

156 Conflicts in meat consumption: exploring their effects on social norms and consumer behavior

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Abstract

There has been increasing attention to the effects of food production and consumption on the environment and human health, especially regarding meat consumption. Traditionally, meat is one of the most important food items in the human diet: it is part of many societies' dominant dietary habits. On the other hand, recent dietary guidelines recommend consumers reduce meat consumption and substitute them for plant-based or insect-based food as alternatives to environmentally sustainable food. However, questions are raising in health and environmental areas. For example, studies have suggested that eating meat has both positive and negative impacts on health, and the environmental footprint of diets is country-specific. This discussion takes meat to a controversial position in the human diet. It occurs both in the scientific field and in the mass media, exposing consumers to information conflict and ambiguity, which can affect their food consumption behavior. Since eating meat is considered a social norm in most areas of the world, it is expected that consumers face conflicts regarding these norms and meat consumption. Social norms are negotiated rules and patterns that regulate social behaviors. They are communicated and understood by members of a specific group in a way that they can guide or restrict behaviors and conducts. The influence of social norms in food choice and the consumed amount of food is recognized by the literature, as well as its impact on several elements of the sustainable food consumption process. Our study discusses the possible effects of social norms conflicts regarding meat consumption on consumer behavior, resulting from the ambiguities to which consumers are exposed. To achieve this, we did a narrative review of the literature, addressing topics related to sustainable diet and food consumption behavior, meat consumption, social norms, and normative conflicts. As a result, we propose a theoretical framework that focuses on social norm conflicts and meat consumption behavior, integrating academic insights and research findings from different disciplines. Our framework considers three different types of normative conflicts: (a) conflicting norms within the same group; (b) conflicting norms of different

groups that the person identifies with; and (c) conflicting norms of different groups that the person identifies with one group, but not with the other. With that, this study aims to contribute to promoting environmentally sustainable food consumption in the food domain. Our contribution encompasses insights to (i) the advancement of the Focus Theory of Normative Conduct; (ii) the knowledge related to consumer behavior in the food domain; and (iii) the industry, government, and society, by providing information to support decisions, agendas, and public policies. Finally, we also present research questions that could be explored in future studies.

Keywords: Food; Meat; Social Norms; Conflict; Consumer Behavior

Introduction

Solutions to climate change challenges require structural changes in the economic chain, from production to consumption, including individuals' habits and dietary choices. Food is one of the three most critical sectors regarding consumption-based GHG emissions (Ivanova et al., 2020; Lehner et al., 2016). Hence, there is increasing social pressure for changes in diet, especially in meat consumption patterns (Cheah et al., 2020). Intensive meat production has been identified as a leading cause of atmosphere polluting gases, land, water and energy use, and ecosystem degradation, leading to biodiversity loss (The Lancet, 2018).

The necessary shift in meat consumption patterns is challenging due to the complexity of eating behavior (Vermeir et al., 2020). In a multi-perspective view, eating is more complex than an individual decision: habits and social structures, as family, groups, organizations, and culture are determinants (Klößner, 2017; Sobal et al., 2014). Furthermore, meat consumption plays an essential role in expressing group identity, economic status, and social identities, such as masculinity, strength, wealth, and social status (Bastian and Loughnan, 2017; De Backer et al., 2020; Macdiarmid et al., 2016). Also, it represents community belongingness, gastronomic, cultural, religious, and familiar traditions (Leroy and Praet, 2015; Rosenfeld and Tomiyama, 2019).

Considering this complexity, interventions to reduce meat consumption have been investigated (see Kurz, 2018; Lacroix and Gifford, 2020; Prusaczyk et al., 2021), including norm-based interventions (Amiot et al., 2018; Sparkman et al., 2020; Stea and Pickering, 2019). The effect of social norms on intentions and behavior is well recognized (Eker et al., 2019; Higgs and Thomas, 2016), including on food consumption domain. Sugar-sweetened beverages (Rosas et al., 2017), food selection in restaurants (Jun and Arendt, 2019), snacking (Schüz et al., 2018), portion size (Raghoebar et al., 2019), salt intake (Mork et al., 2019), suboptimal food (Stangherlin et al., 2018), fruits and vegetables (Gonçalves et al., 2021; Nix and Wengreen, 2017), fish (Olsen and Grunert, 2010), healthy and unhealthy (Liu et al., 2019), and environmentally friend food (Hynes and Wilson, 2016) are an example of investigations exploring social norms and food consumption.

Eating meat is the current social norm in most societies (Sparkman and Walton, 2017), representing a barrier to the transition to more plant-based diets (Lacroix and Gifford, 2020). However, there has been crescent pressure from the academy and mass media to dietary shifts related to meat intake due to its unsustainability production system. One example is the international campaign “Meat Free Monday” encourages people to have one day in the week without eat meat and is supported by celebrities (Meat Free Monday, 2021). This scenario results in meat-related ambiguities, exposing consumers to information conflict. As result, people may be exposed to diverging social norms, and it is expected that consumers face norm conflicts regarding meat consumption.

Individuals use cognitive strategies that affect the behavior to solve the conflict situation, including the consumption behavior. However, what remains underexplored is the effect of the normative conflict regarding meat consumption on consumer behavior. Can the conflict of social norms reduce meat consumption? Social norms depend on the focal behavior (Lapinski et al., 2017), and understanding meat consumption context-specific is necessary. To the best of our knowledge, no academic works explored the effect of conflict of social norms on meat consumption behavior, giving room for further exploration.

We carried out an explorative study using a narrative review strategy to propose a theoretical framework that focuses on social norm conflicts and meat consumption behavior. We seek to integrate academic insights and research findings from different disciplines. From our theoretical exploration also emerged research questions that could be explored in future studies.

Methods

To achieve the proposed objective of this article, we carried out a narrative review of the literature, addressing topics related to sustainable diet and food consumption behavior, meat consumption, social norms, and normative conflicts. This type of review aims to summarize prior knowledge using a usually selective search strategy of conceptual and empirical sources (Paré et al., 2015). However, the narrative review does not review the literature systematically or comprehensively. Consequently, it does not necessarily explain the review process (Paré et al., 2015). Therefore, the objective was not to expose all the papers that deal with the addressed theme here but highlight relevant aspects of the main papers that focus on topics addressed for this paper.

