



Vegetarian on purpose: Understanding the motivations of plant-based dieters



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ABSTRACT

Much recent research has explored vegetarians' dietary motivations, recurrently highlighting the significant influence they exert on how people view themselves and others. For vegetarians and other plant-based dieters, dietary motivations have been theorized to be a central aspect of identity. Yet not all plant-based dieters are motivated to follow their diets; rather, some face aversions and constraints. In this paper, we propose that motivations, aversions, and constraints constitute three distinct reasons for consuming a plant-based diet. After conceptually distinguishing motivations from aversions and constraints, we critically evaluate the advantages and disadvantages of two conceptual frameworks that exist for studying these motivations systematically: the ethical-health framework and the Unified Model of Vegetarian Identity (UMVI) motivational orientations framework. Importantly, these frameworks serve different purposes, and their suitability often depends on the research question at hand. Particularly given an increasing prevalence of plant-based dieting, cultivating a more holistic understanding of these two frameworks is necessary for advancing this discipline. Directions for future research are discussed.

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A shift toward plant-based dieting has become increasingly evident in recent years. According to a 2013 survey in the United Kingdom, 25% of the public had reduced its meat consumption in the past year and 34% indicated a willingness to eat less meat (Vegetarian Society, 2013). In the United States, 37% of adults order vegetarian meals always or sometimes when eating out (The Vegetarian Resource Group, 2016). These figures amount to more than one hundred million people, in just the U.K. and U.S. alone, who exhibit some degree of plant-based dieting. At the same time, these figures represent a diverse entity of people who may draw upon very different motivations in making the same food choices. By deviating from food norms in Western cultures, plant-based dieters are more likely to view their food choices as a defining feature of their identity, and wide variety of dietary motivations can be central to this self-understanding (Rosenfeld & Burrow, 2017). The aim of this paper is to enhance future investigations of plant-based dietary motivations by reconceptualizing a framework for studying them.

It is important to be mindful, however, that not all plant-based dieters are personally motivated to avoid animal products; rather,

some dieters do so due to certain aversions and constraints. When asked why they make plant-based food choices, people report a variety of reasons. Commonly reported reasons include concerns for animals, personal health, and the environment; disgust toward meat; and religious beliefs (Ruby, 2012). Reported reasons also include desire for weight loss, taste preferences, saving money, and political matters (Hoffman, Stallings, Bessinger, & Brooks, 2013). This list of reasons includes examples of motivations, aversions, and constraints, and each of these types of reasons can be defined by distinct characteristics. In this paper, we outline which characteristics are inherent to these constructs and propose conceptual definitions accordingly.

Redefining plant-based dietary reasons into these three categories can increase the precision with which investigators label psychological constructs. Progressions in other fields of psychology illustrate the benefits of applying novel terminological specificities to characterize constructs once thought of as one-dimensional. Research on stress, for example, has generated an increasingly nuanced view of the various forms stress may take (Hobfoll, 1989). In one framework, Elliot and Eisdorfer (1982) propose four distinguishable types of stressors (e.g., acute, time-limited stressors; stressor sequences; chronic, intermittent stressors; and chronic stressors) and outline each type's defining features. Inspired by this framework, subsequent research (e.g., Mensch & Kandel, 1988;

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Norris & Murrell, 1987) asked novel questions that ultimately revealed deeper insights into stress processes and psychological outcomes. Similar attempts to gainfully distill scientific nomenclature have been undertaken in work on memory (Craig & Lockhart, 1972), racial identity (Sellers, Smith, Shelton, Rowley, & Chavous, 1998), and food choice (Furst, Connors, Bisogni, Sobal, & Falk, 1996). Just as these investigators have expanded constructs previously thought of less intricately, it can be similarly advantageous for research on plant-based dieting to use differentiated terminology in labeling dietary reasons.

Relative to aversions and constraints, dietary motivations have garnered a great deal of attention in psychological investigations of vegetarianism. To understand varying types of motivations coherently, investigators can draw upon conceptual frameworks. Throughout the past two decades, research has predominantly categorized specific motivations as being either ethical or health motivations (Ruby, 2012). For example, while an individual who reports eating a vegetarian diet for animal welfare or religious beliefs would be categorized as ethically motivated, an individual concerned about personal health or weight loss would be considered health-motivated (Hoffman et al., 2013). Using this system, several studies (e.g., Hoffman et al., 2013; Jabs, Devine, & Sobal, 1998; Radnitz, Beezhold, & DiMatteo, 2015) have found that ethically motivated and health-motivated vegetarians vary on many outcome variables, such as diet duration, dietary restrictiveness, and disgust toward meat.

