

Vegetarianism: Toward a Greater Understanding

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ABSTRACT

Vegetarianism continues to gain prominence in contemporary society. This research uses a two-phase approach to further the understanding of this phenomenon. In the first phase, a phenomenological perspective is utilized to provide a deeper understanding of the motivations, tensions, and coping mechanisms underlying vegetarianism. The second phase builds upon this understanding and broadens the scope of the research by introducing the concept of vegetarian orientation. Here, survey methodology is employed to investigate the manner in which a person's demographic, attitudinal, and personality characteristics influence his/her vegetarian-oriented attitudes and behaviors. Findings and their marketing implications are discussed. © 2001 John Wiley & Sons, Inc.

Vegetarianism refers to a belief in and practice of eating foods obtained exclusively from the vegetable kingdom (Kleine & Hubbert, 1993). The term *vegetarian* was popularized in 1847 by the Vegetarian Society, a secular British organization that espoused the benefits of adopting a vegetarian lifestyle (Dwyer, 1988). Until recent times, the Society had a difficult time convincing food manufacturers to create products suitable for non-meat eaters. However, more recently, the society has reported an escalation of requests from companies to use its distinctive "leaf" endorsement, which signifies that no animal products were used in the making of the food (Hoggan, 1989).

Numerous research studies highlight a trend toward greater con-

sumption of vegetarian foods. For instance, a U.S. Department of Agriculture (USDA) study found that, in 1979, only 1.2% of Americans classified themselves as vegetarian. By 1994, this number had more than quintupled to 7% (Dietz, Frisch, Kalof, Stern, & Guagnano, 1995). The practice also appears to be growing among children, with one in twelve 8–17 year olds reporting abstinence from meat-based products (Notes, 1995). Further, studies indicate that even among individuals who do not consider themselves vegetarians, a growing number are becoming more vegetarian-oriented (Krizmanic, 1992; Richter & Veverka, 1997). The authors of this study define vegetarian orientation as a continuum reflecting one's tendency to prefer greater vegetarian options relative to meat-based choices. Vegetarian-oriented individuals may thus eat some meat, but make conscious efforts to restrict their meat intake.

In light of the trends mentioned above, many mainstream food marketers have introduced a variety of vegetarian options such as veggie burgers and hot dogs (Richter & Veverka, 1997).¹ Likewise, organizations such as restaurants and grocery stores are also starting to offer more vegetarian options than ever before (Bellamy, 1998). For example, grocery stores such as the Colorado-based Whole Foods Market and New York-based Mother Earth Storehouse continue to thrive while specializing in vegetarian and organic foods.

Although recent trends indicate that vegetarianism and vegetarian orientation are on the rise, few consumption-oriented studies have dealt with these issues (for exceptions, see Kleine & Hubbert, 1993; Sirsi, Ward, & Reingen, 1996). In order to attain a better understanding of these phenomena, a two-phase study was conducted. In the first phase, a phenomenological investigation of vegetarianism is presented. Here, the authors uncover motivations for why people become vegetarians, tensions commonly experienced by vegetarians, and mechanisms they use to cope with these tensions. The second phase of the study broadens the scope of the research by focusing on the vegetarian-orientation continuum. Here, the investigation focuses on the manner in which a person's demographic, attitudinal, and personality characteristics influence their vegetarian-oriented attitudes and behaviors.

PHASE 1

Grounded theory procedures were employed in the first phase of the research (Strauss & Corbin, 1990). The following section discusses both the rationale and the procedures pertaining to the method used to col-

¹Pillsbury's Green Giant Harvest Burger, Unilever's Brooke Bond Foods, and ConAgra's Life Choice are among several mainstream food manufacturers' brands of vegetarian packaged foods.

lect data. The next section covers the analysis procedures and the emerging grounded theory. Vegetarianism motivations are then discussed, followed by the tensions faced by vegetarians. Finally, an explanation of the tensions and associated coping mechanisms is used to discuss implications for marketing organizations.

Method

The two primary researchers conducted semistructured depth interviews with 11 informants who considered themselves vegetarians. The existential–phenomenological paradigm guided the structure and content of the interviews. This paradigm has been used in recent consumer research studies (e.g., Thompson & Haytko, 1997; Thompson & Hirschman, 1995) and seeks to derive consumer motivations, tensions, and conflicts by obliging informants to describe specific life events pertaining to the topic of study (Thompson, Locander, & Pollio, 1989). Accordingly, this method was chosen in order to tap vegetarians' thoughts, feelings, tensions, and coping strategies based on recollections of specific events in their lives.

Information for this phase of the study was gathered from a relatively small number of participants. According to McCracken (1988, p.17):

The purpose of the qualitative interview is not to discover how many, and what kinds of people, share a characteristic. It is to gain access to the cultural categories and assumptions according to which one construes the world . . . qualitative research does not survey the terrain, it mines it. It is, in other words, much more intensive than extensive in its objectives.

Other recent studies employing the existential–phenomenological paradigm have also relied on a small number of informants (e.g., Fournier, 1998; Thompson, 1996). Informants chose the setting in which the interviews were conducted in order to create a relaxed atmosphere that precipitated an open dialogue (McCracken, 1988; Thompson et al., 1989). Each interview began by asking the participant to describe what experiences influenced his/her decision to adopt vegetarian diets. Accordingly, all interviews were conducted at the informants' residence or place of business. The authors stopped conducting interviews when it was apparent that a point of information saturation had been reached, and little new information was being gained in the latter interviews (Lincoln & Guba, 1985). Informants who identified themselves as vegetarians ranged from vegans (those individuals who refrain from consuming all animal products) to those who allow fish or even poultry in their diets.

Interviews lasted from 45 to 90 minutes. Nine of the eleven interviews were conducted in person; two were conducted by telephone. Partici-

Table 1. Description Of Informants.

Pseudonym	Age	Years Vegetarian	Gender	Occupation
John	33	2 years	Male	Store Manager
Donna	65	15 years	Female	Retired
Mollie	21	6 years	Female	Student
Jennifer	21	7 years	Female	Student
Sharla	26	15 years	Female	Secretary
Laura	30	12 years	Female	Homemaker
Brian	26	From birth	Male	Graduate Student
Carrie	47	7 years	Female	Professor
Melanie	23	11 years	Female	Homemaker
Debra	21	6 years	Female	Student
Jim	30	10 years	Male	Food Service Manager

pants ranged in age from 21 to 65 years; 8 of the 11 were female. Educational levels ranged from high school graduate to doctorate. For a brief overview of informant characteristics, refer to Table 1.

At the start of each interview, informants were instructed that they were part of an academic study focusing on motivations and issues pertaining to vegetarianism and that all information revealed during the interview would be kept confidential. Each interview was taped; two graduate assistants transcribed the recorded interviews.

Analysis Procedures and the Emerging Grounded Theory

The 11 interview transcripts were analyzed with the use of hermeneutic logic. A hermeneutic analysis appeared particularly appropriate for this setting because this philosophy retains a focus on describing tensions, conflicts, and paradoxes that emerge within the life world of a given individual. Appropriately, Phase 1 focuses on the internal conflicts experienced by those individuals who consider themselves vegetarians. Hermeneutic logic entails an iterative process of reading, documenting, and systematizing interview transcripts (Thompson et al., 1989). Accordingly, each interview was read several times by the two primary researchers. Marginal comments representing abstractions of “experience-near” (Geertz, 1979; Thompson, 1996) descriptions were made alongside each interview transcript. For instance, passages pertaining to feelings of sadness for suffering animals were labeled “empathy for animals.” Passages pertaining to drawbacks of vegetarian diets were labeled “health concerns.” Upon reading the entire manuscript for a sense of the whole, the themes listed above were reduced to the tension termed, “animal-welfare versus self-welfare.” A literature search was conducted for information pertaining to each tension as it was discovered (Thompson, 1996).

