive responses when disclosing their meat-free preferences (Adams, 2003; Lindquist, 2013). Importantly, it seems that veg*ans are acutely aware of the existence of this social stigma: for instance, they seem to realize that their counter-normative dietary choices can be interpreted as implying judgment of majority members, and can invite responses of social disapproval (Greenebaum, 2012). Many veg*ans report having experience with bias and negativity (Hirschler, 2011), and thus feel anxious when revealing their meat-free preferences in public (MacInnis & Hodson, 2017).

Since veg*ans know that others may respond dismissively when finding out about their meat-free preferences, they may develop strategies to avoid incurring social costs resulting from the social stigma (Markowski & Roxburgh, 2019). For example, they may justify their meat-free preferences with self-interested, non-virtuous arguments (e.g. ‘I don’t like the taste of meat’), to avoid the impression that they judge meat-eaters for not caring about animal welfare (Greenebaum, 2012). These ‘face-saving techniques’ allow veg*ans to publicly express their meat-free principles, but simultaneously escape the stigma and resulting social sanctions.

In some social situations, however, the setting does not provide the option of appeasing others by verbally offering non-virtuous arguments, but merely allows people to express their dietary preferences. Consider, for instance, a situation in which an aspiring veg*n is going out for dinner with their new, meat-loving, colleagues, and the waiter is taking each person’s order turn by turn, the aspiring veg*an being the last to announce their order. In those cases, veg*ans face a *dilemma*: being candid about their deviant, meat-free principles at the risk of eliciting stigma, or covering up their meat-free principles.

This dilemma is similar to the dilemma encountered by participants in Asch’s classic conformity studies (Asch, 1952). Participants, in a group setting, were shown three lines (labeled A, B, and C) and had to publicly disclose which line, according to them, had the same length as a reference line. It was visually obvious what the correct answer was. However, in some critical trials, a unanimous majority of fellow participants (actually instructed confederates) first gave an alternative, clearly incorrect answer. The actual participants privately knew the correct answer, but many felt awkward about making that ‘truth’ public. By offering a response that deviated from the answer of that of the ‘fellow participants’, they would basically disqualify other participants’ eyesight. During some critical trials, some actual participants went so far as to agree with the obviously wrong answer, thereby deviating from their own initial judgment.

Although there is still no consensus regarding the exact underlying process behind these findings (Hodges and Geyer, 2006), it is clear that people can sometimes be torn between doing what they privately believe is right and thus taking a minority position, or conforming to a social norm that is displayed by others. Similarly, it is conceivable that veg*ans, in the presence of a meat-eating majority, may *avoid expressing their meat-free preferences*. In other words, veg*ans may be tempted to self-silence during social interactions with a majority of non-vegetarians (H1).

It may seem counterintuitive that aspiring veg*ans would solve this dilemma by covering up their meat-free principles and ostensibly conform to the meat-eating norm displayed by the majority. After all, the refusal to eat meat is often based on a moral conviction, and previous research suggests that moral convictions can make people impervious to majority influence (Aramovich, Lytle, & Skitka, 2012). Moreover, when it comes to stating one’s dietary preferences, unlike in Asch’s original line-judging task, there are no objectively verifiable ‘correct’ or ‘incorrect’ answers. Expressing a preference for plant-based diets does not necessarily imply judgment of the majorities’ meat-eating habits. Based

on these reasons, it is not evident that veg*ns would conform and thus choose to self-silence.

On the other hand, the preference for vegan and vegetarian diets is often driven by a principle - the conviction that meat eating is morally problematic. Unlike taste preferences (Spears, Ellemers, & Doosje, 2009), moral principles are often considered to be universal (Frankena, 1973; Turiel, 1983) – they imply there is only one ‘correct’ position (Goodwin & Darley, 2012). Non-vegetarians may therefore interpret the refusal to conform and thus eat meat as an “implicit indictment of anyone taking a different path” (Minson & Monin, 2012). Importantly, veg*ns are aware their deviant dietary preferences may be mistaken for judgment. Since they value smooth social interactions, they avoid that stigma by offering non-moral justifications for their veg*n diet (“I don’t like the taste of meat”; Greenebaum, 2012). We go one step further: in social situations in which face-saving techniques cannot be employed to avert plant-based stigma, veg*ns may keep their meat-free preferences silent altogether and thus ostensibly conform to the majority position.