In addition, our recently introduced Unified Model of Vegetarian Identity (UMVI) offers a novel framework for conceiving plant-based dietary motivations as oriented toward three types of goals: prosocial, personal, and moral (Rosenfeld & Burrow, 2017). Instead of categorizing specific motivations into overarching categories as the ethical-health framework does, we recommend measuring the extent to which an individual perceives his or her plant-based food choices as oriented toward these three goal types, either discretely or in some combination.

Much research on vegetarianism suggests that people's self-understandings derive from not only *what* they eat but also *why* they eat that way. In some cases, one's motivations may be even more influential than one's dietary pattern in shaping how one perceives oneself in relation to others (Rothgerber, 2014b). Motivations may furthermore affect interpersonal exchanges, as revealing one's moral motivation for following a plant-based diet to omnivores would be likely to instigate moral comparisons and can lead omnivores to anticipate moral reproach from the plant-based dieter (Monin, 2007). Such anticipated reproach can prompt omnivores to derogate plant-based dieters in order to defend their self-image from the perceived moral threat (Minson & Monin, 2012). Accordingly, it is unsurprising that an individual's motivations may reciprocally shape how other people perceive him or her. For example, MacInnis and Hodson (2015) found that omnivores evaluate vegetarians motivated by animal rights more negatively than vegetarians motivated by personal health. Being the target of more negative attitudes, animal-motivated vegetarians may consequently have more conflicting interactions with omnivores and perhaps seek to conceal their true self by instead stating they are motivated by health (Wilson, Weatherall, & Butler, 2004). As such, investigations into vegetarian motivations are critical to understanding the social implications of food choices.

In the sections that follow, we examine strategies for capturing why people follow plant-based diets. The scope of this work ultimately extends beyond self-identified vegetarians and pertains to all individuals who exercise some degree of animal product avoidance. First, we evaluate three types of reasons—motivations, aversions, and constraints—and their defining features. In doing so, we distinguish motivations as particularly relevant for future

research. Then, we review and critique existing research that has classified motivations into ethical and health categories. Next, we evaluate the UMVI's framework of prosocial, personal, and moral motivations and its role in the literature. Lastly, we suggest how investigators can integrate these perspectives appropriately into their work, depending on the research question at hand. With this reconceptualization, we hope to work toward a more coherent understanding of the various reasons behind plant-based food choices.

1. Distinguishing motivations from aversions and constraints

We postulate that three types of reported reasons for following a plant-based diet exist: motivations, aversions, and constraints. While the preponderance of existing research has used the terms, “reasons” and “motivations,” interchangeably, we argue that aversions and constraints constitute distinct types of reasons whose properties prevent them from qualifying as motivations.

1.1. Motivations

We view motivations as satisfying a tripartite set of criteria: motivations entail prospective goal attainment, underlie voluntary food choices, and have pervasive ideological impact. Accordingly, vegetarian motivations can be defined as goal-oriented ambitions that not only shape one's food choices, when given the control to make food choices freely, but also influence one's self-concept irrespective of food salience. We apply this definition to distinguish motivations from aversions and constraints.

Psychologists have widely conceived motivation as an energizing force underlying goal pursuit and achievement (Deci & Ryan, 2000). Accordingly, we postulate vegetarian motivations as goal-oriented drives that encompass prospective aims toward attainment. Most vegetarians view their food choices as a means of benefitting animals' lives, improving their own health, combating environmental degradation, or upholding their religious principles (Ruby, 2012). We assert that these examples, and others like them, satisfy our first defining feature of motivations because they represent distinct prospective goals that stimulate food behaviors.

Also important to our conceptualization of vegetarian motivations is that their significance is contingent upon a sufficient degree of perceived control over one's food choices. Acting upon one's vegetarian dietary pattern—“the typical food choices an individual makes regarding the consumption of certain animal foods, given sufficient control over his or her food choices”—necessitates a certain degree of food choice (Rosenfeld & Burrow, 2017, p. 87). People whose reasons for eating a plant-based diet involve lacking the opportunity to consume animal products should not be characterized as motivated but as constrained. Rejecting a present opportunity to eat animal products underlies the motivated nature of plant-based dieting.

