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To eat or not to eat. A comparison of current and former animal product limiters

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ABSTRACT

In this exploratory study, we compared current and former pescatarians, vegetarians and vegans on a number of variables including the motivations for their food choices. Participants were recruited via online message boards as well as through snowball sampling. Of the 247 participants, 196 were currently limiting animal products and 51 were former animal product limiters. Current limiters were more likely to have made a gradual rather than abrupt transition to animal product limitation and were more likely to have joined a vegetarian or vegan group than former limiters. Furthermore, current limiters indicated that their eating pattern was a part of their self identity. These findings shed light on the differences among current and former vegans and vegetarians and can inform individuals interested in promoting animal product limitation for health or ethical reasons.

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Introduction

To eat or not to eat: a comparison of current and former animal product limiters

The food choices of animal product limiters challenge the dietary principles of the dominant meat-eating culture (Jabs, Sobal, & Devine, 2000). Adopting a diet that deviates from the diet of the majority can have significant psychosocial consequences, positive as well as negative (Jabs et al., 2000). There has been considerable research on factors associated with limiting animal products, including culture, gender, stress, health, animal rights, and environmental concerns (Beardsworth & Keil, 1992; MacNair, 1998; Rozin, Markwith, & Stoess, 1997; Steptoe, Pollard, & Wardle, 1995). Often, these reasons are overlapping rather than mutually exclusive (Fox & Ward, 2008). However, given the paucity of research comparing current and former animal product limiters, it is not clear what factors contribute to cessation or maintenance of animal product limitation. A literature search yielded a single study investigating current and former animal product limiters (Barr & Chapman, 2002) as the majority of researchers have focused more broadly on reasons for food choices.

There is a substantial literature on the role of social environment on food choices. Culture and religious backgrounds may dictate some food choices or avoidances. The ahimsa concept (noninjury to living creatures) is a basic tenet of religions such as Buddhism; milk is considered an unclean fluid among some Asian and African groups (Lau, Krondl, & Coleman, 1984). Family history plays a role in that the foods one eats in childhood are also the preferred adult foods choices (Nicklaus, Boggio, Chabanet, & Issanchou, 2005). In addition, by early adulthood, individuals adopt a culturally based set of beliefs and attitudes about the edibility of objects (Rozin, 1984; Rozin, Fallon, & Mandell, 1984). In a family study, despite a relatively weak link between parent-adolescent food preferences, Rozin and colleagues found a stronger relationship between parent-adolescent "disgust" responses to certain foods. Thus, it is possible that parents may be more influential on what their offspring choose not to eat.

Social influence becomes a particularly important factor when one changes dietary habits. Steptoe and colleagues found that social support was a key contributor to an increase in fruit and vegetable consumption in a low-income population (Steptoe, Perkins-Porras, Rink, Hilton, & Cappuccio, 2004). In a qualitative study of persons who had begun limiting animal products, researchers note the important role of significant others in supporting such changes (Paisley, Beanlands, Goldman, Evers, & Chappell, 2008).

Some researchers have identified gender as a factor in animal product limitation. Mooney and Walbourn (2001) investigated food avoidance among college students and found that meat was the most commonly rejected food followed by vegetables. The types of food rejected were different for men and women. Half of the women reported avoiding meat most frequently while vegetables were the most commonly avoided food among men. In addition to vegetables, men consumed fewer fruits, high fiber foods, low fat foods, and more soft drinks than women (Steptoe et al., 2004). These findings have been attributed to women's concern about weight control and higher frequency of dieting. However, women also cited health, and animal ethics more frequently than men, and men cited taste more frequently than females (Mooney &

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Walbourn, 2001). Stress can also influence food choices. Zellner and colleagues (2006) found that stress caused changes in food choice away from a healthy food (grapes) to a less healthy high fat food (M & Ms). In addition, more females (46%) than males (17%) reported increasing food consumption when stressed, whereas more males (54%) than females (37%) reported under-eating when stressed. Thus, gender plays a role in what foods people chose to eat or reject as part of their typical diet and when under stress.

Concerns about health also play a role in individuals' motivations to reject or include certain foods. For example, some people choose to reject meat products because of health risks associated with meat. Meat consumption is associated with an increased risk of some cancers, and the levels of saturated fat found in animal products are responsible for a higher risk of cardiovascular disease and diabetes (Walker, Rhubart-Berg, McKenzie, Kelling, & Lawrence, 2005). Health conditions may also lead to an increase of certain foods. In one study, rheumatoid arthritis patients added fish in their diet to reduce the number and severity of symptoms (Mannage, Hermann, & Schauenstein, 1999).