In our review, we start defining the research question that guided the search: “*how the social norm conflict affect meat consumer behavior?*”. To answer this question, We have tried to deepen our understanding of the topics i) sustainable diets; ii) meat consumption”; iii) influence of social norms on food consumption behavior. We carried out a search on Google Scholar and ISI Web of Science databases articulating four blocks of terms: social norms (*social norm**, *normative*, *injunctive*, *descriptive*), conflict

(*conflict, misalignment, disparity, discrepant*, divergent*, incompat*, ambiguity, dissonance*), consumer (*consumer behavior, consumption behavior*), and food and meat (*food, meat, beef*). Scopus was selected for being the largest database of abstracts and citations reviewed by peers and its emphasis on social sciences (Bossle et al., 2016; Homrich et al., 2018). ISI Web of Science is widely accepted and frequently used to analyze scientific publications (González-Serrano et al., 2020; Morioka and de Carvalho, 2016).

We select peer-per-reviewed papers published in English in journals from the first and second quartile of the SCImago Journal Rank (SJR). The ranking measures the journal influence by the average number of citations in the last three years weighted by the knowledge area, based on Scopus Database information (SCImago, 2021). We use the snowball technique to identify others publications, including papers, books and chapters cited as references on the selected papers.

As result, we read approximately 180 sources from more than 80 different academic journals of diverse knowledge areas (health, psychology, environment, biology, anthropology, management, sustainability, medicine, nutrition, among others). During the reading, we made annotations of topics and information related to our questions. After all readings, we elaborated the theoretical scheme.

Results and Discussion

This section presents an overview of the main topics that support our theoretical framework proposition.

Sustainable diet and meat consumption

There is growing pressure for healthier and more sustainable diets due to the overall impact of food production and consumption. In terms of environmental impact, sustainable diets support food production chains that reduce gas emissions, freshwater use, biodiversity loss, land-system change, and preserve nitrogen and phosphorus cycles (Willett et al., 2019). Regarding the social dimension, sustainable diets must consider rights, equity, markets, access to resources, food traditions, and equal access of vulnerable groups taking into account gender class and race (Jones et al., 2016; Springmann et al., 2018). Also, should consider socio-cultural outcomes nutrition, health and animal welfare (FAO, 2018).

The consumer can engage in sustainable diets by (i) choosing products with sustainable production and (ii) changing their dietary pattern of food intake (Verain et al., 2015). The first strategy can be considered an efficient behavior strategy because the consumer seeks to maintain their original diet but reduces its impact by selecting organic, fairly traded or free-range animals products raised in agroecological systems (Ivanova et al., 2020; Soule and Sekhon, 2019). The second strategy involves eliminating or curtailing the consumption of food categories, such as stopping or

reducing meat consumption (Verain et al., 2015), which can be achieved by substituting plant-based or proteins from other origins such as lab-grown meats (Machovina et al., 2015).

However, eating is a multifaceted activity, encompassing multiple dimensions as physical, biological, psychological, and socio-cultural (Sobal et al., 2014). Thus, changes in eating patterns are challenging and hard to achieve (Vermeir et al., 2020). Additionally, previous research identified an attitude-behavior gap regarding purchasing sustainable food products, which differs from the consumer behavior process described in the consumer behavior theory (Vermeir and Verbeke, 2006).

The complexity of eating behavior takes on another dimension concerning meat consumption. Meat is a high-quality nutritional food because of its nutrient density, highly satiating, and components that cannot be easily substituted and were crucial in human evolution (Leroy and Barnard, 2020; Milton, 1999). Eating meat is also important to social representations of personal and collective identities (Cheah et al., 2020). For example, meat consumption has been linked to the expression of masculinity (De Backer et al., 2020; Timeo and Suitner, 2018) and gender differentiation (Leroy and Praet, 2015). It also has a symbolic role in representing community belongingness, gastronomic, cultural, religious, and familiar traditions (Leroy and Praet, 2015; Rosenfeld and Tomiyama, 2019).

Besides, the omnivorous diet is widely accepted and the current social norm in most western societies (Soule and Sekhon, 2019; Macdiarmid et al., 2016). Deviant meat-eating behaviors cause social reactions, which do not happen with other food items. For example, vegans suffer discrimination for not following standard eating behaviors, including vegaphobia and stigmatization (Markowski and Roxburgh, 2019; Plante et al., 2019; Vandermoere et al., 2019)

From a biological point of view, the human being is an omnivorous animal. However, despite the physiological ability to eat meat, people can make a personal choice whether or not to eat it. The literature describes the dietary patterns related to meat intake into categories that vary between authors. For example, Springmann et al. (2018) analyze four energy-balanced dietary patterns: flexitarian, pescatarian, vegetarian, and vegan, while de Gavelle et al. (2019) explores four dietary types: omnivores, pro-flexitarians, flexitarians, vegetarians. Soule and Sekhon (2019) suggest six categories, according to environmental, health, animal welfare motivations, and diet outcomes: omnivore conventional, meat-eaters concerned about animal welfare, flexitarian/reducitarian, pescatarian, vegetarian, and vegan.

De Backer and Hudders (2015) classified meat diet patterns into three categories: full-time meat-eaters, flexitarians, and vegetarians. Similarly, Apostolidis and McLeay (2019) identified three consumer groups: meat-eaters, meat reducers, and

vegetarians. Randers et al. (2020) identify meat consumption patterns as consumption, reduction, or avoidance of meat. These three categories seem to cover the main categories of behavior related to meat consumption.

The first category includes full-time meat-eaters, including consumers that adopt an efficient behavior strategy purchasing more sustainable meat (Apostolidis and McLeay, 2019). The second category comprises people who eat meat with a conscious reduction in the amount eaten. They still eat meat, but in less quantity and frequency, or eat just some kind of meat (e.g., fish or chicken and not red meat) (Apostolidis and McLeay, 2016; Rosenfeld et al., 2019). Finally, the third category is the people who do not eat meat, including different levels of restriction on the consumption of food of animal origin—vegetarians and vegans—(De Backer and Hudders, 2015).

Among the three categories of behavior related to meat consumption described, meat-eaters are the most frequent and current standards. Meat reducers are estimated at around 20-30% of the population in the United States (Rosenfeld et al., 2020) and Europe (Kemper and White, 2021). It is a growing category, with an increasing number of people report their intention to reduce or even stop meat consumption (Apostolidis and McLeay, 2019). People who do not eat meat are around 5-10% of the population (Apostolidis and McLeay, 2019; Bryant, 2019; Rothgerber and Rosenfeld, 2021).