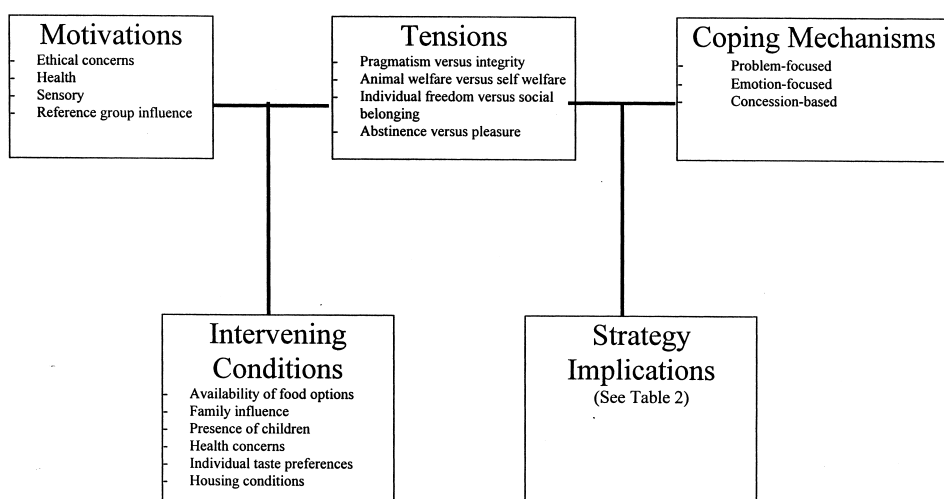


Figure 1. Model of consumer motivations, tensions, coping mechanisms, and implications.

A rough draft of the manuscript was presented to three vegetarian informants for their comments. Suggested revisions from three faculty members who are experienced with consumption motivations and/or interpretive research methods were incorporated into the text. Member checks were also conducted (Denzin & Lincoln, 1994). First, consumer informants were presented with copies of their completed interview transcripts along with stamped envelopes addressed to the researcher. They were asked to state whether any remark had been misquoted, and were encouraged to add any comments they felt would enhance the clarity of their previous thoughts. Second, informants were provided with brief descriptions of the motives, tensions, and coping mechanisms that the researchers derived from the interviews. They were asked to state whether the interpretation accurately reflected their sentiments. The two primary investigators independently coded data from each of the 11 interviews. Thus, coding and interpretation of earlier transcripts helped the two primary researchers gain a more complete understanding of subsequent transcripts. Similarly, interpretation of the latter transcripts provided unique insight that helped facilitate understanding of earlier transcripts. Throughout this process of interpretation, the researchers compared and discussed notes thoroughly. This process culminated in a marketing model of vegetarianism (see Figure 1).

The model suggests that vegetarians possess motivations for choosing to abstain from meat-based products (e.g., maintaining health, concern for animal rights). Once they begin practicing vegetarianism, a variety of cognitive tensions may develop (e.g., practicality versus integrity, animal welfare versus self-welfare). These tensions are either reduced or

exacerbated by intervening conditions (e.g., family influence, presence of children, availability of vegetarian food options). In order to deal with their tensions, informants devised coping strategies (e.g., relying on a trusted individual to help select truly vegetarian food products). The findings uncovered in the first phase of the research are discussed below.

Vegetarianism Motivations

Although marketing and consumer-oriented literature regarding vegetarianism is scarce, considerable research has been conducted in sociology, social psychology, anthropology, and theology (see Broida, Tingley, Kimball, & Miele, 1993; George, 1994; Twigg, 1979). According to Beardsworth and Keil (1993), the vast majority of vegetarians in Western society are converts to the practice. Based on their own critical scrutiny, these individuals consciously reject orthodox food-consumption patterns. From their transcript data, Beardsworth and Keil (1992) identified four primary motivations for converting to vegetarianism: moral (pertaining to animal welfare and animal suffering), gustatory (pertaining to the taste and texture of meat), health-related, and ecological.

Transcripts from the 11 interviews conducted in Phase 1 suggested that each informant possessed at least one or more of four underlying motivations for choosing to become vegetarian. They include ethical, health, sensory, and reference group influence. Although there is considerable overlap between each set of motivations, some differences do exist. The categories representing moral/ethical and health-related considerations are fairly consistent across the two studies. The sensory motivational category discussed in the present study subsumes the gustatory category revealed by Beardsworth and Keil (1993). In addition, the sensory category adds aspects pertaining to feelings associated with the sight and smell of meat. This study also broadens the current literature by revealing the presence of reference-group influence as a vegetarian motivation. These motivations are discussed below.

Ethical concerns. Ethical concerns emerged as a strong motivation influencing informants' choices to adopt vegetarian diets. Two major subthemes reflect an individual's ethical concerns pertaining to animal welfare: concern for the quality of life of animals and the feeling of guilt associated with killing animals.

Impairing Animal's Quality of Life. People are increasingly concerned about animal welfare. There are over 200 animal-rights organizations in the United States alone. Their goal is to obtain stricter government control over how animals are raised, used in laboratories, transported, and slaughtered (Wunderlich, 1991). In the current study, many informants expressed concern regarding treatment of animals raised for human consumption. They felt empathy for what they perceived to be a dismal quality of life for the animal. Specifically mentioned in the in-

interviews were overcrowded and confining living quarters, cruel and unnatural treatment of animal bodies (e.g., use of hormones), and treatment of animals as objects (e.g., raised for the sole purpose of being slaughtered). The following quotes from the transcribed interviews reflect these concerns:

I think that hormones affect the way human beings feel. I think that they must affect the way animals feel within their bodies. (Laura)

The commercial chicken farms where they raise the eggs, the birds are in such small cages they poop on each other and a lot of times they will file their beaks off so they can't peck one another and they just have crap dripping down from the cage above. (Brian)

I feel sorry for them—anything that is in a cage—I have a fish tank at home and I am starting to feel guilty about having fish in it. (John)

The whole process seemed a little sad and unfair. To raise something for the purpose of eventually killing it was kind of . . . just seemed very crazy to me. (Laura)

Several informants described the roots of their vegetarianism as emanating from childhood pet ownership. Previous research has likewise demonstrated that childhood pet keeping influences adult ethical vegetarianism (Paul & Serpell, 1993). When asked to describe her feelings of empathy toward animals, Mollie explained:

When I was younger, I raised pigs for 4-H and the last time I saw my pig, my pet pig that I loved and trained and raised from a piglet, I saw it go onto the truck to get slaughtered. I told my folks that I was never going to eat ham or any pork product again.

Brian also expressed similar feelings:

I have always loved animals. I worked in a pet store for quite a while and after a while I felt bad about having the animals in cages and things. I couldn't [continue working there] with a clear conscience so I left.

Animal Slaughter. Another major concern expressed by several informants pertained to the act of terminating the life of a living being. Some informants viewed the killing of any living being as undesirable. For example, Brian, a yoga follower, expressed religious reasons for not consuming animal-flesh-based products. Yoga followers believe that every person or animate thing experiences reincarnation, so eating meat would be tantamount to cannibalism (Jacobsen, 1994). Similarly, Buddhists believe in the principle of ahimsa, or avoiding unnecessary inflicting of harm or suffering upon living beings (Lesco, 1988).

Informants who had no formal or religious convictions regarding kill-

ing animals also expressed concern about the morality of animal slaughter. These informants expressed anxiety regarding what they felt was the senseless destruction of life. The following excerpts from their interviews illustrate some of these concerns:

I would describe myself as someone who refrains mainly out of personal conviction from eating or using products that hurt or kill animals. This is true whether it is food or other products such as medicines, beauty-care products, or a lot of other stuff. (Jennifer)

People were worried about things like purse seining, which is a real controversial way of catching tuna. Star-Kist was allowing tuna to be caught in such a way that dolphins would also be dragged upon the boats and killed. With that stuff in the news, I just started becoming more conscious of these issues. (Carrie)

It should be noted, however, that these informants felt no remorse regarding the consumption of milk, eggs, or honey because cultivation of these products is not lethal to the animals that produce them. Jennifer expresses this sentiment:

The way I feel about it is that animal have certain things that they just do. For instance, cows produce milk and chickens produce eggs. I feel they are intended to do so. They are not injured in the process although some egg producers treat chickens horribly and that is why I like to buy organic farm products.

Health. Vegetarian diets are generally regarded as healthy because of their typically lower levels of saturated fat, cholesterol, animal protein content, and higher levels of folates, antioxidants, carotenoids, and phytochemicals (Jacob & Burri, 1996). Because of these attributes, some vegetarian diets are associated with lower rates of coronary heart disease, hypertension, renal disease, and diabetes (Beilin, 1994; Dwyer, 1988; Key, Thorogood, Appleby, & Burr, 1996; Pagenkemper, 1995; Roberts, 1995).

Traditionally, vegetarians adhered to the practice because of ethical or religious reasons. However, for most modern-day vegetarians (particularly in the West), health reasons play an important role in their decision to maintain a vegetarian life-style (Beardsworth & Keil, 1993). This can be seen with the popularity of “health,” “organic,” or “natural” foods in modern societies like that of the United States. The following comment by Donna expresses this perspective:

A vegetarian diet is so much better for you than a meat-based one. It's a lot lighter. There's no cholesterol at all in anything that doesn't come from an animal.