A third facet of vegetarian motivations is their greater significance in one's life beyond food-related situations. The motivations that prompt people to follow a plant-based diet encompass values for which food is merely an outlet for expression. Concerns for animals, health, the environment, and spirituality denote larger ideologies with which people engage outside of food contexts (Lindeman & Sirelius, 2001). The development of these ideological principles typically precedes transitions to plant-based dieting, highlighting that plant-based dieting is not an ultimate goal in itself but a means of achieving some larger goal. People seeking to benefit any of the aforementioned causes can engage in other behaviors too that align with these principles. For example, whereas a desire to benefit personal health can inspire physical activity,

increased medical screening, or smoking cessation, a desire to benefit the environment may be realized through a host of sustainable behaviors. Taking food out of the picture, vegetarian motivations remain relevant to one's self-perception and decision-making processes. Ultimately, motivational drives do not emerge out of heightened food salience but constitute ongoing forces with which people engage irrespective of context. Many reported reasons conventionally characterized as motivations lack one or more of these defining elements and instead can be thought of as aversions or constraints.

1.2. Aversions

Some vegetarians report being disgusted by or having distaste for meat as reasons for their food choices (Beardsworth & Keil, 1991; De Backer & Hudders, 2014; Hoffman et al., 2013; Larsson, Rönnlund, Johansson, & Dahlgren, 2003). Research recurrently finds that morally motivated vegetarians in particular exhibit heightened feelings of disgust toward meat (Hamilton, 2006; Jabs et al., 1998; Rozin, Markwith, & Stoess, 1997). Given that disgust sensitivity informs people's conceptions of food acceptability (Rozin & Fallon, 1987), its salience for morally motivated vegetarians may consequently strengthen their desire to avoid eating meat. However, meat disgust is not an impetus for moral or dietary conversions but rather a result of one's moral convictions (Fessler, Arguello, Mekdara, & Macias, 2003). That is, plant-based food choices driven by feelings of disgust typically arise out of a morally induced perception that follows food-choice transitions. Furthermore, feelings of disgust become relevant to one's self-concept only when food becomes a salient stimulus. As a contextually dependent psychological state, disgust is not a pervasive drive beyond food-related contexts and thus fails to qualify as a motivation.

With respect to plant-based dieting, we propose that disgust and taste preference—as related to sensory-affective processes—constitute aversions to stimuli rather than motivations. These aversions neither provide people with a sense of goal aspiration in their food choices nor entail life significance beyond increased dietary salience, two phenomena we conceive as integral characteristics of vegetarian motivations.

1.3. Constraints

Constraints constitute a third type of reason. We define constraints as environmental barriers that inhibit an individual's ability to make food choices freely. Constraints characterize those circumstances in which people make plant-based food choices without rejecting a clear opportunity to do otherwise. When facing constraints, people lack a perception of control over their food choices. Without this sense of dietary control, people are unable to draw upon their intrinsic desires and prospective goals when deciding what to eat. Thus, constraint-induced food choices denote involuntary forms of plant-based dieting, disqualifying them from truly being forms of motivated eating.

Some people report following a vegetarian diet due to financial constraints and the influences of family and friends (Hoffman et al., 2013). Financial concerns impeding upon one's ability to make food choices freely denote an evident form of constraint, as one lacks the resources needed to obtain certain food products. Similarly, people who eat a plant-based diet because they are unable to obtain animal products due to some other form of inaccessibility—such as living in a food desert—also exhibit constrained, rather than motivated, eating. Additionally, people who eat a plant-based diet because their friends or family members do so may face contextual barriers in making food choices as well.

1.4. Subjective internalizations of reasons

Using these conceptual definitions, investigators should be cautious in categorizing certain reported reasons without examining more thoroughly how people construe these reasons. Consider two individuals who both follow a plant-based diet due to familial and friend influences. While one may see this reason as lacking salient goals and ultimately representing an environmental barrier, another may eat in accordance with family and friends' ways in order to strengthen interpersonal ties. For the latter individual, familial and friend influence can thus qualify as a motivation rather than a constraint. As such, understanding how people perceive specific reasons for their food choices can inform whether they face constraints or draw upon motivations. As we (2017) emphasize, two people can internalize the same dietary reason in vastly different ways. It is important to consider how people construe their food choices within their life and social contexts.

While the aforementioned conceptual definitions of motivations, aversions, and constraints can provide an objective means of understanding reported reasons, investigators should be mindful that people internalize reasons subjectively. Depending on the research question at hand, either an objective or a subjective approach to classifying reasons might be more advantageous than the other. Without research examining how people internalize reasons divergently in light of their sense of dietary motivation, no catchall recommendation for implementation can be made.