Personal goals such as weight loss can affect what people choose to eat at certain points in their lives (Steptoe et al., 1995). Americans are concerned with dieting and spend 40 billion dollars a year in an attempt to lose weight (Frontline, 2004). This attempt to lose weight affects food choices. Individuals may limit high fat foods or carbohydrates as a weight loss strategy. They may also increase their fruit and vegetable intake or choose plant-based proteins. Maintenance of such dietary changes has measurable benefits. In a health-conscious sample in the UK, those who maintained an animal product limiting diet gained less weight than meat eaters and maintained the lowest weight gain across the 5 years of the study (Rosell, Appleby, Spencer, & Key, 2006).

These shifts to a more vegetable based diet may be more successful when cognitions support the behavior. Participants who combined positive attitudes about vegetable consumption with negative assessment of high fat food were more successful in making a recent change in their eating pattern (Ogden, Karim, Choudry, & Brown, 2007). This is consistent with the perception of some foods as more pure and hence of greater nutritional quality than others. With this conceptualization, meat is perceived as dead whereas vegetables are seen as full of life and health (Twigg as cited in Beardsworth & Keil, 1992).

Finally, ethical concerns can guide the decision to limit animal products. Some individuals choose vegetarian or vegan eating patterns to avoid harm to living creatures (MacNair, 1998); others eat only locally raised meat and locally grown produce to reduce their footprint on the environment (Roosevelt, 2006). One or a combination of these factors – culture, health, gender, stress and protection of other organisms or the planet – may be sufficient rationale to shift to an animal product limiting diet. There may be multiple rationales for engaging in animal product limitation, some of which may conflict. In Beardsworth and Keil's qualitative study (1992), a number of participants discussed the dilemma of competing reasons – protecting the environment, avoiding violence to living creatures but also avoiding a diet that is more "moral" (e.g., devoid of animal flesh) but unhealthy (e.g., overly inclusive of sugar or high fat dairy products). Further, the fluidity with which some of their participants described their diet, e.g., a self label of vegetarian who periodically ingests animal flesh, is an important point to consider and lends support for utilizing a broad umbrella descriptor such as animal product limiter.

Current scales that assess reasons for dietary choices typically focus on the initial motivation for food choices with a research derived expanding list of reasons. Steptoe and colleagues developed the food choice questionnaire (FCQ; Steptoe et al., 1995) to assess factors that influence people's dietary choices. The FCQ has nine factors: health (contains a lot of vitamins and minerals), mood (helps me cope with stress), convenience (is easy to prepare), sensory appeal (has a pleasant texture), natural content (contains no additives), price (is cheap), weight control (is low in calories), familiarity (is like the food I ate when I was a child), and ethical concern (is packaged in an environmentally friendly way). Natural content, familiarity, and ethical concern were all positively correlated with age. Since the creation of the FCQ, Lindeman and Väänänen (2000) have expanded the ethical concern scale by adding items that assess animal welfare, religion, environmental protection and political values. The authors suggest that the FCQ can more comprehensively evaluate food choice motives and thus lead to improvements in dietary modification programs.

Research investigating current and former animal product limiters

In their examination of current and former animal product limiters, Barr and Chapman (2002) investigated the range of dietary practises among vegetarian women. They explored changes in vegetarian dietary practises over time and assessed former vegetarians' motivation and rationale for resuming an omnivorous diet. Their sample included 90 vegetarians, 35 former vegetarians, and 68 non-vegetarians ranging in age from 18 to 50. Fifteen participants also agreed to participate in a qualitative interview. Current vegetarians indicated whether their vegetarian diet had changed over time and whether they anticipated changing their diet in the upcoming year. Former vegetarians responded to an open ended question about what led to their decision to resume consuming animal products. The majority of current vegetarians indicated that their diet included fewer animal products than when they first went vegetarian (63%). Of the 35 former vegetarians, the most common reason for resuming animal product consumption was health related reasons. The 15 former vegetarians who participated in the qualitative interviews identified lack of social support for vegetarianism and health concerns as the main reasons for adding meat back into their diets. Regarding health concerns, protein was mentioned most frequently but participants also raised concerns about low iron, calcium, and vitamin B-12.