Apart from the general health benefits of vegetarian foods, some other

health-related concerns emerged from the interview transcripts. These concerns focused on the potential health implications of eating meat of animals raised in unsanitary living conditions and administered harmful chemicals such as growth hormones. In the following comments, John relates these concerns.

The chicken industry is just disgusting. Once you start learning about this stuff, it is really gross and that was a big part of my becoming vegetarian. I mean, people can get salmonella from eating regular eggs.

They still give hormones to the cattle. You know that when you ingest the beef, it's got to be getting into your body.

Sensory. Some individuals possess an aversion to the taste, texture, smell, and/or sight of meat-based foods (Twigg, 1979). The aversion may come directly from the meat itself, from imagining the animal in its living state, or when an individual reflects upon an animal's method of slaughter. Many informants in this study revealed negative sensory perceptions regarding meat products. In general, these perceptions related to the unappealing taste, repulsive odor, objectionable texture, and unpleasant appearance of meat. Mollie expresses such a sentiment in this comment:

I never really liked the taste of meat. To me an apple tastes better than any meat.

Several themes relating to the unpleasant appearance of meat emerged from the transcripts. In describing her views about the unappealing look of meat, Mollie expressed her negative sentiments about the public display of animal body parts.

When I lived in Spain, the people I lived with ate ham, and always had pig legs hanging in their kitchen, and they would cut part of it off and eat it. It was pretty disgusting.

In her remarks, Mollie explains her disgust for even foods that resemble meat.

My roommate eats fish, and she buys tofu hot-dogs and soybean burgers. I just can't eat that—it looks too meaty to me.

Some informants expressed their repulsion with the sight of blood and bones. John, referring to his job as a waiter at a restaurant, conveys such a sentiment:

Yeah, seeing blood on the plate of steak at the restaurant would gross me out sometimes. The blood on the plate is kind of sick.

Shannon and Jim express similar sentiments in the following remarks:

It's kind of gross when you are cooking hamburger. I have to make sure I'm not touching the stuff. It's gross, all cold and bloody and everything. (Shannon)

I wouldn't eat catfish or anything like that because of the bones. (Shannon)

When I was a kid, I remember my father eating sardines and seeing the face. I remember thinking, 'I will never eat anything with a face.' (Jim)

Several informants expressed disgust with meat-based products that appeared to be somewhat distinct from sensory reasons. These feelings of disgust came from thoughts associated with the origins of cooked meat. For some informants, eating meat brings up images of cannibalism. John describes the act of tearing into the flesh of an animal as "gross." Mollie, in recollecting a past incident, characterizes flesh-eating humans as "savages." From an operant-conditioning perspective (Peter & Nord, 1982), these aversive images from the informants' past experiences seem to act as negative reinforcements affecting their attitudes toward meat consumption. Two representative quotes pertaining to disgust toward meat are presented here.

Just the idea of eating meat seems gross—tearing into the flesh of another animal.

Everyone in my cheerleading squad was really starving. They were all chowing on the meat. I remember thinking, "what a bunch of savages."

Reference Group Influence. Some individuals may adopt vegetarian life-styles in order to emulate those they admire. Vegetarians may be viewed as more health-conscious, self-disciplined, attractive, and empathetic than nonvegetarians (Beardsworth & Keil, 1992). Thus, they may serve as a form of aspirational reference group for some individuals (for a discussion of reference-group influence, see Bearden & Etzel, 1982). Some consumers may also label themselves vegetarians although they still consume animal flesh (especially fish and, to a lesser extent, poultry) in order to claim membership in this group. Once a person labels him- or herself a vegetarian, the reference group "vegetarians" transforms from aspirational (desiring but not holding membership) to contactual (holding membership). The consumer thus experiences an elevation in perceived status.

Social influence was a key factor for some informants in adopting their vegetarian beliefs. For example, Carrie explained that she established her vegetarian views and beliefs through membership in a group

for which she had high regard. The following is a quote from Carrie's transcribed interview:

Well, my chiropractor in Pittsburgh was really into holistic health. She looked 30, but she was 45. I mean I just looked at her, she was vibrantly healthy and could do so much. She had a full chiropractic practice, five children, and a home. They were all organic vegetarians. I observed this woman and her lifestyle and the standard she applied to herself. I thought it does seem to be good enough for me.

The in-depth interviews uncovered a different type of reference-group influence as well. Jennifer and Mollie pointed out that they had known people that called themselves vegetarian because these individuals considered the practice to be trendy, unique, and attention-grabbing. Interestingly enough, the informants were protective of their own vegetarian status and judged harshly those who claimed to be vegetarian just to be trendy.

At one point, there were people who thought being vegetarian is trendy. People I knew started trying to become vegetarian a few years ago. Then they stopped, and that is also something else that bothers me. People do it because it is different and they think it is cool. They do it for social recognition. That bothers me. (Jennifer)

I am very protective of me being a vegetarian. I am also very insulted when other people claim to be vegetarian when I do not feel that they are. For instance, the people who do not eat red meat but eat other kinds of meat and claim they are vegetarian. There is this girl that I know quite well and she does this all the time. She says: "You know at our dinner tonight we will have vegetarian dinner, and we get chicken. . . ." It is really annoying. But she says she is a vegetarian because she does not eat beef. I realize that I am not the strictest vegetarian. It is something that I am a bit proud of—it is a way of my life. It is one of my deep personal values. It is definitely part of who I am. It just really bothers me when other people step down. (Mollie)

Tensions, Coping Mechanisms, and Intervening Conditions

In the emic analysis of the interview transcripts, the authors revealed several underlying motivations for individuals to choose adoption of a vegetarian diet. In the etic analysis, various tensions emerged. These tensions represent opposing cognitive forces that may manifest themselves in vegetarians' feelings of guilt, hypocrisy, and uneasiness. They express a more etic than emic perspective because the tensions were generally not identified as such by the informants. Rather, they were inferred from reading the transcripts in their entirety and forming a gestalt of the informant's meaning by analyzing consumer coping mechanisms and by conducting member checks to verify the existence of the

tensions. Four tensions emerged from the analysis: pragmatism versus integrity, animal welfare versus self-welfare, individual freedom versus social belonging, and abstinence versus pleasure.

Interview transcripts revealed that informants utilized several coping strategies in order to deal with their tensions. The term *coping*, as used in this study, refers to constantly changing cognitive and behavioral efforts to manage tensions that are outcomes of specific external and/or internal demands (Lazarus & Folkman, 1984). These coping strategies can be classified under three general categories, two of which (problem focused and emotion focused) are consistent with recent work in the psychological literature (e.g., Carver, Sheer, & Weintraub, 1989; Lazarus & Folkman, 1984). The third strategy, termed *concession based*, was created as an outcome of the phenomenological interviews.

Some coping strategies are oriented toward behavioral problem-solving approaches intended to minimize tensions. These types of coping strategies, termed *problem focused*, attempt to eradicate or alter the source of the tension (Carver et al., 1989). For example, suppose an individual identifies a personal health problem as a source of tension. Successful enactment of a problem-focused coping strategy would entail seeking medical treatment and attaining a state of physical well-being.

Another type of coping strategy, *emotion focused*, attempts to deal with the tension without altering the source of the stress. Emotion-focused coping aims at reducing or managing the emotional distress that is associated with (or cued by) the situation. It is believed that individuals are most likely to engage in this coping strategy when they believe the source of the tension cannot be eliminated or altered. For example, a cancer patient who is terminally ill may cope with her situation by turning to religion, and imagining a joyous afterlife.

The third type of coping (*concession based*), refers to a strategy in which an individual first engages in a compromising behavior designed to reduce the source of the tension, then rationalizes her choice to engage in that behavior. For instance, an individual who needs a blood transfusion, but whose religion prohibits it, may elect to undergo the treatment, but rationalizes it by explaining to herself that her family would benefit by her longer life.

A deeper understanding of vegetarianism, obtained through the study of tensions and coping mechanisms, may benefit both consumers as well as business organizations interested in vegetarians (see Table 2). The following subsections discuss various tensions faced by vegetarians, and their strategies for coping. Because many environmental and personal factors may influence the prominence of these tensions, a discussion of relevant intervening conditions is also included.

Pragmatism versus Integrity. This tension highlights the anxiety that informants felt between maintaining their vegetarian beliefs and behaviors, while still attempting to be practical in their everyday lives.