2. Motivations: plant-based dieting on purpose

With this view of dietary reasons in mind, we now highlight motivation as an especially important construct for future investigation. Perceiving sufficient control over their food choices, people can deliberately maneuver their dietary behaviors toward achieving meaningful goals. Such intentionality can be central to one's vegetarian identity—the self-construct that embodies one's engagement with plant-based dieting (Rosenfeld & Burrow, 2017). Just as food choices comprise a notable facet of one's identity (Bisogni, Connors, Devine, & Sobal, 2002), a sense of purpose in life constitutes a psychosocial domain that underlies goal pursuit and is closely involved with identity processes (Burrow, O'dell, & Hill, 2010; Hill & Burrow, 2012). Accordingly, purpose may underlie certain aspects of plant-based dieting. Understanding plant-based dieters most soundly involves evaluating the nature of their goals, as goal content and purpose orientation have been found to correlate with psychological outcomes including perceived personal development and well-being (Hill, Burrow, Brandenberger, Lapsley, & Quaranto, 2010). Such an investigative approach can consequently reveal how plant-based motivations can divergently permeate one's self-concept, both introspectively and prospectively.

Unlike motivations, aversions and constraints lack any prospective aim through which people envision what food can mean to them and their world. Exercising motivations through food choices most directly enables people to cultivate a sense of purpose in their dietary behaviors, which can reveal aspects of their personal identity and future aspirations. In light of these considerations, we turn to a common framework for understanding motivations—categorizing them as pertaining to ethics or health.

3. Motivational categories: ethical and health

In an early exploration of vegetarianism, Jabs et al. (1998) first introduced a distinction between ethical and health motivations in adopting a vegetarian diet, proposing that these two categories embody distinct processes through which people begin to avoid

animal products. Their analysis found that while ethically motivated vegetarians were concerned about the animal origins of their food, health-motivated vegetarians focused on the effects of consuming animal products on their risk for developing disease.

Recent research has elaborated upon the ethical-health distinction, using it as a framework for characterizing specific motivations. For example, [Fox and Ward \(2008\)](#) conceive ethical motivations as externally oriented and health motivations as internally oriented. Similarly, [Hoffman et al. \(2013\)](#) principally operationalize ethical motivations to encompass animal rights, religious and spiritual beliefs, and the environment, and health motivations to encompass personal health and weight loss. Although no universal definition of ethical motivation exists across studies—as evident from these two examples—research has generally used ethical motivation to capture reasons involving ecological and moral concerns.

The ethical-health framework has enabled existing research to reveal significant differences between self-identified vegetarians whose dietary motivations fall into each of these categories. For example, ethically motivated vegetarians tend to maintain a plant-based diet for a longer period of time ([Radnitz et al., 2015](#)), follow a more restrictive dietary pattern ([Hoffman et al., 2013](#)), and evaluate meat more negatively ([Rothgerber, 2014a](#)) than health-motivated vegetarians. These findings support ethical and health dimensions as valid constructs that afford divergent internalizations and externalizations of one's vegetarian identity.

A great advantage of the ethical-health framework is that it provides a simple method for conceptually organizing plant-based dieters into two broad groups. Researchers have harnessed this simplicity in their work, such that categorizing people as ethically or health-motivated can be as straightforward as asking them whether their food choices stem from ethical or health motives using single-item measures (e.g., [Rothgerber, 2013](#)). More commonly, though, researchers sort participants into ethical and health categories by asking them about their primary motivation for following a plant-based diet, classifying this motivation as either ethically or health-oriented, and then labeling participants accordingly.

However, the ethical-health framework has some notable drawbacks. First, the ambiguity of “ethical motivation” invites discrepancies in operationalization across studies, as obstacles arise in categorizing motivations unrelated to health concerns. While many studies (e.g., [Fox & Ward, 2008](#); [Janssen, Busch, Rödiger, & Hamm, 2016](#); [Radnitz et al., 2015](#)) have conceived religious beliefs and environmental concerns as neither ethical nor health motivations, other studies (e.g., [Haverstock & Forgays, 2012](#); [Hoffman et al., 2013](#)) have considered them to be types of ethical motivation. This latter methodology unsuitably conflates concerns about animals, concerns about the environment, and religious beliefs as related dimensions within one larger construct of ethical motivation. More realistically, these specific motivations' meanings can vary greatly from one another, highlighting that ethical motivation can denote an oversimplified category that fails to convey a coherent construct.

A second disadvantage of the ethical-health framework is its limited applicability. To accommodate all reported dietary motivations without compromising construct validity, this framework must also include an “other” category to comprise motivations that appear neither ethically nor health-oriented. For example, in addition to outlining motivations that qualify as ethical and health, [Hoffman et al. \(2013\)](#) create an “other” motivations category in which they situate reasons such as taste preferences, familial and friend influences, political matters, and saving money. Beyond highlighting that this category includes aversions and constraints that should not be conceived as motivations, this example also

suggests that the ethical-health methodology ultimately fails to capture the full spectrum of motivations people report for making plant-based food choices.