If veg*ans indeed avoid social costs by not expressing their deviant, meat-free preferences, this could have important downstream consequences: silent front-runners are not in a position to facilitate social contagion. Without visible advocates, the wider adoption of meat-free diets will be drastically slowed down.

1.3. Overcoming self-silencing

Social norms have a big impact on people’s choices, including their socially responsible behavior. People’s perceptions of norms are most strongly determined by the actions they witness from others in their social network, and less so by what they read or hear about others’ actions (Kashima, Wilson, Lusher, Pearson, & Pearson, 2013). If veg*ans indeed choose not to express their meat-free preferences (e.g. a vegetarian shying away from ordering a vegan dish during a dinner with colleagues), this may cause the general public to underestimate the proportion of people who have adopted a plant-based diet or have an interest in doing so. This misperception would perpetuate the social stigma associated with what continues to be considered a niche group. In other words, self-silencing can result in pluralistic ignorance (Geiger & Swim, 2016). Interventions that would facilitate veg*ans to express their meat-free preferences publicly could therefore be a promising avenue to combat pluralistic ignorance and facilitate a widespread reduction of meat consumption.

So, how can existing veg*ans be motivated to be more transparent about their choices, in a context where their dietary choice is counter-normative and associated with social stigma? In this paper, we test an intervention that may empower veg*ns to withstand majority pressure and express their private, meat-free preferences. We examined the potentially liberating role of *allies*.

In later conformity experiments, Asch (1956) and others (Allen & Levine, 1968) showed that allies can make people impervious to conformity pressure – when just one dissenter goes against a norm set the majority of confederates, very few participants still give the popular but incorrect answer, and most expressed their initial (correct) judgment. By going against a social norm, dissenters break unanimity, and provide social support, making it easier for others to also withstand majority pressure.

Similarly, we tested whether the endorsement of veg*anism by an ally would empower veg*an participants to be candid about their meat-free principles among a majority of meat-eaters. Prior qualitative work is consistent with this prediction: participants indicated to find it easier to reduce their intake of animal protein when they expect their family and friends to be supportive of that decision (Markowski & Roxburgh, 2019). We tested the effect of social support experimentally. We examined whether participants would be more likely to be candid about their meat-free principles when an ally previously endorsed a meat-free diet (H2).

1.4. Current study

To emulate the minority position that veg*ans often occupy during social interactions with meat-eaters, we created a setting inspired by the classic conformity studies by Asch (1952), with confederates posing as ‘fellow participants’. Under the guise of a group discussion on ‘plant-based alternatives for meat’, we gave vegan and vegetarian participants the opportunity to express their meat-free preferences in the presence of a non-vegetarian majority; in the presence of others, participants were offered the opportunity to sign a petition in favor of supermarkets increasing their assortment of veg*n food alternatives. Prior to participants indicating their decision to sign or not, the three confederates first received the petition, and all *declined* to sign.

Thus, we ensured that veg*an participants would face a *dilemma*: by signing the petition, they would support an initiative that is in line with their private, meat-free, principles. However, doing so would require them to be candid about their meat-free preferences and publicly deviate from the norm represented by the (physically present) ‘fellow participants’ who previously declined to sign the petition. Importantly, participants did not talk to each other while deciding whether or not to sign the petition. Thus, the option of ‘saving face’ and verbally appeasing others by mentioning non-moral justifications for supporting the petition (e.g., “I don’t like the taste of meat”; Greenebaum, 2012) was not available.

Even though it was in the practical interest of our participants to go against the norm, and sign the petition, we expected that many of them would be hesitant to do so, as they are aware of and concerned about the social stigma that would be associated with their deviant choice. In other words, we expected participants would be tempted to self-silence²; they would be less likely to support the petition in the public setting, compared to a private one, with no others present (H1).