Table 2. Tensions, Coping Mechanisms, and Strategy Implications

Tensions	Coping Mechanisms			Strategy Implications
	Problem Focused	Emotion Focused	Concession Based	
Animal welfare vs. self-welfare	Move pests outside without killing them	Feel little or no concern for pests	Avoid meat but eat fish	Use "No animal testing" theme in promotion Use "No animal cruelty" theme in promotion Offer organic foods Formulate appropriate food labels Charge premium prices
Pragmatism vs. integrity	Rely on trusted store or brand Read specific magazines/newsletters	Pay little attention to meat ingredients that are unobservable	Apply 80/20 rule Cook meat for loved ones	Advertise benefits of vegetarian foods Increase availability of tasty vegetarian options Offer websites and internet discussion groups Organize get-togethers for vegetarians
Individual freedom vs. social belonging	Bring own vegetarian food to social gatherings Select restaurants on basis of vegetarian options	Try not to take ribbing personally	Sometimes give in to eating meat at social gatherings Try not to draw attention to being vegetarian	Offer a better variety of vegetarian options Convey health benefits of vegetarian options Offer vegetarian cooking classes Offer vegetarian cookbooks
Abstinence vs. pleasure	Take vegetarian cooking classes Use spices Buy vegetarian cookbook Move to a larger city	Maintain conviction that vegetarian foods taste better than animal foods	Eat white meat, cheese, and/or eggs	

Sharla provides an example of this tension. She suggested that although she would like to only purchase those products that are vegetarian, the mental accounting involved with purchasing such products is a difficult and burdensome task. If she were to spend all the time she needed to find out which foods were truly vegetarian, then she would have little time for the other responsibilities in her life. Sharla copes with her tension by using a concession-based strategy of keenly looking for vegetarian foods, yet she buys some foods with nonvegetarian content when she perceives her effort to be too great. She rationalizes consumption of non-vegetarian foods by arguing that, because the vast majority of her food purchases are vegetarian, a few meat-based products will not really hurt her.

Other examples of this tension are found in the following transcripts. These excerpts highlight informants' views of their relationship with insects as existing on a continuum between humanitarianism and infestation. They feel a need to draw a line on that continuum so that they can live with their own conscience and still maintain a clean, sanitary household.

Sometimes I would get a very humanitarian trip about a bug—and I would save his life and I would take him outside. Other times they scare the crap out of me and I would kill a spider. First thing I would grab a shoe and kill them. I am not a big savior in bugs. I do not know if most vegetarians are. I am not. Some bugs scare me, and I do not consider them as living creatures. It is probably hypocritical. (Jennifer)

I don't like doing it (killing spiders) but I do. Well, even with being a vegetarian, I do kind of look at it as being a balance between what's necessary to be a healthy human being and what the animals prefer, you know? (Laura)

A number of informants used problem-focused coping strategies to deal with this tension. These strategies include relying on a trusted store(s) and/or brand(s) that guaranteed no animal content. As Carrie pointed out, she tries to buy most of her groceries from a local organic foods store because she has, over time, formed a bond of trust with the store manager and knows that the manager screens questionable products. She shops for most of her groceries at this store despite knowing that the establishment charges premium prices. Some informants mentioned reading magazines/newsletters devoted to presenting current information on vegetarian options.

Another coping strategy mentioned was Carrie's 80/20 rule (a form of concession-based coping). According to Carrie, she likes to conform to vegetarian beliefs, but understands that this often takes its toll on her ability to socialize with friends because not all restaurants offer satisfying vegetarian options. In order to compromise, she applies what she calls the 80/20 rule. Carrie implements this rule by adhering to a strict

vegetarian diet 80% percent of the time, but relaxing the standard for 20% of the time in order to socialize.

A number of informants mentioned a coping strategy of ignoring food ingredients that were outwardly unobservable. For instance, Mollie mentioned that when she is not sure of the constituents of the food available at a social gathering, she would simply eat it as long as she could not actually observe the meat in the food. This is an emotion-focused coping strategy because, by not knowing whether she is ingesting meat, she is able to avoid the emotional outcome of knowingly ingesting meat.

Intervening Conditions. The presence of children particularly heightened the tension concerning pragmatism versus integrity. Some respondents felt that a strictly vegan diet (avoiding milk-based products, in particular) would adversely affect their children's health and growth potential. Some informants noted a potential lack of protein, fat, and calcium in their children's diets. They felt as if their children might be better off with a more conventional diet that includes dairy products, in particular. The tension that these individuals experienced was of maintaining their own beliefs regarding animal rights, but not at the expense of their children's health and well-being.

Financial status in the respondent's household also acted as an intervening condition influencing to what extent various motivations affected the pragmatism versus integrity tension. For example, informants who were very health conscious sometimes had to compromise on the foods that they consumed in order to stay within their household budget. As pointed out by some informants, vegetarian options tend to be pricier than their nonvegetarian counterparts.

Animal Welfare versus Self-Welfare. Several informants alluded to a tension reflecting the need to maintain their own well-being, while at the same time empathizing with the welfare of animals. Carrie and Jennifer's comments provide examples of this tension.

I'm not sure how much longer I'll eat fish, but I'm listening to my body and I'm craving fish. I still want fish. But, yeah, I do wonder about where to draw the line. (Carrie)

I eat fish when I feel like my body needs it. This is because I still believe that your body needs that sort of protein. I take a lot of supplements and also eat foods high in protein, but when I am sick or feeling worn down, I think my body needs more protein, so I eat fish. (Jennifer)

Carrie's statements about eating fish reflect a concession-based coping strategy. In this strategy, she partially reduces the tension by targeting the source of the tension by not eating red meat, poultry, or pork. However, she eats fish and engages in the emotion-based rationalization strategy of saying "fish do not have a face." She therefore does not feel

as guilty about eating fish as she would about ingesting creatures that “have faces.” Later, she shares that fish don’t have “much of a brain” and hence can’t really feel the suffering that “higher order” animals would feel.

Jennifer’s comments provide another example of a concession-based coping strategy. Although it is against her principles to consume meat-based products, she often eats fish, particularly when she is not feeling well. She rationalizes this behavior by arguing that her body needs the extra protein to remain healthy.

Intervening Conditions. The interview transcripts also revealed certain intervening conditions whose presence appeared to influence the level of tension. Specific health concerns seemed to cause some individuals to experience more tension in their lives. For example, John, who became a vegetarian because of his sympathy for animals, was told by his physician that he needed to eat meat products in order for his liver to function properly. The doctor’s recommendation increased the animal-welfare versus self-welfare tension for John. Other informants who are convinced of the nutritional benefits of a meatless diet experience no such tension.

Individual Freedom versus Social Belonging. This tension highlights challenges faced by the informants in terms of maintaining their vegetarian views in a meat-eating society. This tension arose on nearly every occasion an informant was invited to a social gathering. The following transcript excerpts illustrate this tension:

My mom does not give me a hard time about it, but she almost pokes fun at me sometimes. My whole family just gives me a hard time but not anything pressuring or angry towards me. (Jennifer)

My dad was very prickly about it [being vegetarian] because he thought this was like a value judgment against him. He thought that by disagreeing with his dietary choice I was kind of saying that his food wasn’t good enough for me. (Laura)

In order to cope with this tension, participants often kept their vegetarian beliefs as low-key as possible at social gatherings. Two problem-focused coping strategies used by informants included bringing their own food to social gatherings, and selecting restaurants based on availability of vegetarian options. These informants were reluctant toward others’ observing their vegetarian consumption habits. They expressed concerns about possible criticism and alienation from their family and friends.

Several informants cooked meat for their loved ones in order to gain their appreciation. In order to divert attention from their vegetarian consumption habits, some participants even confessed to eating meat while socializing with friends and family. These represent concession-

based approaches to dealing with the individual freedom versus social-belongingness tension. Similarly, a number of informants indicated that friends and family members often criticized their vegetarian beliefs and behaviors. These participants realized that this was possibly a recurring predicament, and had developed an emotion-focused coping strategy of not taking the comments personally or simply ignoring them.

Intervening Conditions. It was generally observed that informants whose families were supportive of their vegetarian lifestyle experienced far less tension than those who had more traditional, less supportive families. In particular, the tension associated with individual freedom versus social belonging appeared to be ameliorated when families showed support. Parents showed support for their children's food consumption choices by providing vegetarian options during family gatherings. This helped reduce the feeling of social alienation faced by our vegetarian informants.

Abstinence versus Pleasure. Some informants admitted that eating only vegetarian foods was boring and felt as if their diet reduced their choices and culinary pleasure. Several participants noted that vegetarian food served in restaurants was often bland, tasteless, and inauthentic. At social gatherings such as parties, picnics, and barbecues, informants were able to eat the nonmeat side dishes, but they complained of the rather bland nature of these foods.