While Barr and Chapman's study (2002) offers insight into the reasoning behind following or discontinuing a vegetarian diet, they did not include males in their sample and former vegetarians comprise only 18% of the sample. It is possible that there are differences between males and females on reasoning for limiting animal products. Time as an animal product limiter may also play a role in reasoning for limiting animal products. The majority of the study's current vegetarians included fewer animal products over time, and many of the those interviewed stated that as they learned more about factory farming they gradually reduced their consumption of dairy and eggs. It is further possible that the manner in which persons transitioned to limiting animal products is a factor in maintenance. If former vegetarians made the change from omnivore to animal product abruptly, such a dramatic dietary change may be more difficult to maintain.

The current study

Although most Americans are omnivorous, with three percent of the population identifying as vegetarian or vegan (Vegetarian Resource Group, 2006, the rationale for eating pattern selection warrants further study. There are many possible animal product limitation dietary patterns, including pescatarian, vegetarian, or vegan. The reasons for adopting a vegetarian or vegan diet may be related to the stability of eating pattern selection. There may be a tendency for a particular age or gender group to modify their eating pattern, and this modification may or may not endure depending on one's rationale.

The overall focus of this exploratory study was on similarities and differences between current and former animal product limiters. Through online recruitment, the goal was to obtain a sample of animal product limiters with a wider range of backgrounds than in previous research. Utilizing the FCQ (Lindeman & Väänänen, 2000; Steptoe et al., 1995) and an eating questionnaire developed for this study, we examined participants' reasons for limiting animal products as well as factors related to stability or disruption of participant animal product limitation.

Method

Participants

Participants were recruited via online message boards and websites. Of the 247 participants, 196 were current animal product limiters and 51 were former limiters. There were 211 females and 36 males. Participants ranged in age from 18 to 66 (M = 29.05, SD = 9.39). There were 222 Euro-Americans, 6 Hispanics, 5 Asian-Americans, 2 Native Americans, 1 African American and 1 person of mixed race. Participants were divided into two groups (current and former limiters). Of the current limiters, 170 were female and 26 were male; the mean age of current limiters was 27.87 (SD = 8.8, range 18–66). The majority of current limiters were vegan (118), followed by ovo-lacto vegetarians (48) pescatarians (22), lacto vegetarians (7), and 1 raw foodist. Of the current limiters, the majority had been limiting animal products for more than 6 years (see Table 1 for frequencies). The majority of current limiters never smoke cigarettes (91.8%); they drink alcohol 1–2 times a week (45.9%), or never (37.6%).

Of the former limiters 41 were female and 10 were male with a mean age of 33.6 years (SD = 10.2, range 22–64). Thirty-one percent of former limiters had limited animal products for 3–5 years and 31% had limited for 6 or more years (see Table 1 for frequencies). More than half of the former animal product limiters now identified as occasional meat eaters (eat meat 1–2 times a week), 15 identified as regular meat eaters (eat meat 3–4 times a week), 5 were meat avoiders (eat meat only if there are no other choices), and 5 were pescatarians. Most former limiters never smoked (86%), 20% of former limiters never drank alcohol, 46% drink 1–2 times a week, and 20% drink 3–4 times a week. There were no gender differences in eating pattern selection, or current and former status.

Measures

Eating pattern questionnaire

Participants completed a questionnaire that had been created for a pilot study. The questionnaire was piloted with 46 participants with a mean age of 20.57 (SD = 2.57); 39 were females and 7 were males, all undergraduates at a university in the Pacific Northwest. Thirty-eight were Caucasian (5 were Asian, and 3 were Hispanic). There were 22 regular meat eaters, 14 occasional meat eaters, 3 meat avoiders, 3 pescatarians, 3 vegetarians, and 1 vegan.

Table 1
Frequencies: Time as animal product limiter.