Moreover, we tested the liberating potential of allies (H2). We expected that when the moderator endorses a plant-based diet, veg*an participants would be less likely to self-silence, and feel empowered to go against the majority position, and be candid about their meat-free principles. In other words, they would be more likely to sign the meat-free petition in the endorsement condition compared to the non-endorsement condition.

2. Method

2.1. Participants & procedure

Research assistants, as part of a course assignment in 2016, invited veg*an individuals in the city of Groningen via social media groups, social networks, and flyers distributed in relevant locations (such as vegetarian restaurants and supermarkets) to participate in a study. Thanks to their concerted effort, we were able to recruit 93 veg*an participants (83.9% female, 65.6% vegetarians, 32.3% vegans, 2 did not self-identify as either, 74.2% in the age bracket of 18–24, 31.2% Dutch, 39.8% German, 86% student. The data are publicly available, see the link below.

Participants entered the lab and privately completed a survey including socio-demographic measures, questions about the motivation for (and others’ responses to) their meat-free diet, and a suspicion check. Afterwards, the moderator guided the participants to another room in order to participate in a ‘group discussion on vegetarian and vegan products’ (see Fig. 1). The three fellow group members were instructed confederates and were already in the room when the participant

² Self-silencing can manifest itself verbal restraint (i.e., not saying the things one wants to say during conversations; Swim, Eysell, Murdoch, & Ferguson, 2010), but is actually a wider concept. Self-silencing, in essence, implies restricted self-expression (Jack, 1991): people have a specific desire, but choose not to publicly share it with others.



Fig. 1. The experimental setting of the group discussion. From left to right: moderator, confederate 1, confederate 2, confederate 3, and participant.

entered. Through their scripted answers to the moderator's initial probes, they identified themselves as non-vegetarians (e.g., a male confederate mentioned that, while waiting, he had sampled the vegan chorizo that was present, but still prefers 'real meat').

Before the 'group discussion' started, the moderator (a female student of the same age as participants, informally dressed, casual tone) introduced the crucial element: a petition requesting supermarkets to increase their assortment of vegetarian and vegan products. "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. I promised him to ask you". The moderator passed around the petition. The actual participant was always the last in line to receive the petition; the petition sheet was first seen and read by the three confederates who all *declined* to sign. We expected that, given the social stigma that is associated with veg*anism, participants would be hesitant to express their veg*an preferences in the face of a disagreeing majority of meat-eaters, and thus may opt to self-silence and be less likely to sign in this public setting, relative to a private setting (H1).

We systematically varied whether participants experienced ally support by varying whether the moderator endorsed the petition, or not. Specifically, the moderator's verbal introduction of the petition continued with "but don't feel obliged to sign it. I didn't sign it as well. Here, have a look." (*no endorsement condition*), or with "I signed it, but don't feel obliged to sign it as well. Here, have a look." (*endorsement condition*). Following H2, we expected that veg*an participant would be less sensitive to majority influence when they experienced ally support – the moderator endorsed the petition. Note that the moderator positioned herself as a fellow student and gave the participants ample of room to make up their own mind ("don't feel obliged"). We did this to avoid eliciting authority effects: participants agreeing or declining to sign the petition just to please the moderator, rather than feeling 'empowered' to share their private opinions. Note also that, unlike Asch' earlier work on dissidents (1956), our moderator was the first to signal her position about the petition, so *before* the confederates rejected the petition. Thus, by endorsing the petition, our moderator essentially pre-empted consensus from occurring in the first place (Morris, Miller, & Spangenberg, 1977).

After participants saw the petition, the moderator started the 'group discussion on vegan and vegetarian products'. Although this group discussion was merely a cover story, we wanted to avoid raising unnecessary suspicion so actually proceeded with it. The research assistants collected and analyzed participants' responses to our moderator's probes for exploratory purposes (See Supplemental Information for the

exact script).

The study was approved by the Ethical Committee at the first author's university.