Diets free of or with reduced meat consumption have been linked to four principal motivations in this order of prevalence: animal welfare, health, sustainability and religious arguments (Plante et al., 2019; Soule and Sekhon, 2019). Also, they demand a replacement of the meat proteins, which is done by plant protein (De Boer et al., 2014). The substitution can be made by natural and unprocessed food (e.g., mushrooms, beans) or processed food. Among processed food, there are products not designed to mimic meat (e.g., tofu) and others mimicking meat in flavor, taste, texture and appearance (e.g., meat-like burgers and sausages) (Santo et al., 2020).

On the consumer side, the meat consumption complexity is expressed by cognitive and behavioral manifestations. For example, despite negative attitudes about meat intake (Vandermoere et al., 2019) and a crescent intention to reduce meat consumption (Apostolidis and McLeay, 2019), few attitudes have effectively changed eating patterns. Macdiarmid et al. (2016) affirm that meat-eaters face the meat-paradox: although they have negative attitudes about eating meat, they are unwilling to change their diary habits.

This belief–behavior inconsistency can be explained by the meat-related cognitive dissonance. To naturalize the meat intake, consumers apply perceptual strategies as third part blame, denying the animal mind, and dichotomization (Rothgerber and Rosenfeld, 2021). Another strategy is rationalizing the consumption by the natural, normal, necessary, and nice justification, known as the 4 Ns (Piazza et al., 2015).

Regarding the justification of being “normal”, it refers to “what most people in civilized society do and what most people expect from us” (Piazza et al., 2015, p. 115), and it is linked to dominant social norms in society.

Social Norms and food consumption

Humans are social beings, and the social environment influences shaping them (Hirsh and Kang, 2016). People segment, categorize and classify the social environment through groups, enabling the relative perception of the individual’s position and role in the social system (Abrams and Hogg, 1990). Group affiliation results in following a specific prototype, which guides behavior, beliefs, attitudes, and feelings (Hogg, 2016).

The group prototype is influenced by a single, particular, and shared normative system, group cohesiveness by shared customs, traditions, standards, rules, and values (Cialdini and Trost, 1998; Fritsche et al., 2018). Social norms are negotiated rules and patterns to regulate social behaviors communicated and understood by members of a specific group (Cialdini et al., 1990). They guide or restrict behaviors and conduct, although they are not supported by a formal law system (Cialdini and Trost, 1998).

The strength of social norms is influenced by the salience of the norm and the degree of identification with the group (Goldstein et al., 2008; Hirsh and Kang, 2016). Circumstances and environmental clues can put the norm in focus, resulting in its salience (Cialdini et al., 1990). Perceived similarity (Rimal et al., 2005), group’s meaningfulness to the individual (Goldstein et al., 2008), affinity and desire to connect with a reference group (Lapinski and Rimal, 2005), and the importance of the group for the self-concept (Hirsh and Kang, 2016) influence the group identification strength. Stronger group identification implies greater adherence to group social norms (Hirsh and Kang, 2016) and, consequently, greater engagement with norm-related behaviors (Lapinski and Rimal, 2005).

Two types of social norms emerge from the same socio-cultural context but with different motivation sources (Cialdini et al., 1990; Hamann et al., 2015). Descriptive norms are standard social behaviors, following what other group members do by observation and imitation (Cialdini et al., 1990; Miller and Prentice, 2016). They dictate what behavior is “normal” and commonly done (Thøgersen, 2006). Injunctive norms—also called prescriptive norms—are related to socially valued behaviors resulting from approval or disapproval by the group peers (Hawkins et al., 2019). They determine what should and should not be done, what people typically approve or disapprove (Hamann et al., 2015).

Food choice involves multiple daily decisions, and the context matters (Sobal et al., 2014). It is a social process and plays an essential role in expressing group identity (Rosenfeld and Tomiyama, 2019). As group affiliations and social identity processes

are connected to follow group social norms (Hogg, 2016), social norms affect eating behaviors (Olsen and Grunert, 2010; Stok et al., 2018; van Rongen et al., 2020).

Both types of norms influence beliefs and behaviors (Smith and Louis, 2008). However, descriptive and injunctive norms' effects on eating behavior differ. Previous studies found a significant association between descriptive norms and food consumption intention and behavior, including fast food, sugar-sweetened beverage, fruit and vegetable (Pelletier et al., 2014), unprocessed insects (Liu et al., 2019) and meat (Nguyen and Platow, 2021). Descriptive norms indicate what is normal by imitation and observation, explaining the greatest influence of descriptive norms on every type of dietary behavior (Bell and Holder, 2019). Injunctive norms, however, were found influential just to consumption of unhealthy foods (Bell and Holder, 2019), suggesting an influence of the moral judgment on the consumption of this food category.

Toward a theoretical framework for normative conflict applied to meat consumption

The complexity of the social environment can result in situations in which norms are different and misaligned, leading to normative conflicts. There are three possible situations of normative conflict: a) conflicting norms within the same group; (b) conflicting norms of different groups that the person identifies with; and (c) conflicting norms of different groups that the person identifies with one group, but not with the other.

In the first case, a conflict occurs between descriptive and injunctive norms that simultaneously activate and contradict each other (Hamann et al., 2015). The conflicting norms emanate from the same source (a specific group—e.g., family or peers) and usually put the individual in a situation of supportive versus unsupportive norm (Smith et al., 2012). Here, what is relevant is the relationship and the strength of the two types of norms.

In this normative conflict, the group formally approves some behavior, but members did not engage in this behavior indeed. Or, in reverse, people disapprove of some behavior but, in fact, behave like this. For example, a group of peers can approve and stimulate meat consumption reduction, but the real behavior of the members is to maintain the same pattern of meat intake.

The misalignment between the two types of norms has been studied empirically, and most results indicated that conflict could weaken the normative influence on intentions and behavior (Hamann et al., 2015; Jun and Arendt, 2019). It occurs because conflict may: i) undermine conformity to either norm, reducing the intention to engage in the behavior in question (Smith et al., 2012; Staunton et al., 2014); and ii) to reduce perceived social pressure to conform with the norm, discouraging people from

engaging in the behavior (Jun and Arendt, 2019). According to Smith et al. (2012), when descriptive and injunctive norms are incongruent, the intentions to engage are equivalent to the intentions of individuals exposed to norms related to disapproval or disengagement in some behavior. On the other hand, an alignment between descriptive and injunctive norms results in an increased norm effect on behavior compared to using a norm alone (Cialdini, 2003; Schultz et al., 2018).