Length of time as animal product limiter	Current limiters	Former limiters
Up to 3 months	2	1
4–6 months	3	6
7 months to 1 year	8	3
1–2 years	33	9
3–5 years	38	16
6–10 years	45	6
More than 10 years	67	10

The first half of the questionnaire deals with reasons and challenges in limiting animal products, and the second half assesses lifestyle variables. Participants first indicated whether they had modified their eating pattern to include fewer animal products. If they had not, they were asked to skip to the lifestyle portion of the questionnaire. If they had modified their eating pattern to include fewer animal products, they then described changes in their eating pattern (in free response format), length of time they maintained this change (up to 3 months, 4–6 months, 7 months to 1 year, 1–2 years, 3–5 years, 6–10 years, more than 10 years), and if they follow this dietary modification. Participants then listed reasons for limiting animal products.

The second part of the questionnaire included demographic and lifestyle variables including gender, age, amount and type of exercise, alcohol and drug consumption, years of education, and number of chronic health conditions. Finally, participants selected the descriptor that best described their dietary pattern from a list of the following options: regular or occasional meat eater, meat avoider, pescatarian, ovo-lacto vegetarian, ovo-vegetarian, lacto-vegetarian, vegan, macrobiotic, and raw foodist.

Food choice questionnaire

The original FCQ includes 36 four point items (e.g., "It is important to me that the food I eat on a typical day is easy to prepare" where 1 = not at all important and 4 = very important) and includes nine factors behind food choices (health, mood, convenience, sensory appeal, natural content, price, weight control, familiarity, and ethical concern). Eight items concerning ethical food choice motives were also included (Lindman & Väänänen, 2000). These eight items begin with the same stem as the items on the original FCQ and assess ethical food choice motives that are not tapped in the original version. These ethical motives include animal welfare, environmental protection, political values, and religion.

Procedure

Participants were recruited via online message boards, snowball sampling (an email sent to friends and family members, which was forwarded onto their friends and family members), and websites. Other researchers focused on the rationales of vegetarians have used snowballing approaches (Beardsworth & Keil, 1992). The selected websites were geared toward omnivores, vegetarians, and vegans. The social networking website Facebook was used to obtain both current and former limiters. The vegan message board is located on the website the Post-Punk Kitchen (ppk). The ppk is a website maintained by vegans for vegans and includes a message board, a blog, and recipes. To obtain vegan participants, a post regarding an opportunity to participate in research examining eating patterns and health was posted on the online message board www.the-ppk.com. Vegetarian participants were recruited through the message boards at www.veggieboards.com. Postings were also put up in local grocery stores and restaurants to obtain participants who do not regularly access the Internet. Former limiters were recruited via various online cooking message boards including the message board associated with the magazines Cooking Light (www.community.cookinglight.com/), Bon Appetit www.boards.epicurious.com/forum.jspa?forumID=8), and Taste of Home (www.community.tasteofhome.com/forums/).

In all cases, the posts advertised an opportunity for research participation and directed potential participants to a website that included all study materials. Participants provided demographic information first, followed by the eating pattern questionnaire, and the FCQ. For potential participants who did not have Internet access, a phone number was also provided to set up a meeting in person to complete the study.

Results

In the current study, we examined the similarities and differences between current and former animal product limiters. Following the demographic description of the participants, we present the results of those comparisons for motivation for and type of transition to animal product limitation, and the role of social support. In the last section, we describe a unique subset of long term animal product limiters who had returned to eating animal flesh.

Demographic information

Demographic information is divided by group status (current or former limiters). There were 196 current limiters and 51 former limiters. Current limiters weighed less than former limiters (F (1,242) = 4.53, $p < .05$, $\eta^2 = .018$; $M = 148.92$, $SD = 38.51$; $M = 162.22$, $SD = 43.93$, respectively). Current limiters were younger than former limiters (F (1,241) = 15.73, $p < .001$, $\eta^2 = .061$; $M = 27.87$, $SD = 8.81$; $M = 33.60$, $SD = 10.21$, respectively). Current limiters were less likely to drink alcohol compared to former limiters (χ^2 (1, $N = 244$) = 5.50, $p < .05$). Table 1 provides an overview of the range of time that persons in the current and former limiter groups reduced or avoided animal products.