Just as some motivations may qualify as neither ethical nor health, other types of motivations may be seen as encompassing both ethically and health-oriented properties. As previously emphasized, the subjective lens through which people construe their food choices is critical to consider. Although health motivation is conventionally thought of as a desire to benefit one's personal health, it can also induce a sense of ethical—or even prosocial—deliberation. Concerned about larger matters of public health, some health-motivated plant-based dieters may view their food choices as a means of not only benefiting their own health but also leading by example for others or even making a public statement to bring about social change. Health motivation for some people can then be thought of as both internally and externally oriented and perhaps also rooted in beliefs about morality—or how a society “ought” to eat—making it concurrently a form of ethical motivation. Thus, categorizing people as either ethically or health-motivated based on their reported motivations can oversimplify what certain motivations truly mean to people.

Furthermore, while categorizing people as either ethically or health-motivated can help investigators understand *what* motivations influence people's food choices, this methodology fails to reflect *how strongly* people feel about these motivations. While two people may avoid eating meat for the same motivation, that motivation may carry much more personal significance to one person than the other. We can imagine that plant-based dieters with a low sense of motivation may be more likely to violate their dietary pattern than those who feel strongly motivated, which would denote a positive correlation between motivation strength and dietary strictness (see [Rosenfeld & Burrow, 2017](#)). We also speculate that differences in motivation strength between ethically and health-motivated vegetarians may explain some of the variance in outcome variables between the two groups. Ethically motivated vegetarians, for example, appear to hold stronger convictions about the role of vegetarianism in their lives ([Hoffman et al., 2013](#)). Research has yet to explore whether such divergent dietary internalizations are principally connected to types of motivations or motivation strength. Ultimately, it is critical to conceive motivations as continuous variables, not just discrete categories.

A final disadvantage of the ethical-health framework is its lack of universality: It is sensitive to historical and sociocultural variations. According to our theoretical conception of vegetarian identity, the contexts underlying food choices significantly shape how people internalize their diets ([Rosenfeld & Burrow, 2017](#)). Throughout time and across cultures, both the prevalence and social meaning of plant-based dieting have varied tremendously. Concerns about the environmental impacts of food production, for instance, have become significantly more mainstream in the past few decades ([Feenstra, 1997](#)), highlighting that specific vegetarian motivations and their overarching categories are time-sensitive constructs. Developing systems of categorizing environmental motivation would have been irrelevant to studying plant-based dieting before not too long ago. As food systems evolve and new problems emerge, people in years to come may become vegetarian out of motivations that are uncommon or appear irrelevant today. Some of these motivations might not pertain to ethics or health, in which case the ethical-health framework would not represent plant-based dieters comprehensively.

Contextual sensitivity is further problematic. Sociocultural conditions are important determinants of plant-based motivational trends, as the prevalence of certain specific motivations varies considerably by geographical location within both the U.S. and Canada ([Radnitz et al., 2015](#)). Accordingly, relevant motivations

may vary across cultures, such that ethics and health might not suffice universally as overarching categories. Consider a culture, for example, in which health is not a common motivation of plant-based dieters; rather, nearly all plant-based dieters in this culture are motivated by religious beliefs or animal rights. In studying this population, it would be advantageous to employ a framework that distinguishes between these two ethical motivations more concretely, rather than focusing exclusively on the fact that neither pertains to health.

The traditional conceptualization of plant-based dieters as ethically or health-motivated utilizes overarching categories that encompass specific motivations. We have argued that although this method can typically sort plant-based dieters succinctly into two groups, it also has limitations. Historical and sociocultural variations ultimately make any framework of vegetarian motivations that exclusively categorizes individuals based on their specific reported motivations contextually sensitive, thereby impeding universality. Furthermore, to reflect the motivations of plant-based dieters most inclusively, such a framework would necessitate periodic reexamination—and potentially also reconceptualization—of its category types as a result of its time-sensitive nature. Aiming to address this framework's disadvantages, we (2017) propose a novel framework of three motivational orientations: prosocial, personal, and moral.

4. UMVI motivational orientations: prosocial, personal, and moral

In the UMVI, motivation constitutes one of ten dimensions that comprise each individual's vegetarian identity (Rosenfeld & Burrow, 2017). Motivation signifies an internalization that informs one's goals, assigns personal meaning to one's food choices, and directly stimulates one to follow a dietary pattern—which ultimately establishes the “foundation of vegetarian identity” (p. 87). According to the UMVI, the motivations underlying plant-based food choices can be oriented toward prosocial, personal, and moral goals.