2.2. Petitions

We included two versions of the petition. Both promoted the reduction of meat consumption based on virtuous grounds. One version highlighted an *other-regarding* virtuous concern: the societal benefits of reduced meat consumption (e.g., improving animal welfare and reducing climate change – *the other-regarding petition*). The other version highlighted a *self-regarding* virtuous concern: personal health benefits (e.g., improved health and reducing obesity – *the self-regarding petition*) of a meat-free diet (see Supplementary Information). The moderator tailored her verbal introduction to the type of petition: "... because he thinks it's the ethically right thing to do regarding animal rights and environmental issues." versus "... because he believes plant-based diets are healthier and reduce the risk of diseases.". We included these two versions for exploratory reasons: we were interested in whether participants would be less hesitant to publicly sign the petition with the self-regarding concerns, as self-regarding concerns could potentially serve as a 'non-moral' excuse (see Greenebaum, 2012).

We conducted a pilot study in a private setting among 22 participants (88% female, 17–29 years) who identified themselves as 'following a vegetarian or vegan diet'. All participants (22 out of 22) indicated that they would sign the petition referring to societal benefits (i.e., the other-regarding petition), and 77% (17 out of 22) indicated that they would sign the petition referring to health benefits (i.e., the self-regarding petition). This indicates that, as expected, veg*an participants' private inclination is to sign the petition.

3. Results & discussion

3.1. Results

Three participants correctly guessed the objective of the lab study (i.e., a conformity test). One participant indicated not to follow a veg*n diet and to have enrolled accidentally. The data of these four participants were excluded from the analyses, resulting in a final sample of 89 participants. The proportion of participants that chose to publicly sign did not systematically differ across both versions of the petition (i.e., the self-regarding and the other-regarding petition). We therefore collapsed the data across the two versions and directly tested whether signing rates in the endorsement condition differed from the no-endorsement

condition. Random assignment was successful; the two groups did not differ in terms of gender (82% vs. 84% female), age (71% vs. 75% in the 18–24 age bracket), status (87% vs. 84% student) and dietary preference (64% vs. 66% vegetarian).

When the moderator had not endorsed the petition, veg*an participants were hesitant to sign: only 52.3% (23 out of 44) of the participants signed the petition. This proportion was much lower ($Z = 3.74, p < .001$, *Cohen's h* = 0.84) than in the pilot study taking in a private setting, where the large majority (88.6%, 22 out of 22 for the other-regarding petition and 17 out of 22 for the self-regarding petition) of participants did sign. This pattern suggests that our veg*an participants self-silenced: the refusal of the three non-vegetarian ‘fellow participants’ inhibited some of our participants from expressing their private, meat-free preferences, in line with Hypothesis 1. When the moderator had endorsed the petition, however, a much larger proportion (84.4%, 38 out of 45; similar to the signing rates in the pilot test) of veg*an participants signed the petition.³ In other words, the percentage of participants going against the social norm, and thus expressing their meat-free preferences, increased from 52.3% to 84.4% ($Z = 3.27, p = .001$, *Cohen's h* = 0.83, see Fig. 2) when there was an ally present. This result is in line with Hypothesis 2.

3.2. Discussion

It seems that many participants did indeed experience a dilemma. In the physical presence of a unanimous majority of non-vegetarians who refused to sign a petition for a virtuous cause and having no room to justify one's meat-free preferences with ‘face-saving’, non-moral arguments, only 52.3% of the vegan and vegetarian participants signed the petition. This is much lower than the private responses recorded in the pilot study. These findings suggest that veg*ans, as a last resort, may indeed self-silence about their meat-free preferences, thus supporting Hypothesis 1.

In the endorsement condition, when the moderator endorsed the petition, the proportion of participants who signed the petition was much higher, and similar to that of the private responses recorded in the pilot study, where there was no social pressure. This suggests that the moderator's endorsement did not artificially boost signing rates (i.e., the result of an authority effect), but rather facilitated socially apprehensive vegan and vegetarian participants to go against a social norm they pri-

vately do not support and express their meat-free preferences, consistent with Hypothesis 2. Thus, these findings illustrate the potential influence of ally support in facilitating veg*ans to be candid about their meat-free preferences and share their minority position.

Interestingly, during the subsequent ‘group discussion on your experiences with vegan/vegetarian alternatives’, a few participants took the opportunity to, without being prompted, elaborate on their decision to adopt a veg*an diet to the group. For example, one participant commented that “I am not a fanatic vegetarian”. A second participant noted that “I tried to be vegan but it was too difficult for me. I am not really like that, it was too much, and I also wear leather boots”, and a third mentioned “I'm not judging meat-eaters, but they put a lot of stuff in meat that people just don't know off.”