However, Plows et al. (2017) suggest that the misalignment between descriptive and injunctive group norms can mobilize healthy eating behavior. The authors explain that healthy eating impacts primarily at the individual level, and norm misalignment may have a motivator effect on behaviors considered positive, like healthy eating. Meat can be considered both beneficial and prejudicial to health, presenting positive and negative outcomes (Barnard and Leroy, 2020b, 2020a; Leroy and Barnard, 2020). Thus, we propose the following research question:

RQ.1 – What is the effect of the conflict between descriptive and injunctive ingroup social norms in meat consumption?

The second and third situation of normative conflict occurs when a person is exposed to conflicting norms of different groups, activated at the same time. Group memberships and social identities are defined by many factors, including nationality, peer group, family, friendships, gender, race, culture, sexual orientation, and political preferences (Higgs, 2015; Hirsh and Kang, 2016). Thus, a person is concomitantly affiliated with and influenced by different social groups and is exposed to different normative expectations (Amiot et al., 2020; Hirsh and Kang, 2016). Considering the norm as a group standard (McDonald and Crandall, 2015), it is reasonable to expect that groups have different norms among themselves (McDonald et al., 2013).

Group identification plays an important role in this situation. As a self-categorization and self-concept process, intragroup comparison also reinforces the contrast among groups and, consequently, among group norms (Amiot et al., 2020). In a conflict between norms of a valued group and another group with less importance (the second case), it is expected to reinforce the behavior related to social norms of the group the person identifies with (i.e., relevant group). It occurs to highlight outgroup differentiation and strengthens group cohesiveness, stability and affiliation (Fritsche et al., 2018; Hogg, 2016).

However, when two or more incongruent social norms from different and equally relevant groups are salient simultaneously, the expected effect on behavior is unclear. For example, one individual can be part of a relevant peer group with a supportive norm related to reducing meat consumption. However, at the same time, their family group can have unsupportive norms related to reduction behavior. In this situation, the individual is aware of the divergence and realizes that this difference can lead to a

position that harms their social relationships because of incompatible behavioral expectations (Giguère et al., 2010; Hirsh and Kang, 2016). As a result, there is a feeling of failure to satisfy the role requirements of identities and comply with a group's norms that can put the affiliation at risk (Gibson et al., 2020).

Previously research explored the conflict between social norms of different groups in the pro-environmental domain (McDonald et al., 2013, 2014a, 2014b; Salmivaara and Lankoski, 2019) and alcohol consumption behavior (Cail and LaBrie, 2010). Norms conflict impact in behavior can be mixed, positive, or negative and are influenced by other factors (Fritsche et al., 2018; McDonald et al., 2014a). Considering that, we ask:

RQ.2 – What is the effect of conflicting social norms of different groups on meat consumption behavior?

RQ.2.1 - Will conflict between social norms lead to reduced meat consumption?

To solve this conflict and ensure stability, individuals use cognitive activities and behavior as strategies (Reed et al., 2012). Each person has a complex psychological system—self-concept—that encompasses a set of identities constructed from the interaction between personal characteristics and the social environment (Amiot et al., 2007). This set of identities organizes previous experience and manifests social roles, determining who a person was, is, and may become. The literature describe strategies related to the self-concept and self-identities. Potential reactions include switching between identities (Giguère et al., 2010), suppressing one of the conflicting identities, enhancing elements of the dominant identity, and denying the conflict (Hirsh and Kang, 2016).

Compensatory consumption of products and/or services to reinforce a specific identity is one possible strategy to enhance a dominant identity (Coleman et al., 2019). If a compensatory consumption behavior is a direct strategy, scholars interpret the act of avoiding consumption also as a manifestation of self-identity and an indirect strategy to reinforce self-concept. Thus, consumption reduction, avoidance, or rejection are practices of anti-consumption and self-expression to take distance from undesired self-identity (García-de-Frutos et al., 2018).

Considering the diversity of possible strategies for conflict resolution, we propound the following research question:

RQ.3– What strategies do consumers adopt to solve the conflict between social norms of different groups regarding meat consumption?

Table 1 summarizes the discussion and helps organize our understanding of normative conflicts.

Table 1. Type of normative conflicts and main characteristics

Type of conflict	Type of norms involved	What matters	Group identification	Possible effect	Example
Social norms of the same group	Descriptive and injunctive	Relationship between the norms; norm salience	Not applicable	Weaken or strengthen norm influence on behavior	“people are reducing the amount of meat in their diet” <i>versus</i> “people should eat meat regularly.”
Social norms of different groups	Descriptive or injunctive	Norm salience, affiliation salience, group identification	High identification with one group but not with the other	Strengthen norm influence on behavior	“people should reduce meat intake in their diets” <i>versus</i> “people should eat meat regularly in their diets”
			High identification with both groups	Weaken or strengthen norm influence on behavior	

Finally, based on our literature review, we propose a theoretical framework to conflict between social norms regarding meat consumption.