The problem-focused coping strategies aimed at reducing this tension included enrolling in vegetarian cooking classes and buying vegetarian cookbooks. By engaging in these activities, informants were able to make their vegetarian dishes tastier and more palatable. One participant, Debra, mentioned that, to obtain better quality vegetarian options, she was planning to move to a larger city where such options were more readily available to her.

Some informants coped with this tension by engaging in a concession-based strategy of consuming eggs, cheese, fish, and even poultry as part of their regular diet. Expanding their diet allowed them more food alternatives, while maintaining an abstinence from most nonvegetarian foods.

Intervening Conditions. The abstinence-versus-pleasure tension may be reduced when individuals perceive that they have a larger variety of vegetarian food options. Many informants perceived a greater availability of such options in large cities and on the U. S. coasts. These options extended to both food stores and restaurants. Informants who resided in the plains states regarded the availability of vegetarian food options as rather limited. This amplified their abstinence-versus-pleasure tension.

People's individual taste preferences influenced how much abstinence-versus-pleasure tension they experienced. Some informants who adopted vegetarian diets acknowledged occasional cravings for meat-

based foods. For these individuals, the abstinence versus pleasure tension is far more pronounced compared to those people who have a low affinity for meat-based products.

Discussion and Implications: Phase 1

The first phase of the study presents major motivations underlying vegetarianism, tensions faced by vegetarians, intervening conditions, and methods employed for coping with these tensions. The previous section described three forms of coping mechanisms used by consumers to overcome their tensions. From the consumer's perspective, the most effective coping strategy appears to be problem-focused coping, because it focuses on alleviating the source of the tension. Thus, organizations interested in vegetarians may utilize this knowledge by formulating strategies that would allow consumers to engage in problem-focused coping. Below, several such strategies are outlined.

Pragmatism versus Integrity. Food manufacturers and retailers can help vegetarians cope with tensions associated with pragmatism versus integrity in numerous ways. For instance, retail stores catering to vegetarians currently supply foods that have been approved and deemed vegetarian-friendly by store management. This management approval process lessens the amount of information search on the part of vegetarian shoppers, thus creating a high degree of customer loyalty. Although this strategy is currently being enacted among independent vegetarian and organic cooperatives, it could also be utilized by mainstream grocery stores. This can be accomplished by creating vegetarian departments, run by vegetarian managers— individuals who are responsible for maintaining the integrity of their sections.

Organizational entities specializing in food products may wish to consider creating separate brand names (manufacturer brands or private-label brands) associated with purely vegetarian ingredients. This trusted-brand concept would potentially act as a brand signal, thus reducing the need for vegetarians to spend time reading detailed food product labels (Erdem & Swait, 1998). A related strategy used by marketers includes use of the leaf endorsement employed by the UK's Vegetarian Society (Hoggan, 1989). Such logos have been shown to act as decision heuristics serving to narrow consumers' choice options to an acceptable few (Wright, 1975). In addition, use of this strategy can contribute to perceptions of enhanced value, which in turn may lead to favorable purchase intentions (Grewal, Krishnan, Baker, & Borin, 1998).

Animal Welfare versus Self-Welfare. In order to address the animal-welfare versus self-welfare tension, manufacturers of pest-control products may wish to consider developing a specific line of products oriented

toward repelling, rather than killing, vermin. Cosmetics manufacturers and channel intermediaries may wish to employ a “no animal testing” disclaimer as an integral part of their promotions. Similarly, marketers of poultry products may use a “no animal cruelty” theme. Free-range poultry producers have engaged in such a strategy. Approaches like these can reduce this tension by reinforcing the notion that no animals have been hurt in the process of manufacturing and marketing the product. This will help alleviate consumers’ feelings of guilt associated with consumption of animal-flesh-based products.

One example of an organization that has successfully utilized this approach is The Body Shop International, a United Kingdom-based retailer. By employing campaigns such as “save the whales” and promoting use of plant-based products (such as jojoba oil) instead of animal-based products (such as sperm-whale oil), the company has focused on reducing their customers’ animal-welfare versus self-welfare tension (Buzzell, Quelch, & Bartlett, 1995).

Individual Freedom versus Social Belonging. Interviews conducted in this study revealed two primary strategies to reduce this tension. The first strategy for reducing the tension pertains to changing the attitudes of people with whom vegetarian consumers currently associate (e.g., friends and family). The second entails attempts by vegetarian consumers to increase interaction with people that currently share their beliefs. Through either of these two strategies, vegetarian consumers can feel that they have the freedom to engage in their vegetarian behaviors without feeling isolated from the larger community.

By providing a variety of better-tasting vegetarian options on their shelves, food retailers can help reduce this tension. Vegetarians could conceivably find greater acceptance of their food-consumption decision by introducing these tastier alternatives to meat-eating friends and family members. Health-related benefits of eating vegetarian might also be stressed in order to validate vegetarians’ choice of food consumption. This may help popularize vegetarian options, because Americans are growing increasingly more health conscious (Rose, 1995, personal communication).

Institutional advertising paid by a consortium of vegetarian food manufacturers and retailers can help create awareness regarding health benefits of vegetarian options. Food marketers may employ strategies utilizing opinion leaders in order to generate increased acceptance of vegetarian products. These strategies might include the use of celebrity endorsers and product trial by influential peers such as high school and college athletes, successful entrepreneurs, and business people.

In order to influence the second major way of coping with this tension, marketers of vegetarian-oriented foods can increase the sense of social belonging among vegetarians by facilitating peer-group interaction. This can be accomplished through Internet news groups, chat rooms,

festivals, and newsletters. These mechanisms would provide a forum for vegetarians to engage in such activities as exchanging recipes, discussing health issues, exchanging information regarding food-storage mechanisms, and availability of vegetarian foods. Such forums would encourage participants to discuss products offered by the sponsoring organization.

Abstinence versus Pleasure. Several strategies can be used to address the needs of individuals grappling with the abstinence-versus-pleasure tension. Restaurateurs can accomplish this through the creation of a wide variety of tasty vegetarian dishes. TGI Friday's, the Dallas-based restaurant chain, is an organization that provides a wide variety of vegetarian options. In addition, Friday's uses a carrot symbol on its menu so customers can easily identify the vegetarian options (Lowe, 1997). To further reduce this tension, food manufacturers and retailers may wish to educate consumers about how they can make vegetarian products (e.g., tofu and TVP) taste better. One method of accomplishing this is to include exciting recipes on the product packaging. Similarly, food marketers may wish to sponsor vegetarian cooking classes and cookbooks. These strategies can help alleviate the abstinence versus pleasure tension by making vegetarian food options tastier and more pleasurable.

PHASE 2

The first phase of our research focused on providing a deeper understanding of vegetarianism. In light of trends reflecting a reduction in meat intake among the general population (Richter & Veverka, 1997), it was considered relevant to broaden the scope of the research. As such, the concept of vegetarian orientation is introduced. A vegetarian-oriented attitude is defined as the extent to which an individual is favorably (or unfavorably) predisposed toward including vegetarian foods in his or her diet. Vegetarian-oriented behavior pertains to the actual consumption patterns reported by our respondents for vegetarian versus meat-based foods.

Conceptualization and Hypotheses

In Phase 2 of the study, the authors propose that attitudinal, personality, and demographic characteristics may potentially shape an individual's vegetarian-oriented attitudes and behaviors. The following subsections elaborate upon each construct used in the study, and their proposed relationships. For an overview of these relationships refer to Figure 2.

Attitudinal Influences. Concern for Animals. This construct reflects

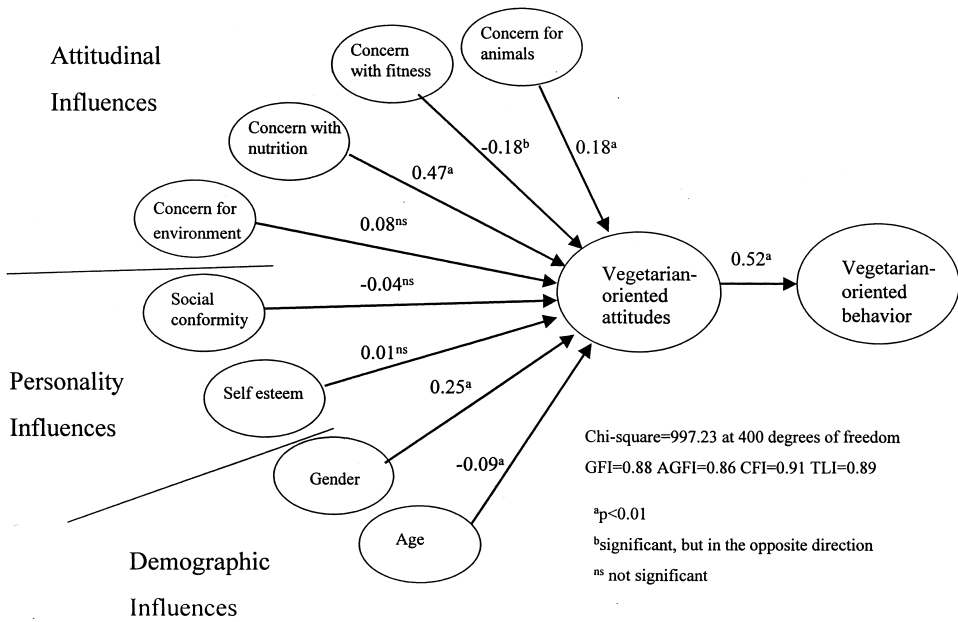


Figure 2. Structural model and hypothesis tests.

an individual's stance on ethical issues involving the relationship between humans and other species. Individuals expressing an interest in animal rights are concerned with the feelings of living beings and the manner in which such beings are treated (Wunderlich, 1991). By focusing on nonmeat diets, such individuals expect to contribute toward protecting animals from cruel farming techniques and inhumane methods of transportation and slaughter. Thus the following hypothesis is given.