These voluntary comments are hard to align with the traditional perspective that people invariably advertise their virtuous accomplishments in public settings to reap reputational benefits (Bateson, Nettle, & Roberts, 2006). Instead, these comments are consistent with the notion that vegan and vegetarian participants, as documented by others (e.g. Greenebaum, 2012), were worried that expressing their meat-free preferences carries the stigma of being seen as judgmental, and they tried to pre-empt that. However, the ‘group discussion’ was not meant to prompt such voluntary comments, and we did not anticipate receiving them. Therefore, we did not systematically code and analyze participants' responses, and cannot conclude whether the comments by these three are representative of the entire sample.

3.3. Implications

Why do many people's private meat-free preferences fail to materialize in their daily diets? One potential explanation is that existing veg*ans are worried about social stigma, and thus may self-silence: avoid expressing their meat-free preferences during interactions with meat-eaters. When veg*ans self-silence, they also miss an opportunity to set an example for others to follow, thereby perpetuating the current meat-eating norm. Seemingly trivial differences in the number of people that hold a certain personal preference within smaller groups can, in the long run, result in macro-level consequences for entire societies (Granovetter, 1978; Schelling, 1971). The tendency to self-silence among veg*ans may prevent the onset of momentum (i.e., Chenoweth & Belgioioso, 2019) and could help to explain why the meat-free movement has, as of yet, failed to reach the critical mass that is needed to achieve a societal tipping point.

Our results indeed suggest that, while in the presence of a majority of meat-eaters, and having no other ways to escape stigma, veg*ans may avoid expressing their meat-free preferences. This self-silencing could in turn discourage others from eliminating meat from their diet as well, thus perpetuating the non-vegetarian norm. Importantly, our theorizing also points a practical way out of this self-reinforcing ‘spiral of silence’ (Geiger & Swim, 2016): do-gooders may feel empowered to express their private, meat-free preferences when they experience ally support. This may, in turn, facilitate other aspiring veg*ans to share their meat-free preferences too.

In our study, ally support came from a physically present peer (i.e., the moderator in a group discussion). Although ally support is likely most powerful when it comes from physically present peers (i.e., exemplars), institutions may have a subtle, but widely applicable influence as well (Tankard & Paluck, 2017): new laws or standards set by institutions (e.g. a tax on animal products, default vegan meals in cafeterias), may signal that reduced meat consumption is no longer a minority practice that is associated with social stigma, but a growing trend. In other words, institutional decisions can signal that, although perhaps not always visible, there are allies who also follow a meat-free diet. This awareness may facilitate otherwise apprehensive aspiring veg*ans to make their meat-free preferences public during social interactions with meat-eaters.

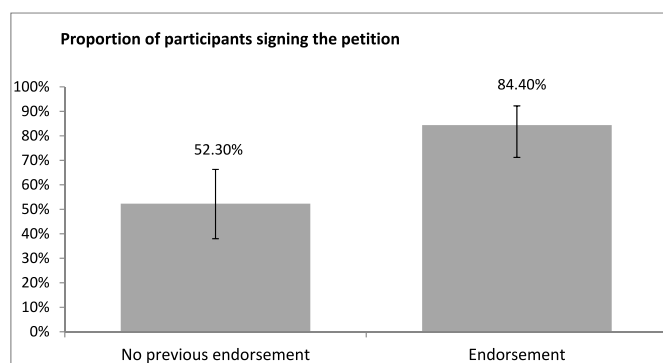


Fig. 2. The proportion of veg*an participants signing the petition. Error bars represent 95% confidence intervals.

³ The difference across the endorsement vs. non-endorsement condition seemed somewhat smaller for vegan ($N = 30$) and male ($N = 15$) participants – many male (6 out of 7) and vegan (9 out of 15) participants still signed the petition when the moderator did not endorse the petition. However, the sizes of these subsamples were too small to draw definite conclusions.