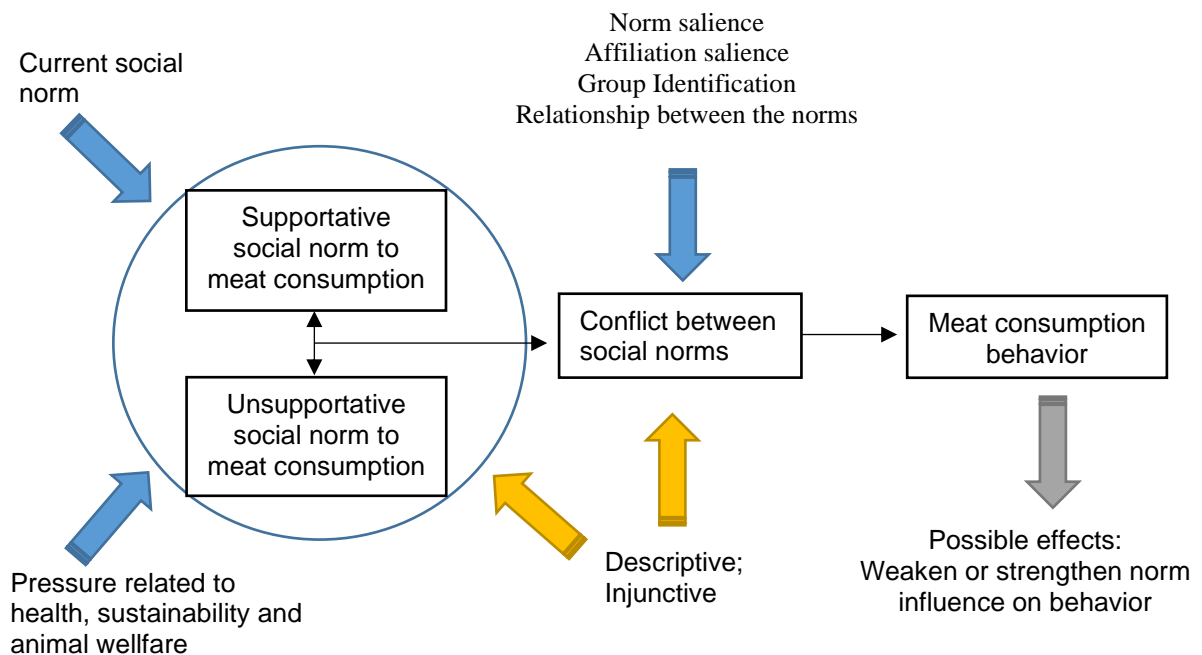


Figure 1. Theoretical framework of normative conflicts.

Conclusions

Our paper explored the possible conflict between social norms and their effects on meat consumption behavior. We proposed a norm conflict categorization that can be applied in multiple consumption areas (Table 1), a theoretical framework focused on meat consumption context (Figure 1) and research questions to guide future investigations. We have identified three different situations of social norm conflict occurrence, separated into two categories: conflict between social norms of the same group and different groups. The categories differ on the type of norm involved, variables that interfere, and behavior's possible effect.

The theoretical framework considers eating meat as the current social norm in western societies and a supportive social norm to this behavior. It takes into account the social pressure to reduce meat consumption (Cheah et al., 2020; Piazza et al., 2015) as an unsupportive social norm based on the paradoxical meat status in actual society. Meat is benign, pleasurable, and economically important, but it entails environmental and health externalities and tradeoffs (Bateman et al., 2019; Leroy, 2019).

Our proposal is based on an extensive literature review, which presents limitations related to this approach. We suggest that future studies and interventions related to meat consumption and social norms verify our findings empirically.

The paper sought to contribute to the academic, managerial and social fields to promoting environmentally sustainable food consumption in the food domain. The main theoretical contribution refers to the advancement of the Focus Theory of Normative Conduct and other influential behavioral theories that use social norm as a component of behavioral change interventions (e.g., Theory of Planned Behavior).

Expanding studies on the domain of eating behavior deepens the understanding of food consumption behavior and dietary choices. Additionally, there has been increasing attention to food production and consumption effects on the environment and human health, especially meat consumption. Considering the growing concern about environmental and climate issues and the increasing intention to reduce or curtail meat consumption (Soule and Sekhon, 2019), it seems to be a flourishing field. Furthermore, social norms and normative conflicts can be drivers or barriers to meat consumption, and understanding their effects on meat eaters' behavior is relevant in this context.

Our work can contribute to business and the economy once changes in meat consumption patterns influence global value chains, which need to adapt to new scenarios. Alternative products to substitute meat are also a growing market that can be impacted by recent trends in meat consumption, including new niches such as products developed for meat-eaters (Curtain and Grafenauer, 2019). The economic

and social importance of the livestock chain is relevant in farming, consuming, and exporting countries.

Studies on meat consumption meet society's demand for a more sustainable and healthier lifestyle and habits, providing information to support decisions, agendas, and public policies. In addition, the increasing global warming, rapid environmental degradation, and the loss of biodiversity present complex and multidisciplinary challenges in the last decades and results can contribute to future public interventions and policies to changes in eating patterns to more sustainable diets.

References

- Abrams, D., and Hogg, M. A., 1990. Social Identification, Self-Categorization and Social Influence. *European Review of Social Psychology*, 1(1), 195–228.
- Amiot, C. E., El Hajj Boutros, G., Sukhanova, K., and Karelis, A. D., 2018. Testing a novel multicomponent intervention to reduce meat consumption in young men. *PLoS ONE*, 13(10), 1–22.
- Amiot, C. E., Lizzio-Wilson, M., Thomas, E. F., and Louis, W. R., 2020. Bringing together humanistic and intergroup perspectives to build a model of internalisation of normative social harmdoing. *European Journal of Social Psychology*, 50(3), 485–504.
- Apostolidis, C., and McLeay, F., 2016. Should we stop meating like this? Reducing meat consumption through substitution. *Food Policy*, 65, 74–89.
- Apostolidis, C., and McLeay, F., 2019. To meat or not to meat? Comparing empowered meat consumers' and anti-consumers' preferences for sustainability labels. *Food Quality and Preference*, 77(December 2018), 109–122.
- Barnard, N. D., and Leroy, F., 2020a. Children and adults should avoid consuming animal products to reduce risk for chronic disease: YES. *American Journal of Clinical Nutrition*, 112(4), 937–940.
- Barnard, N. D., and Leroy, F., 2020b. Children and adults should avoid consuming animal products to reduce the risk for chronic disease: Debate Consensus. *American Journal of Clinical Nutrition*, 112(4), 937–940.
- Bell, C. N., and Holder, M. B., 2019. The Interrelationship between Race, Social Norms and Dietary Behaviors among College-Attending Women. *American Journal of Health Behavior*, 43(1), 23–36.
- Bryant, C. J., 2019. We can't keep meating like this: Attitudes towards vegetarian and vegan diets in the United Kingdom. *Sustainability (Switzerland)*, 11(23).
- Cheah, I., Sadat Shimul, A., Liang, J., and Phau, I., 2020. Drivers and barriers toward reducing meat consumption. *Appetite*, 149.
- Cialdini, R. B., 2003. Crafting normative messages to protect the environment. *Current Directions in Psychological Science*, 12(4), 105–109.
- Cialdini, R. B., Reno, R. R., and Kallgren, C. A., 1990. A Focus Theory of Normative Conduct: Recycling the Concept of Norms to Reduce Littering in Public Places. *Journal of Personality and Social Psychology*, 58(6), 1015–1026.
- Cialdini, R. B., and Trost, M., 1998. Social influence: Social norms, conformity and