H1: Concern for animals will be positively related to vegetarian-oriented attitudes.

Concern with Health. Health consciousness comprises two distinct but related attitudes. These attitudes pertain to an individual's concern with nutrition and physical fitness. Concern with nutrition is manifested in behaviors such as eating healthy foods, refraining from smoking, and consuming alcohol in moderation. Current medical research recommends diets that are high in nutrients typically present in vegetarian foods and are thus becoming more popular among the health-conscious population (Jacob & Burri, 1996). Such a diet has also been shown to improve physical well-being by reducing the risks of obesity, coronary heart disease, hypertension, and various cancers (Position, 1997). Phase 1 of this research and prior studies have shown that a personal concern with health is often motivation for reducing one's meat intake (Dietz et al., 1995; Krizmanic, 1992). Thus the following hypotheses are given.

- H2:** Concern with one's fitness will be positively related to vegetarian-oriented attitudes.
- H3:** Concern with nutrition will be positively related to vegetarian-oriented attitudes.

Concern for Environment. Environmentalism is concerned with the proper relationship between humans and the environment, and reflects a person's desire to restrain from activities that contribute toward misuse of the natural habitat. For example, some environmentalists feel that breeding animals for slaughter is an inefficient use of arable land (Hillman, 1998). Vegetarians have been shown to be particularly concerned with adulteration and contamination of foods (Beardsworth & Keil, 1992). Because environmental pollution can result in food adulteration and contamination, it is expected that a positive relationship will exist between concern for the environment and vegetarian-oriented attitudes (Hamilton, 1993).

- H4:** Concern for environment will be positively related to vegetarian-oriented attitudes.

Personality Influences. *Social Conformity.* Social conformity is defined here as the desire to conform to the norms of collective society (Bearden & Rose, 1990). According to social-comparison theory (Festinger, 1954), people tend to verify the appropriateness of their opinions, attitudes, and beliefs by comparing them to those of others similar to themselves. Omnivorous food consumption is the prevalent norm in Western society (Putnam & Duewer, 1995). Because eating meat represents the cultural norm, those individuals with a strong vegetarian orientation consciously reject the opinions of the majority. Thus it is expected that individuals expressing vegetarian-oriented attitudes will be less concerned with social conformity as compared to the general public.

- H5:** Social conformity will be negatively related to vegetarian-oriented attitudes.

Self-Esteem. Those who evaluate themselves highly (i.e., those with high self-esteem) set higher goals than those who evaluate themselves less well (i.e., those with low self-esteem) (Branden, 1994; Pilegge & Holtz, 1997). Because vegetarians have been found to set higher goals for themselves in terms of health maintenance and physical appearance (Beardsworth & Keil, 1992), it follows that individuals with high vegetarian orientation will possess higher self-esteem than individuals with low vegetarian orientation. Thus the following hypothesis is given.

- H6:** Self-esteem will be positively related to vegetarian-oriented attitudes.

Demographic Influences. *Gender.* Compared to men, women have been known to include more fruit and vegetables and less meat in their diets (Hayes & Ross, 1987). In fact, the majority of vegetarians are women (Hamilton, 1993). Traditionally, women have been more conscious of their physical appearance than men (Hayes & Ross, 1987). Many women have found that eliminating meat from their diet is an effective way to reduce fat intake and maintain an attractive figure (Walker, 1995). Based upon this evidence, the following is proposed.

H7: Females will be more likely to possess vegetarian-oriented attitudes relative to males.

Age. Meat-based diets are traditional among Western societies. Older people are in general known to be resistant to change (Mahajan, Mueller, & Srivastava, 1990). Younger people, in contrast, have a tendency to be more broad-minded and receptive to current trends (Labay & Kinnear, 1981). In fact, recent studies indicate that younger adults typically consume a higher proportion of nonmeat foods than older adults (e.g., Walker, 1995). Based on this discussion, the following is suggested.

H8: Age will be negatively related to vegetarian-oriented attitudes.

Attitude-Behavior Relationship. The attitude-behavior link has been well established in the psychology and marketing literatures (Ajzen & Fishbein, 1980). Based on this theoretical foundation, it is proposed that individuals possessing favorable vegetarian-oriented attitudes will be more likely to engage in vegetarian-oriented behaviors than those possessing less-favorable vegetarian-oriented attitudes.²

H9: Vegetarian-oriented attitudes will be positively related to vegetarian-oriented behaviors.

Method

A survey design was used to evaluate the hypotheses proposed. Ninety-two students were recruited and trained to serve as data collectors in this phase of the study. This technique has been successfully employed in a variety of consumer-research studies (e.g., Bitner, Booms, & Tetrault, 1990). In order to obtain a reasonable degree of variance in the sample, students were instructed to recruit individuals possessing a variety of food-consumption behaviors. These behaviors ranged from ex-

²Although Ajzen and Fishbein (1980) examined the link between attitudes and behavioral intentions, this study investigated the direct link between attitudes and behaviors. The authors felt that investigation of the direct link was appropriate in this study, because it was possible to measure actual food-consumption behaviors of the respondents.

Table 3. Measures Used in Phase Two

Measure	No of Items	Coefficient Alpha	Source	Items ^a
Concern for animals	4	0.77	Developed in this study	<ol style="list-style-type: none"> 1. Like humans, animals have feelings. 2. I support animal rights. 3. People should treat livestock with the same compassion as their pets. 4. I believe the government should allocate more funds to support organizations that protect animals.
Concern with fitness	4	0.74	Moorman and Matulich (1993)	<ol style="list-style-type: none"> 1. I feel exercise should be an important part of a person's daily routine. 2. I try to make sure that my body is well-rested. 3. Going for a periodic physical exam is very important for me. 4. People should engage in activities that involve physical exertion.
Concern with nutrition	4	0.83	Moorman and Matulich (1993)	<ol style="list-style-type: none"> 1. When shopping for food items, I consciously consider fat content. 2. Maintaining a balanced diet is a very important part of my daily routine. 3. When buying foods, I consciously look at the nutritional content. 4. I always try to stay away from snacks and treats.
Concern for environment	4	0.82	Developed in this study	<ol style="list-style-type: none"> 1. I believe that companies should emphasize recycling programs. 2. I believe that people should recycle their empty containers. 3. Whenever it's practical, people should walk or ride a bicycle to work instead of driving. 4. It's good to use environmentally friendly products.

(Continued)

Social conformity	4	0.73	Bearden and Rose (1990)	<ol style="list-style-type: none"> 1. When I'm in a group, I try to behave like everyone else. 2. At parties, I usually try to behave in a manner that makes me fit in. 3. The slightest look of disapproval in the eyes of a person with whom I am interacting is enough to make me change my approach. 4. If I am the least bit uncertain as to how to act in a social situation, I look to the behavior of others.
Self-esteem	4	0.71	Faber and O'Guinn (1992)	<ol style="list-style-type: none"> 1. At times I think I am no good at all. 2. I am able to do things as well as most other people. 3. I certainly feel useless at times. 4. All in all, I am inclined to feel that I am a failure.
Vegetarian-oriented attitudes	4	0.86	Developed in this study	<ol style="list-style-type: none"> 1. If forced to make a decision, I would choose to eat vegetables rather than meat. 2. If a greater variety of vegetarian options were available, I would eat less meat. 3. I'm not satisfied with a meal that does not include meat.^b 4. I try to avoid eating meat whenever possible.^b

^aSeven-point Likert scales were used for all the items.