Prosocial motivation involves a “desire to benefit something beyond oneself,” thus implicating an external focus toward helping other people, animals, society, or the world (Rosenfeld & Burrow, 2017, p. 85). An example scale item to assess prosocial motivation would be “I follow my dietary pattern because eating this way is good for the world,” to which participants respond on a scale of 1 (strongly disagree) to 7 (strongly agree), or similar. Contrastingly, personal motivation involves a “desire to benefit oneself” and embodies self-focused goals (p. 85). An example scale item to assess personal motivation would be “I follow my dietary pattern because eating this way improves my life.” Lastly, moral motivation pertains exclusively to “beliefs about rightness and wrongness,” characterizing the extent to which one's plant-based dieting originates out of self-ascribed moral principles (p. 86). An example scale item to assess moral motivation would be “I follow my dietary pattern because eating this way is the morally right thing to do.”

Conceiving motivation as a multidimensional construct comprised collectively of these orientations, the UMVI further highlights two critical points. First, the extent to which one draws upon each of these orientations when making food choices lies on a continuum. These orientations are not categories into which investigators classify specific motivations; rather, they constitute continuous variables that must be operationalized with Likert-type multi-item scales. Second, these orientations' conceptual definitions avoid explicit reference to specific dietary motivations, such as animals, the environment, or religion. Two people can internalize the same motivation in divergent ways (Rosenfeld & Burrow, 2017), such that one person may see environmentally motivated

plant-based dieting as a prosocial behavior while another may see it as a moral action.

Avoiding any explicit reference to specific motivations, however, can also be a disadvantage of the UMVI framework. While the UMVI can reflect the orientations of a plant-based dieter's goals, it might not always reveal what particular aims those goals entail. Just as people with the same specific motivation can have different motivational orientations, people with the same motivational orientations can have different specific motivations. For example, while one individual with a high sense of moral motivation may be motivated by religious beliefs, another morally motivated individual may be motivated by a concern for animals. Likewise, both a health-motivated individual and a religiously motivated individual may feel a strong sense of personal motivation. As such, investigators should be mindful that specific motivations might predict certain outcome variables more strongly than motivational orientations.

One such outcome variable is strictness—the extent to which one adheres to one's dietary pattern (Rosenfeld & Burrow, 2017). Rothgerber (2014a) found that ethically motivated vegetarians adhere more strictly to their diets than health-motivated vegetarians. Research has yet to explore, however, what specific type of ethical motivation may predict dietary adherence most robustly. Might a concern for animals repel people from eating small amounts of meat more strongly than a concern for the environment? As these two motivations may both be construed as prosocially—and perhaps also morally—oriented, the UMVI framework might not be a suitable tool for addressing such a question. Thus, in implementing this framework, investigators should consider evaluating the specific motivations people report in addition to their motivational orientations. Which of these two variables is of greater interest may depend on the research question at hand.

Principally, the UMVI motivational orientations capture the self-ascribed goal-oriented nature of one's food choices. In accordance with our differentiation of motivations from aversions and constraints, motivational orientations—as well as any scales quantifying them—should capture the extent to which intentional, prospective drives aimed at achieving prosocial, personal, or moral goals directly stimulate one's food choices (see Table 1).

5. Directions for future research

Distinguishing between the types of reasons people report for following a plant-based diet, investigators can approach future explorations with a more coherent perspective on how people understand their food choices. Identifying aversions and constraints as distinct facets of people's food experiences can inspire novel research questions that diverge from conventional methods of studying dietary motivations. Similarly, approaching plant-based dietary motivations through our tripartite definition can reduce discrepancies in operationalization across studies. That is, motivations are goal-oriented drives that not only stimulate one's food choices when given a sufficient control to make food choices without constraints but also influence one's self-concept irrespective of food salience.

Motivation constitutes an integral element of each individual's vegetarian identity, providing an energizing force that recurrently fosters a sense of purpose in one's food choices. Beyond such self-perceptions, motivations can even shape how plant-based dieters perceive one another as members of in-groups or out-groups (Rosenfeld & Burrow, 2017), suggesting that not only *what* food choices one makes but also *why* one makes those choices can underlie processes of social categorization.

To examine motivations systematically, future research should integrate both the ethical-health and the UMVI motivational

Table 1
Methods for studying plant-based dietary motivations.