- compliance. In D. T. Gilbert, S. T. Fiske, and G. Lindzey (Eds.), *The handbook of social psychology* (pp. 151–192). McGraw-Hill. Clayton.
- Coleman, N. V., Williams, P., and Morales, A. C., 2019. Identity threats, compensatory consumption, and working memory capacity: How feeling threatened leads to heightened evaluations of identity-relevant products. *Journal of Consumer Research*, 46(1), 99–118.
- De Backer, C. J. S., and Hudders, L., 2015. Meat morals: Relationship between meat consumption consumer attitudes towards human and animal welfare and moral behavior. *Meat Science*, 99, 68–74.
- De Boer, J., Schösler, H., and Aiking, H., 2014. “Meatless days” or “less but better”? Exploring strategies to adapt Western meat consumption to health and sustainability challenges. *Appetite*, 76, 120–128.
- de Gavelle, E., Davidenko, O., Fouillet, H., Delarue, J., Darcel, N., Huneau, J. F., and Mariotti, F., 2019. Self-declared attitudes and beliefs regarding protein sources are a good prediction of the degree of transition to a low-meat diet in France. *Appetite*, 142(July), 104345.
- Eker, S., Reese, G., and Obersteiner, M., 2019. Modelling the drivers of a widespread shift to sustainable diets. *Nature Sustainability*.
- Escario, J. J., Rodriguez-Sanchez, C., and Casaló, L. V., 2020. The influence of environmental attitudes and perceived effectiveness on recycling, reducing, and reusing packaging materials in Spain. *Waste Management*, 113, 251–260.
- FAO, F. and A. O. of the U., 2018. Sustainable food systems. Concept and framework. <http://www.fao.org/3/ca2079en/CA2079EN.pdf>
- Fritsche, I., Barth, M., Jugert, P., Masson, T., and Reese, G., 2018. A social identity model of pro-environmental action (SIMPEA). *Psychological Review*, 125(2), 245–269.
- García-de-Frutos, N., Ortega-Egea, J. M., and Martínez-del-Río, J., 2018. Anti-consumption for Environmental Sustainability: Conceptualization, Review, and Multilevel Research Directions. *Journal of Business Ethics*, 148(2), 411–435. h
- Ge, W., Sheng, G., and Zhang, H., 2020. How to Solve the Social Norm Conflict Dilemma of Green Consumption: The Moderating Effect of Self-Affirmation. *Frontiers in Psychology*, 11(November), 1–12.
- Gibson, C. B., Dunlop, P. D., and Raghav, S., 2020. Navigating identities in global work: Antecedents and consequences of intrapersonal identity conflict. *Human Relations*.
- Giguère, B., Lalonde, R., and Lou, E., 2010. Living at the Crossroads of Cultural Worlds: The Experience of Normative Conflicts by Second Generation Immigrant Youth. *Social and Personality Psychology Compass*, 4(1), 14–29.
- Goldstein, N. J., Cialdini, R. B., and Griskevicius, V., 2008. A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35(3), 472–482.
- Gonçalves, D., Coelho, P., Martinez, L. F., and Monteiro, P., 2021. Nudging consumers toward healthier food choices: A field study on the effect of social norms. *Sustainability*, 13(4), 1–14.

- theory of normative conduct (to your mailbox): Injunctive and descriptive norms as predictors of anti-ads sticker use. *Journal of Environmental Psychology*, 44, 1–9.
- Hawkins, R. X. D., Goodman, N. D., and Goldstone, R. L., 2019. The Emergence of Social Norms and Conventions. *Trends in Cognitive Sciences*, 23(2), 158–169.
- Higgs, S., and Thomas, J., 2016. Social influences on eating. *Current Opinion in Behavioral Sciences*, 9, 1–6.
- Hirsh, J. B., and Kang, S. K., 2016. Mechanisms of Identity Conflict: Uncertainty, Anxiety, and the Behavioral Inhibition System. *Personality and Social Psychology Review*, 20(3), 223–244.
- Hogg, M. A., 2016. Social Identity Theory. In S. McKeown R. Haji, & N. Ferguson (Eds.), *Understanding Peace and Conflict Through Social Identity Theory: Contemporary global perspectives*. pringer International Publishing, Los Angeles, pp. 3–17
- Hynes, N., and Wilson, J., 2016. I do it, but don't tell anyone! Personal values, personal and social norms: Can social media play a role in changing pro-environmental behaviours? *Technological Forecasting and Social Change*, 111, 349–359.
- Ivanova, D., Barrett, J., Wiedenhofer, D., Macura, B., Callaghan, M., and Creutzig, F., 2020. Quantifying the potential for climate change mitigation of consumption options. *Environmental Research Letters*, 15(9).
- Jones, A. D., Hoey, L., Blesh, J., Miller, L., Green, A., and Shapiro, L. F., 2016. A Systematic Review of the Measurement of Sustainable Diets. *Advances in Nutrition: An International Review Journal*, 7(4), 641–664.
- Jun, J., and Arendt, S. W., 2019. How do social norms affect customers' food selections at restaurants? Investigating social norms misalignment using polynomial regression with response surface analysis. *Journal of Hospitality Marketing and Management*, 00(00), 1–20.
- Kemper, J. A., and White, S. K., 2021. Young adults' experiences with flexitarianism: The 4Cs. *Appetite*, v. 160, 105073.
- Koudenburg, N., Greijdanus, H., and Scheepers, D., 2019. The polarizing effects of group discussion in a negative normative context: Integrating societal-, group-, and individual-level factors. *British Journal of Social Psychology*, 58(1), 150–174.
- Kurz, V., 2018. Nudging to reduce meat consumption: Immediate and persistent effects of an intervention at a university restaurant. *Journal of Environmental Economics and Management*, 90, 317–341.
- Lacroix, K., and Gifford, R., 2020. Targeting interventions to distinct meat-eating groups reduces meat consumption. *Food Quality and Preference*, v. 86, 103997.
- Lapinski, M. K., and Rimal, R. N., 2005. An explication of social norms. *Communication Theory*, 15(2), 127–147.
- Lapinski, M. K., Zhuang, J., Koh, H., and Shi, J., 2017. Descriptive Norms and Involvement in Health and Environmental Behaviors. *Communication Research*, 44(3), 367–387.
- Lehner, M., Mont, O., and Heiskanen, E., 2016. Nudging – A promising tool for sustainable consumption behaviour? *Journal of Cleaner Production*, 134, 166–177.