^bThese items were reverse-coded.

clusively herbivorous to highly carnivorous. Each student collecting data provided names and telephone numbers of their respondents.

This data-collection procedure resulted in 505 responses. A graduate student randomly called one in every four respondents to verify the accuracy of survey administration. Because of incompleteness and careless response patterns, 12 surveys were eliminated from the sample, resulting in a usable sample of 493 individuals. In terms of common demographic characteristics, a wide variety of people were represented. The sample consisted of 297 females and 196 males, who ranged in age from 14 years to 81 years with a mean age of 37.66 years. Mean household income was \$49,554 with a range from \$1,000 to \$400,000.

Measurement. The scales used in the survey instrument were derived from two sources. First, a review of literature provided insights into relevant constructs pertaining to the phenomenon of study. Further, transcripts from Phase 1 depth interviews aided in scale development. Measures used in the survey resulted from the literature review and themes obtained from the depth interviews. Measures for social conformity and self-esteem were adapted from Bearden and Rose (1990) and Faber and O'Guinn (1992), respectively. Scales for concern with nutrition and concern with fitness were loosely based on the scale for health behavioral control (Moorman & Matulich, 1993). Measures for vegetarian-oriented attitudes, concern for the environment, and concern for animals were based primarily on results of the depth interviews. All of these measures employed a seven-point Likert-scale response format.

The vegetarian-oriented behavior scale was also developed in this study. Ten distinct food categories covering a broad spectrum of meat- and vegetarian-oriented food groups were created. The meat food groups included beef, poultry, and pork products. The vegetarian food groups included fruits, legumes, nuts, rice, earth vegetables, leafy vegetables, and vine vegetables. Respondents recorded the frequency of consumption in each category.³ A ratio of monthly vegetarian-specific consumption frequency to monthly meat-specific consumption frequency was computed to assess a respondent's food-consumption behavior.

Reliability and Validity Assessment. Reliabilities were estimated for all the multi-item measures with the use of SPSS 9.0 software. Each scale was composed of four items. The Cronbach α values for all measures ranged from 0.70 to 0.86 (for a complete description, see Table 3). These figures indicate a high degree of internal consistency associated with each measure (Churchill, 1979; Nunnally & Bernstein, 1994).

Confirmatory factor analysis was used to assess the convergent and discriminant validity of the measures (Gerbing & Anderson, 1988). A congeneric measurement model was estimated for the seven multi-item

³Respondents were given the option of reporting their food consumption on a weekly or monthly basis. For analysis purposes, all consumption frequencies were converted to a monthly format.

Table 4. Measurement Properties of Multi-item Measures

Construct	Items Comprising Construct	Standardized Loading	<i>t</i> Value ^a	Average Variance Extracted
Concern for animals	Animal1	0.67	15.63	0.49
	Animal2	0.82	20.37	
	Animal3	0.49	10.63	
	Animal4	0.78	18.74	
Concern with fitness	Body1	0.85	21.48	0.49
	Body2	0.59	13.46	
	Body3	0.57	12.67	
	Body4	0.74	17.62	
Concern with nutrition	Food1	0.83	22.02	0.62
	Food2	0.85	22.58	
	Food3	0.87	23.30	
	Food4	0.55	12.76	
Concern for environment	Environ1	0.88	23.59	0.62
	Environ2	0.86	23.08	
	Environ3	0.59	13.73	
	Environ4	0.79	20.21	
Social conformity	Conform1	0.70	15.24	0.46
	Conform2	0.74	16.34	
	Conform3	0.57	12.17	
	Conform4	0.67	14.57	
Self-esteem	Esteem1	0.70	16.31	0.49
	Esteem2	0.45	9.55	
	Esteem3	0.80	18.94	
	Esteem4	0.80	18.95	
Vegetarian-oriented attitudes	Meat1	0.92	25.55	0.67
	Meat2	0.80	20.76	
	Meat3	0.68	16.49	
	Meat4	0.84	22.29	

Note. Overall fit of congeneric measurement model: chi square with 329 degrees of freedom = 710.45; GFI = 0.91; AGFI = 0.88; CFI = 0.93; TLI = 0.93.

^aAll *t* values are significant at 0.01 level.

constructs. These constructs included concern for animals, concern with fitness, concern with nutrition, concern for environment, social conformity, self-esteem, and vegetarian-oriented attitudes. The model fit statistics (see Table 4) indicate an adequate level of fit considering the number of parameters estimated in the measurement model. The χ^2 value associated with the model is 754.86 at 356 degrees of freedom (the χ^2 to degrees of freedom ratio is 2.12:1). The GFI and AGFI are 0.90 and 0.88, respectively. Further, fit indices that are not affected by sample size indicated a reasonable model fit. For example, the Tucker-Lewis index (TLI) is 0.92 and the comparative fit index (CFI) is 0.93. Further, all *t* values associated with the standardized loadings are significant ($p < .01$), suggesting acceptable levels of convergence among items for these constructs.

Convergence among items was further addressed by computing the average variance-extracted measures for the constructs (Fornell & Larcker, 1981). Variance extracted ranged from 0.46 to 0.67 for all seven multi-item constructs (see Table 4), and the mean average variance-extracted score across all construct measures was 0.55. These fit statistics and tests, taken in conjunction with Cronbach α reliability estimates reported previously, indicate acceptable levels of internal consistency and convergence among items.

According to Fornell and Larcker (1981), discriminant validity is indicated if the average variance extracted estimates for the multi-item constructs exceed the square of all interconstruct correlations. The average variance-extracted estimates for all the multi-item constructs in this study exceeded the squared ϕ correlations for all pairs of constructs, thus satisfying this test of discriminant validity. Further evidence of discriminant validity was obtained through a series of χ^2 difference tests. In order to assess construct validity for a pair of constructs, the following analysis procedure was performed. First, the χ^2 statistic was computed for a congeneric model with all items loading on a single factor. Subsequently, a two-factor congeneric model was assessed with items loading on the factors on which they were theoretically supposed to load, and a χ^2 value was computed for this model. The differences between the χ^2 statistics for the one-factor and the two-factor models were then calculated. The χ^2 values for the differences between one- and two-factor models were all statistically significant (at the .01 level). Based on the two above tests, the multi-item measures were shown to display acceptable levels of internal consistency, item convergence, and discriminant validity.

Further Validation of Vegetarian-Oriented Attitude Scale. Although confirmatory factor analyses and average variance-extracted estimates provided an assessment of construct validity for the measures used in this study, two additional tests were performed to further validate the vegetarian-oriented attitude scale. First, a t test using mean level of vegetarian-oriented attitude as the dependent variable and a respondent's self-reported vegetarian versus nonvegetarian status as the independent variable was estimated. This test showed a statistically significant relationship ($t = 13.47$ at 482 degrees of freedom) between the vegetarian-oriented scale developed in this study and the respondents' self-reported vegetarianism. The mean level of vegetarian-oriented attitudes (on a four-item, 7-point scale) for vegetarians was 24.75, whereas the mean for nonvegetarians was 14.05. As a second test, a bivariate correlation between the vegetarian-oriented attitude scale and a respondent's reported vegetarian-oriented behavior was estimated. The statistically significant correlation ($\phi = 0.445$; $p < .01$) provides further evidence of validity for the vegetarian-oriented attitude scale.

Table 5. Hypothesized Relationships and Model Results

Hypothesized Paths	Proposed Relationship	Completely Standardized Coefficients	<i>t</i> value
Concern for animals → vegetarian-oriented attitudes (H1)	Positive	0.18	2.79 ^a
Concern with fitness → vegetarian-oriented attitudes (H2)	Positive	-0.18	-2.47 ^c
Concern with nutrition → vegetarian-oriented attitudes (H3)	Positive	0.47	6.68 ^a
Concern for the environment → vegetarian-oriented attitudes (H4)	Positive	0.08	1.34 ^d
Social conformity → vegetarian-oriented attitudes (H5)	Negative	-0.04	-0.77 ^d
Self-esteem → vegetarian-oriented attitudes (H6)	Positive	-0.01	-0.08 ^d
Gender → vegetarian-oriented attitudes (H7)	Females > Males	0.25	4.89 ^a
Age → vegetarian-oriented attitudes (H8)	Negative	-0.09	-2.13 ^b
Vegetarian-oriented attitudes → vegetarian-oriented behaviors (H9)	Positive	0.52	11.65 ^a

Note. Model fit Statistics: chi square, 997.23; *df*, 400; GFI, 0.88; AGFI, 0.86; CFI, 0.91; TLI, 0.89.