Method	Recommendations for Implementation
Specific Motivations	Investigators can study plant-based dieting based on the specific motivations people report. Using our definition of motivations, investigators should consider reported reasons to be motivations if they constitute goal-oriented ambitions that not only shape one's food choices, when given the control to make food choices freely, but also influence one's self-concept irrespective of food salience. Common motivations include concerns about animals, health, and the environment, as well as religious beliefs. Investigators should note that this is far from an exhaustive list, as people can have a range of other dietary motivations. Also important is to note that people often have multiple motivations, some of which may be more meaningful to them than others. Thus, it may sometimes be advantageous to quantify the extent to which a specific motivation underlies one's food choices on a continuum. Assess via categorical response, open-ended response, or single-item scale.
Ethical-Health Framework	Investigators can employ the ethical-health framework in two principal ways. In one way, they can directly classify plant-based dieters as either ethically or health-motivated simply by asking them whether they are motivated by ethical reasons, health reasons, both, or neither. In another way, investigators can ask people to report their dietary motivation(s). Investigators can then classify these specific motivations as pertaining to ethics, health, or neither, and subsequently classify participants accordingly as ethically motivated, health-motivated, mixed-motive, or neither. Using this latter method, investigators must operationalize "ethical" and "health" motivations clearly and decide whether to classify people based on their primary motivation or all of their reported motivations. Assess via categorical or open-ended response.
UMVI Motivational Orientations Framework	While the ethical-health framework comprises two categories of motivations, the UMVI framework comprises three continuous variables that capture the goal orientations underlying an individual's sense of dietary motivation. These orientations include prosocial, personal, and moral motivations and must be quantified using Likert-type multi-item scales.

orientations frameworks, depending on the research question at hand. Although the ethical-health framework has notable drawbacks, categorizing plant-based dieters as either ethically motivated, health-motivated, both (i.e., mixed-motive), or neither, based on the specific motivations they report, provides a simple method for sorting plant-based dieters into broad groups. This methodology does not require scales and instead can be implemented with a single-item measure of asking people why they follow a plant-based diet (e.g., Rothgerber, 2013, 2014a). One strategy is to ask people directly whether they are motivated by ethical reasons, health reasons, both, or neither. Another strategy is to ask people to report their specific motivations and then to categorize these responses as either ethically or health-related. Thus, this framework can provide an efficient means of analyzing how vegetarians differ from one another depending on their motivations.

Investigators should note, however, that because some reported motivations appear neither ethically nor health-oriented, an additional category of "other" motivations may be necessary when using this framework. Furthermore, investigators must decide whether to categorize individuals based on their primary motivation or all of their reported motivations, as taking into account all reported motivations necessitates an additional "mixed-motive" category for those who report both ethical and health motivations (e.g., Rothgerber, 2013, 2014a). Lastly, future research that implements this framework should work toward a coherent definition of ethical motivation. From our review of the literature, ethical motivation has been used predominantly to encompass ecological and moral concerns but with varying parameters across studies. In any study, investigators should operationalize ethical and health motivations clearly, outlining which specific motivations fall into each category.

Unlike the ethical-health framework, the UMVI motivational orientations framework operates without reference to the specific motivations people report and instead captures the types of goals toward which people orient their food choices. While the specific motivations people report for following a plant-based diet vary throughout time and across cultures, the goal orientations underlying these motivations may withstand contextual variations more robustly. Including prosocial, personal, and moral motivational orientations, the UMVI framework may also capture more of those "other" motivations that appear neither ethically nor health-

oriented in any sense. Some people, for example, may follow a plant-based diet to strengthen familial ties, while others may do so as a means of exercising their willpower. Although these two motivations present neither ethically nor health-oriented aims, they likely include some degree of prosocial or personal motivation, respectively.

The UMVI framework's conceptualization of plant-based dieting as a goal-oriented behavior suggests that many people may engage in a form of purposeful eating. Theoretical perspectives (Damon, Menon, & Bronk, 2003) and empirical findings (Hill et al., 2010) on purpose in life suggest that plant-based dieters with a high level of prosocial motivation, in particular, may cultivate a sense of purpose in their food choices. Given connections between identity and purpose (Hill & Burrow, 2012), purposeful plant-based food choices may have further implications for identity and other forms of self-understanding. Future research should draw upon the UMVI motivational orientations framework in order to understand the personal significance with which people construe plant-based dieting and the extent to which such diets may contribute to or be derived from one's sense of purpose in life.

The UMVI framework also diverges from the ethical-health framework in conceiving motivations as continuous variables rather than discrete categories, thus recognizing the importance of motivation strength. As such, this framework conceptually asks, "To what extent does a particular type of goal underlie an individual's food choices?" rather than "Does this type of goal underlie an individual's food choices?" Future research can integrate this perspective, measuring how strongly people feel compelled to eat plant-based not only from specific orientations of motivation but also more generally by an overall sense of motivation.