- Leroy, F., and Barnard, N. D., 2020. Children and adults should avoid consuming animal products to reduce risk for chronic disease: NO. *American Journal of Clinical Nutrition*, v. 112(4), 931–936.
- Leroy, F., and Praet, I., 2015. Meat traditions. The co-evolution of humans and meat. *Appetite*, v. 90, 200–211.
- Liu, J., Thomas, J. M., and Higgs, S., 2019. The relationship between social identity, descriptive social norms and eating intentions and behaviors. *Journal of Experimental Social Psychology*, v. 82, 217–230.
- Macdiarmid, J. I., Douglas, F., and Campbell, J., 2016. Eating like there's no tomorrow: Public awareness of the environmental impact of food and reluctance to eat less meat as part of a sustainable diet. *Appetite*, 96, 487–493.
- Machovina, B., Feeley, K. J., and Ripple, W. J., 2015. Biodiversity conservation: The key is reducing meat consumption. *Science of the Total Environment*, 536, 419–431.
- Markowski, K. L., and Roxburgh, S., 2019. "If I became a vegan, my family and friends would hate me:" Anticipating vegan stigma as a barrier to plant-based diets. *Appetite*, 135, 1–9.
- McDonald, R. I., and Crandall, C. S., 2015. Social norms and social influence. *Current Opinion in Behavioral Sciences*, 3, 147–151.
- McDonald, R. I., Fielding, K. S., and Louis, W. R., 2013. Energizing and De-Motivating Effects of Norm-Conflict. *Personality and Social Psychology Bulletin*, 39(1), 57–72.
- McDonald, R. I., Fielding, K. S., and Louis, W. R., 2014a. Conflicting Norms Highlight the Need for Action. *Environment and Behavior*, 46(2), 139–162.
- McDonald, R. I., Fielding, K. S., and Louis, W. R., 2014b. Conflicting social norms and community conservation compliance. *Journal for Nature Conservation*, 22(3), 212–216.
- Meat Free Mondays, 2021. <https://meatfreemondays.com/> (accessed 30.06.2021).
- Miller, D. T., and Prentice, D. A., 2016. Changing Norms to Change Behavior. *Annual Review of Psychology*, 67(1), 339–361.
- Milton, K., 1999. A hypothesis to explain the role of meat-eating in human evolution. *Evolutionary Anthropology*, 8(1), 11–21.
- Mork, T., Lahteenmaki, L., and Grunert, K. G., 2019. Determinants of intention to reduce salt intake and willingness to purchase salt-reduced food products: evidence from a web survey. *Appetite*, 110–118.
- Nguyen, A., and Platow, M. J., 2021. "I'll eat meat because that's what we do": The role of national norms and national social identification on meat eating. *Appetite*, 164(April), 105287.
- Nix, E., and Wengreen, H. J., 2017. Social approval bias in self-reported fruit and vegetable intake after presentation of a normative message in college students. *Appetite*, 116, 552–558.
- Olsen, S. O., and Grunert, K. G., 2010. The role of satisfaction, norms and conflict in families' eating behaviour. *European Journal of Marketing*, 44(7/8), 1165–1181.
- Packer, D. J., and Chasteen, A. L., 2010. Loyal Deviance: Testing the normative

- conflict model of dissent in social groups. *Personality and Social Psychology Bulletin*, 36(1), 5–18.
- Paré, G., Trudel, M. C., Jaana, M., and Kitsiou, S., 2015. Synthesizing information systems knowledge: A typology of literature reviews. *Information and Management*, 52(2), 183–199.
- Pelletier, J. E., Graham, D. J., and Laska, M. N., 2014. Social norms and dietary behaviors among young adults. *American Journal of Health Behavior*, 38(1), 144–152.
- Piazza, J., Ruby, M. B., Loughnan, S., Luong, M., Kulik, J., Watkins, H. M., and Seigerman, M., 2015. Rationalizing meat consumption. *The 4Ns. Appetite*, 91, 114–128.
- Plante, C. N., Rosenfeld, D. L., Plante, M., and Reysen, S., 2019. The role of social identity motivation in dietary attitudes and behaviors among vegetarians. *Appetite*, 141(April), 104307.
- Plows, S. E., Smith, F. D., Smith, J. R., Chapman, C. M., La Macchia, S. T., and Louis, W. R., 2017. Healthy eating: A beneficial role for perceived norm conflict? *Journal of Applied Social Psychology*, 47(6), 295–304.
- Prusaczyk, E., Earle, M., and Hodson, G., 2021. A brief nudge or education intervention delivered online can increase willingness to order a beef-mushroom burger. *Food Quality and Preference*, 87, 104045.
- Raghoobar, S., Haynes, A., Robinson, E., Van Kleef, E., and De Vet, E., 2019. Served Portion Sizes Affect Later Food Intake Through Social Consumption Norms. *Nutrients*, 11(12), 2845.
- Randers, L., Grønhøj, A., and Thøgersen, J., 2020. Coping with multiple identities related to meat consumption. *Psychology and Marketing*, September, 1–24.
- Reed, A., Forehand, M. R., Puntoni, S., and Warlop, L., 2012. Identity-based consumer behavior. *International Journal of Research in Marketing*, 29(4), 310–321.
- Rosas, C. E., Gregorio-Pascual, P., Driver, R., Martinez, A., Price, S. L., Lopez, C., and Mahler, H. I. M., 2017. Effects of Social Norms Information and Self-Affirmation on Sugar-Sweetened Beverage Consumption Intentions and Behaviors. *Basic and Applied Social Psychology*, 39(2), 112–126.
- Rosenfeld, D. L., Rothgerber, H., and Tomiyama, A. J., 2019. Mostly Vegetarian, But Flexible About It: Investigating How Meat-Reducers Express Social Identity Around Their Diets. *Social Psychological and Personality Science*.
- Rosenfeld, D. L., Rothgerber, H., and Tomiyama, A. J., 2020. Mostly Vegetarian, But Flexible About It: Investigating How Meat-Reducers Express Social Identity Around Their Diets. *Social Psychological and Personality Science*, 11(3), 406–415.
- Rosenfeld, D. L., and Tomiyama, A. J., 2019. When vegetarians eat meat: Why vegetarians violate their diets and how they feel about doing so. *Appetite*, 143(April), 104417.
- Rothgerber, H., and Rosenfeld, D. L., 2021. Meat-related cognitive dissonance: The social psychology of eating animals. *Social and Personality Psychology Compass*, 15(5).
- Salmivaara, L., and Lankoski, L., 2019. Promoting Sustainable Consumer Behaviour 20th European Round Table on Sustainable Consumption and Production Graz, September 8 – 10, 2021