^a*p* < .01.

^b*p* < .05.

^cSignificant, but opposite direction

^dNot significant

Results

In order to test the proposed relationships, a simultaneous estimation of the measurement and structural models was performed. This format of analysis allowed us to evaluate the proposed hypotheses and at the same time allow all the manifest indicators to be unconstrained within the model. The hypothesized model with nine structural paths was estimated with the use of LISREL 8.3 software. The model had a χ^2 value of 997.23 with 400 degrees of freedom (χ^2 to degrees of freedom ratio = 2.49:1). Fit indices indicate acceptable level of fit as well (GFI = 0.88; AGFI = 0.86; TLI = 0.89; CFI = 0.91; RMSR = 0.047). According to model results, four of the nine hypotheses were significant at the 0.01 level. Two hypotheses were significant at the 0.05 level, and three hypotheses were unsupported in this study.

Results of the postulated relationships are addressed both in Figure 2 and in Table 5. Hypotheses 1, 3, 7, and 9 were supported at the .01 level of significance. According to H1, individuals possessing a high concern for animals would be significantly more likely to possess vegetarian-oriented attitudes. Similarly, H3 postulated a positive relationship between concern with nutrition and vegetarian-oriented attitudes. H7

suggested females would possess stronger vegetarian-oriented attitudes compared to males. Finally, H9 suggested a positive link between vegetarian-oriented attitudes and vegetarian-oriented behavior.

Hypotheses 2 and 8 were found to be significant at the 0.05 level. H8 postulated a negative relationship between one's age and his or her vegetarian-oriented attitudes. Results supported this contention. H2 suggested that a positive association would be expected between concern with fitness and vegetarian-oriented attitudes. However, although this relationship was significant, it was in the opposite direction. Results indicated that the more concerned one was with their fitness, the less favorable were their vegetarian-oriented attitudes.

Hypotheses 4, 5, and 6 were not supported with these data. H4 suggested that a positive relationship exists between concern for the environment and vegetarian-oriented attitudes. H5 proposed a negative relationship between social conformity and vegetarian orientation. Finally, H6 proposed that individuals possessing high self-esteem would be more likely to possess favorable vegetarian-oriented attitudes.

Discussion: Phase 2

In the study's second phase, it was hypothesized that certain attitudinal, personality, and demographic characteristics influence a person's vegetarian-oriented food-consumption attitudes and behaviors. Data collected from 493 individuals indicated that although certain attitudinal and demographic characteristics play a stronger role in influencing a person's vegetarian-oriented attitudes, personality characteristics seem to play a lesser role. Further, favorable vegetarian-oriented attitudes were found to strongly influence vegetarian-oriented behaviors.

Results showed that in terms of attitudinal variables, those individuals possessing high concern for animals and high concern with nutrition are more likely to have a favorable vegetarian orientation. A greater vegetarian orientation implies a tendency to include fewer meat foods and greater vegetarian options in the diet. Thus it is not surprising that people expressing a high degree of concern for animals would likely consume fewer animal products. In fact, certain groups of concerned individuals have been lobbying to obtain stricter government control over the treatment of animals. The use of hormones in livestock, for instance, is a reason for people who are concerned about animals and concerned with their own nutrition, to adopt vegetarian-oriented diets. These people consider hormones to be cruel for animals ingesting them, and also potentially hazardous to the health of people (Wunderlich, 1991).

The positive correlation between concern with nutrition and vegetarian orientation appears appropriate because vegetarian diets are considered healthy due to their typically lower levels of saturated fat

and cholesterol. Further, such diets are associated with higher levels of folates, antioxidants, carotenoids, and phytochemicals, and are therefore considered more nutritious (Jacob & Burri, 1996; Roberts, 1995).

In this study, younger people and females were found to possess a stronger vegetarian orientation compared to older people and males. The stronger vegetarian orientation among females may be reflective of a higher concern for physical appearance and health (Hayes & Ross, 1987; Walker, 1995). This confirms current research showing that younger people are more likely to possess favorable vegetarian-oriented attitudes and behaviors.

Although the data from this study provided support for the above-mentioned relationships, some proposed relationships were not found to be significant. Surprisingly, concern with the environment and self-esteem was not significantly associated with vegetarian-oriented attitudes. However, further analyses uncovered an interesting finding. Strict vegetarians (people who abstain from consuming all meat-based products) were found to have a much greater concern for the environment than were pseudo-vegetarians (people who abstain from meat-based products, but occasionally eat some meat) and nonvegetarians (people who eat meat regularly). Pseudo-vegetarians were found to be much more similar to nonvegetarians than to strict vegetarians in terms of concern for the environment. This indicates a level of commitment to the environment among strict vegetarians that is not found among pseudo-vegetarians and nonvegetarians.

Interestingly, concern with physical fitness was negatively, rather than positively (as hypothesized) related to vegetarian orientation. In order to understand this result, further analyses were performed. The sample was split into two subgroups based on gender. The proposed model was estimated separately for the two groups. Results of this analysis showed that although concern with physical fitness was not significantly related to vegetarian orientation for females, there was a significant relationship between these two variables for the male subsample. This suggests that men associate enhanced physical fitness with increased meat consumption, whereas women do not make such an association.

No relationship between social conformity and vegetarian orientation was found in the Phase 2 sample. However, further analyses revealed that males who exhibited a high degree of vegetarian-orientation exhibited a low degree of social conformity. This result may be interpreted within the context of American popular culture. In this culture, there appears to be a social stigma associated with males who maintain vegetarian consumption habits (George, 1994; Walker, 1995). Thus, males exhibiting favorable vegetarian orientation tended to be nonconformists relative to the general society. No relationship between social conformity and vegetarian orientation was found among our female subsample.

This may reflect a greater acceptance of vegetarian consumption habits among women. Prior research has provided some evidence for the link between gender and vegetarian orientation (see Beardsworth & Keil, 1992).

Implications: Phase 2

Phase 2 of the current study has significant managerial implications, some of which are elaborated here. Results revealed that concern for animals was positively related to vegetarian orientation. This finding has potential branding implications. In fact, some food marketers have focused on this issue by creating specific brands that reflect animal-friendly products. The California-based Horizon Foods and the Colorado-based Alfalfa Foods are examples of firms that have created such brands. Promotion of the benevolent treatment of animals will likely influence the attitudes of vegetarian-oriented consumers toward such products. This will help alleviate consumers' feelings of guilt associated with consumption of animal-based products.

Although vegetarian respondents expressed a higher concern for animals than their nonvegetarian counterparts, there was a significant difference between pseudo-vegetarians⁴ and strict vegetarians in terms of their concern for animals and concern for the environment. Strict vegetarians were found to have a higher concern for both animals and the environment than were pseudo-vegetarians. The implication of this finding is that marketers may wish to consider targeting these two groups differently. For instance, free-range poultry producers may emphasize the nutritional aspects of their eggs in mainstream media outlets. Such outlets (e.g., in-store displays in supermarkets) would reach pseudo-vegetarians and nonvegetarians. On the other hand, a "no animal cruelty" theme for the same product may be employed in specialized media accessed primarily by strict vegetarians. These media may include vegetarian websites and magazines read primarily by vegetarian consumers.

Females and younger people were more likely to display favorable vegetarian-oriented attitudes and behaviors as compared to males and older people. These results, along with the finding that three-fourths of all individuals describing themselves as vegetarian were female, have implications for food marketers. Food marketers and restaurant chains can use this information in demographic segmentation. By using messages specifically tailored toward these demographic segments, marketers can better appeal to the specific tastes of different consumer groups.

⁴Pseudo-vegetarians are individuals who rate highly in terms of vegetarian orientation, but are not strict vegetarians.

SUMMARY

Phase 1 of this study delved into the motivations, tensions, and coping mechanisms experienced by vegetarian consumers. This phase uncovered reasons why individuals become vegetarians, and also developed a framework revealing four major tensions experienced by vegetarians. These four cognitive conflicts were termed pragmatism versus integrity, animal welfare versus self-welfare, individual freedom versus social belonging, and abstinence versus pleasure. In order to deal with these tensions, informants used one or more of three general forms of coping mechanisms (problem focused, emotion focused, and concession based).

Phase 2 of this study empirically validated an attitude scale focusing on vegetarian orientation, and showed strong statistical significance to establish the positive relationship between vegetarian-oriented attitudes and vegetarian-oriented behaviors. Results indicated that individuals' vegetarian orientation is related to their concern for animals, and their concern with nutrition. Females and younger individuals were more likely to possess a vegetarian orientation. Food marketers offering vegetarian products may wish to employ our findings to better understand and segment their markets.

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