A large proportion of vegetarians have multiple sources of motivation for their food choices, yet few studies (e.g., Rothgerber, 2014a) have explored these mixed-motive individuals (Rosenfeld & Burrow, 2017). With the UMVI approach, future research can investigate mixed-motive plant-based dieters more soundly, quantifying the extent to which each particular source of motivation influences their behaviors.

While the ethical-health and UMVI frameworks can provide useful tools for studying motivations systematically, we suggest that future research focus more precisely on specific motivations—i.e., animals, health, the environment, religion, etc.—in addition to using these frameworks. For example, few studies (e.g., De Backer &

Hudders, 2014) have explored how plant-based dieters motivated by concerns about animals differ from those motivated by concerns about the environment. Given that animals and the environment are often categorized as types of ethical motivation and also likely to be construed as having prosocial aims, neither the ethical-health nor UMVI frameworks would be useful for such a matter. Still, however, these two motivations encompass distinct sets of goals and ideological foundations. Thus, investigators should consider how specific types of motivation influence plant-based dieters' self-perceptions, behaviors, and social experiences. While categorizing people by their primary specific motivation may suffice, we also encourage investigators to conceive each specific motivation as a continuous variable and to measure the extent to which people draw upon a motivation in making their food choices.

To evaluate the UMVI framework most comprehensively, future research should explore how plant-based dieters' levels of prosocial, personal, and moral motivations correlate with the specific motivations they report for their food choices. Doing so can consequently inform strategies for operationalizing ethical and health motivations, as investigators can reconsider the meanings of these categories in light of goal orientations. For example, while future research must validate this claim, we speculate that motivations often classified as ethical motivations vary in the extent to which they are prosocially and morally oriented. Whereas concerns about the environment may be predominantly prosocial, religious beliefs may be predominantly moral. Furthermore, concerns about animals are likely both prosocial and moral. Despite these divergences, these three motivations are often grouped uniformly as ethical motivations. Thus, investigators may come to consider two subtypes of ethical motivation—ethical-prosocial and ethical-moral—while noting, however, that some motivations can be construed as both prosocially and morally oriented. In conceptualizing motivations as related to ethics, morality, and prosociality, future research should draw upon frameworks from moral psychology, such as Moral Foundations Theory (e.g., Graham, Haidt, & Nosek, 2009; Haidt & Graham, 2007), as well as research that has applied these perspectives to food choice (e.g., Ruby, Heine, Kamble, Cheng, & Waddar, 2013).

In any investigation of plant-based dieting, it is important to note that people's dietary motivations tend to change over time (Ruby, 2012). Thus, one's initial and current reasons often diverge. To account for these changes, some studies (e.g., Hoffman et al., 2013) have differentiated explicitly between initial and current motivations in analyses between types of vegetarians. More research on motivational progressions over time can be informative, particularly with respect to phenomena such as identity development and intergroup dynamics.

Ultimately, we emphasize that future research should conceive plant-based dieting as a highly multidimensional practice that entails much more than food choices alone. As we (2017) highlight in developing the UMVI, plant-based food choices transpire within historical, sociocultural, and lifespan contexts; involve internalized dimensions through which people evaluate themselves and others; and present behavioral components through which people actively engage with both food and other people. Being a plant-based dieter extends beyond following a dietary pattern or self-identifying as “vegetarian” or “vegan” and can be understood more appropriately as a social identity.

Moving forward, future research should draw upon the literature on goal content and purpose in life in examinations of plant-based dieting, approaching the relationship between food choice and identity more holistically. In particular, considering related identity constructs, such as vegetarian centrality (see Rosenfeld & Burrow, 2017), can provide deeper insight into how food-choice processes intertwine one's food choices and social experiences

with one's goal aspirations and life direction.

Lastly, we emphasize that studying plant-based dietary reasons—including motivations, aversions, and constraints—implicates not only self-identified vegetarians and other plant-based dieters but more vastly any individual who engages with the prospect of avoiding animal products. Plant-based dieting represents a continuum, along which our categorizations of people's food-choice patterns may diverge from how people perceive their own food behaviors. For the self-proclaimed carnivore who eats meat at every meal, signing up for Meatless Monday can be construed differently than it would be for the semi-vegetarian who eats plant-based meals regularly. Investigators should expand their conceptions of plant-based dieting and its underlying motivations to the entire population, beyond merely those who self-identify with a certain label or already follow a certain diet. Applying appropriate frameworks to diversified population parameters, investigators can acquire a more holistic understanding of why some choose the vegetarian option on purpose.

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