3.4. Future research

Consistent with our reasoning, we found experimental support for self-silencing; the number of veg*an participants in the no-endorsement condition signing the petition was much lower than in the private condition. This difference is consistent with the notion of veg*an participants wanting to avoid the specific stigma associated with being considered judgmental in public situations (Greenebaum, 2012).

Alternatively, one could argue that our results are a straightforward manifestation of conformity pressure: people tend to conform to whatever norm is displayed by peers, so if a unanimous majority of people refuses to sign a meat-free petition, veg*ns are tempted to do the same, as they do not want to stand out. According to this interpretation, veg*ns should also feel pressure to choose the same brand of beer as a unanimous majority, or root for the same football team. Our reasoning, however, predicts that in such cases, veg*ns would be much less susceptible to conformity pressure, as there is no risk of appearing judgmental by taking a deviating position. In other words, we argue that fear of stigma may help to explain why, when it comes to meat consumption, social norms have such a firm grip on people. We hope that future research will further explore this question.

Our findings offer a start: by having two versions of the petition, we explored whether offering a self-regarding, 'non-moral' excuse (i.e. personal health) can attenuate fear of stigma, and thus make it easier for veg*ans to express their deviant, meat-free preferences in public. The fact that we did not find this makes sense in light of recent findings. Specifically, showing one's support for reduced meat consumption, even when justified with personal health benefits, can still imply a moral conviction: making unhealthy food choices is increasingly seen as an irresponsible thus as an immoral action (Täuber, 2018). Indeed, patients struggling with their weight tend to think that physically fit doctors look down upon them (Howe & Monin, 2017). Thus, the very same fear of coming across as judgmental may have inhibited participants to sign the self-regarding, health-based petition as well. Future studies should therefore explore other ways to reduce fear of stigma.

While we present vegan stigma as the consequence of appearing judgmental, it is possible that veg*anism is associated with additional types of stigma, that veg*ans have learned to avoid as well. For instance, it is possible that (particularly male) participants wanted to avoid appearing 'weak' (Miller, 1999) or 'feminine' (Rothgerber, 2013; Ruby & Heine, 2011) by making their support for plant-based diets public. Participants' spontaneous comments during the 'group discussion', however, suggest that avoiding appearing judgmental was a focal concern for at least some of our vegan and vegetarian participants. Future research should dig into this further and disentangle the various facets that make up the stigma associated with veg*anism, as well as other ways to motivate 'closet' veg*ans to express their meat-free preferences during interactions with meat-eaters.

Common wisdom maintains that "vegans will tell you that they're vegan", and the more general notion of virtue signaling (Orlitzky, 2017) implies that people tend to present themselves as more virtuous than they actually are. Our results suggest this may be a misperception: veg*ans, when in the presence of non-vegetarians, may actually avoid expressing their meat-free preferences. More importantly, our results provide a new explanation for how such misperceptions can arise: the general public might be exposed to a self-selected sample of veg*ans; those willing to be vocal during social interactions and on social media, despite potential social backlash. In reality, this could be a small segment of the true number of self-identified veg*ans, but since they are the ones most visible in public arenas, this vocal group determines the general image of the whole group. Future research could examine how self-silencing and social perceptions of minorities are linked.

Although we zoomed in on veg*an participants who self-silenced about their meat-free preferences, we want to stress here that a substantial proportion of vegetarian and vegan participants *did* sign the petition requesting more vegetarian alternatives (52.3%), despite the

presence of a unanimous majority of non-vegetarian audience who had just refused to sign. Just like in Asch' original work, many participants did *not* yield to conformity pressure (Hodges and Geyer, 2006). What distinguishes these individuals from the ones that cover up their virtuousness in public settings? Are they oblivious to social costs, or do they simply care less about those social costs? Can others emulate their example? Future studies could for instance explore whether a healthy dose of self-esteem and disinhibition (van Bommel, van Prooijen, Elffers, & Van Lange, 2016; van den Bos & Lind, 2013) can facilitate more individuals to express their unconventional but virtuous inclinations, and subsequently speed up societal change.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.appet.2021.105719>.

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Ethical statement

This study was approved by the Ethical Committee of the Faculty of Business and Economic of the University of Groningen.

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