- Through the Activation of Injunctive Social Norms: A Field Experiment in 19 Workplace Restaurants. *Organization and Environment*, 1–26.
- Santo, R. E., Kim, B. F., Goldman, S. E., Dutkiewicz, J., Biehl, E. M. B., Bloem, M. W., Neff, R. A., and Nachman, K. E., 2020. Considering Plant-Based Meat Substitutes and Cell-Based Meats: A Public Health and Food Systems Perspective. *Frontiers in Sustainable Food Systems*, 4(1), 1–23.
- SCImago, (n.d.). SJR — SCImago Journal and Country Rank [Portal]. Retrieved Date you Retrieve, from <http://www.scimagojr.com> (accessed 30.06.2021).
- Schultz, P. W., Nolan, J. M., Cialdini, R. B., Goldstein, N. J., and Griskevicius, V., 2018. The Constructive, Destructive, and Reconstructive Power of Social Norms: Reprise. *Perspectives on Psychological Science*, 13(2), 249–254.
- Schüz, B., Papadakis, T., and Ferguson, S. G., 2018. Situation-specific social norms as mediators of social influence on snacking. *Health Psychology*, 37(2), 153–159.
- Smith, J. R., and Louis, W. R., 2008. Do as we say and as we do: The interplay of descriptive and injunctive group norms in the attitude-behaviour relationship. *British Journal of Social Psychology*, 47(4), 647–666.
- Smith, J. R., Louis, W. R., Terry, D. J., Greenaway, K. H., Clarke, M. R., and Cheng, X., 2012. Congruent or conflicted? The impact of injunctive and descriptive norms on environmental intentions. *Journal of Environmental Psychology*, 32(4), 353–361.
- Smyth, L., Chandra, V., and Mavor, K. I., 2018. Social identification and normative conflict: When student and educator learning norms collide. *Journal of Applied Social Psychology*, 48(6), 293–303.
- Sobal, J., Bisogni, C. A., and Jastran, M., 2014. Food Choice Is Multifaceted, Contextual, Dynamic, Multilevel, Integrated, and Diverse. *Mind, Brain, and Education*, 8(1), 6–12.
- Soule, C. A. A., and Sekhon, T., 2019. Preaching to the middle of the road: Strategic differences in persuasive appeals for meat anti-consumption. *British Food Journal*, 121(1), 157–171.
- Sparkman, G., and Walton, G. M., 2017. Dynamic Norms Promote Sustainable Behavior, Even if It Is Counternormative. *Psychological Science*, 28(11), 1663–1674.
- Sparkman, G., Weitz, E., Robinson, T. N., Malhotra, N., and Walton, G. M., 2020. Developing a Scalable Dynamic Norm Menu-Based Intervention to Reduce Meat Consumption. *Sustainability*, 12(6), 2453.
- Springmann, M., Wiebe, K., Mason-D’Croz, D., Sulser, T. B., Rayner, M., and Scarborough, P., 2018. Health and nutritional aspects of sustainable diet strategies and their association with environmental impacts: a global modelling analysis with country-level detail. *The Lancet Planetary Health*, 2(10), e451–e461.
- Stangherlin, I. do C., de Barcellos, M. D., and Basso, K., 2018. The Impact of Social Norms on Suboptimal Food Consumption: A Solution for Food Waste. *Journal of International Food and Agribusiness Marketing*, 0(0), 1–24.
- Staunton, M., Louis, W. R., Smith, J. R., Terry, D. J., and McDonald, R. I., 2014. How negative descriptive norms for healthy eating undermine the effects of positive injunctive norms. *Journal of Applied Social Psychology*, 44(4), 319–330.

- Stea, S., and Pickering, G. J., 2019. Optimizing Messaging to Reduce Red Meat Consumption. *Environmental Communication*, 13(5), 633–648.
- Stok, F. M., Mollen, S., Verkooijen, K. T., and Renner, B., 2018. Unravelling social norm effects: How and when social norms affect eating behavior. *Frontiers in Psychology*, 9, 783.
- Thøgersen, J., 2006. Norms for environmentally responsible behaviour: An extended taxonomy. *Journal of Environmental Psychology*, 26(4), 247–261.
- van Rongen, S., Poelman, M. P., Thornton, L., Abbott, G., Lu, M., Kamphuis, C. B. M. M., Verkooijen, K., and de Vet, E., 2020. Neighbourhood fast food exposure and consumption: the mediating role of neighbourhood social norms. *International Journal of Behavioral Nutrition and Physical Activity*, 17(1), 1–9.
- Vandermoere, F., Geerts, R., De Backer, C., Erreygers, S., and Van Doorslaer, E., 2019. Meat consumption and vegaphobia: An exploration of the characteristics of meat eaters, vegaphobes, and their social environment. *Sustainability (Switzerland)*, 11(14).
- Verain, M. C. D., Dagevos, H., and Antonides, G., 2015. Sustainable food consumption: Product choice or curtailment? *Appetite*, 91, 375–384.
- Vermeir, I., and Verbeke, W., 2006. Sustainable food consumption: Exploring the consumer “attitude - Behavioral intention” gap. *Journal of Agricultural and Environmental Ethics*, 19(2), 169–194.
- Vermeir, I., Weijters, B., Houwer, J. De, Geuens, M., Slabbinck, H., Spruyt, A., Kerckhove, A. Van, Lippevelde, W. Van, Steur, H. De, and Verbeke, W., 2020. Environmentally Sustainable Food Consumption: A Review and Research Agenda From a Goal-Directed Perspective. *Frontiers in Psychology*, 11, 1–24.
- Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., ... & Murray, C. J. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.