Food choice motives

Of the factors motivating food choices, current and former limiters differed on the ethical food choice motives. Ethical food choice motives were more important among current animal product limiters than former limiters (animal rights, $t = 10.13$, $p < .001$, $\eta^2 = .24$; environmental, $t = 3.51$, $p < .001$, $\eta^2 = .21$; political values, $t = 3.81$, $p < .001$, $\eta^2 = .11$; see Table 2 for means and standard deviations). Health was also more important among current animal product limiters than former animal product limiters ($t = 2.15$, $p < .05$, $\eta^2 = .09$; see Table 2). There were a few within group differences on motives among current limiters. Health promotion was more important among older (over 41, $n = 19$) than younger current limiters (under 40, $n = 174$). Sixty-three percent of older current limiters indicated that health promotion was a very important reason when they initially started limiting animal products, while only 36 percent of younger current limiters indicated that health promotion was very important in their decision to limit animal products. ($t = 1.973$, $p < .05$, $\eta^2 = .016$) Older and younger current limiters did not differ on any other reasons for limiting animal products.

There was a gender difference on health motives, t (193) = 4.05, $p < .001$, $\eta^2 = .11$ with women's scores higher than men's scores ($M = 3.17$ (.48); $M = 2.67$ (.61)). The same pattern was found for environmental issues, t (193) = 2.33, $p < .026$, $\eta^2 = .03$ with higher scores for women than men ($M = 3.00$ (.72); $M = 2.65$ (.70)). There was no gender difference on animal rights or political motives.

Table 2
Means and standard deviations for the FCQ.

	Current limiters		Former limiters	
	M	*SD*	*M*	*SD*
Animal rights	3.67**	.63	2.49	1.06
Environmental	2.95**	.72	2.54	.88
Political	2.54**	.80	2.06	.82
Health	3.11*	.53	2.92	.69

* $p < .05$.
** $p < .001$.

To permit statistical analyses between groups of current animal product limiters, we collapsed certain categories. We grouped all vegetarians together, grouped raw foodists with vegans and retained the group of pescatarians. The means and standard deviations for these three groups on the food choice motives are presented in Table 3. We conducted ANOVAs on the same food choice motives noted in Table 2, with follow-up Tukey comparisons when appropriate. There were no differences among the groups on health motives. On environmental motives, there was an overall difference, F (2,192) = 6.28, $p < .002$, $\eta^2 = .06$, with vegans having significantly higher scores than vegetarians. There were differences on animal rights, F (2,192) = 16.49, $p < .000$, $\eta^2 = .15$, with vegans having significantly higher scores than vegetarians and pescatarians. There was no difference between vegetarians and pescatarians. Finally, there were group differences on political motives F (2,192), 8.88, $p < .000$, $\eta^2 = .09$, with vegan scores significantly higher than pescatarian and vegetarian scores. We did not have similar eating pattern differentiation for the former limiters; the small sample size of the meat avoiders and pescatarians in the former limiters group precluded reliable analyses. However, the means and standard deviations for the four eating patterns of the former limiters group are presented in Table 4.

Self identity (as vegetarian, vegan, etc.) was assessed with the statement "My eating pattern is a part of who I am/self identity". Participants indicated their agreement or disagreement with this statement on a 4 point Likert scale (1 = not at all important, 4 = very important). Current limiters indicated that their vegan or vegetarian eating pattern was part of their identity when they initially started limiting animal products, a rating that increased over time from a mean of 2.63–3.35. Former limiters had a lower score than current limiters indicating that their eating pattern was less a part of their identity ($M = 1.67$, $SD = .99$; $M = 2.63$, $SD = 1.15$, respectively; $t = 5.46$, $p < .001$, $\eta^2 = 0.11$). There was no relationship between length of time as a limiter and a higher self identity score. Moreover, the more extreme animal product avoiders (vegans and raw foodists) did not have higher self identity scores than vegetarians or pescatarians.

Abrupt versus gradual change

Participants indicated whether their decision to limit animal products was gradual or abrupt. For some participants, the transition to animal product limiter was an abrupt decision; they went from omnivore to vegetarian or vegan all at one time. For others, the transition was more gradual, changing their diet one food group at a time, e.g., meat then dairy. Current limiters were more likely to have changed their diet gradually than former limiters (χ^2 (1, $N = 213$) = 5.34, $p < .05$). One gender was no more likely to transition abruptly than the other. It is possible that continuing to limit animal products is easier for people who make the change gradually. The

Table 3
Means and (standard deviations) on FCQ by current limiter eating pattern.

	Pescatarian $N = 22$	Vegetarian $N = 54$	Vegan $N = 119$
Animal Rights	3.32[b] (.73)	3.39[b] (.85)	3.86[a] (.38)
Environmental	2.79 (.75)	2.71[b] (.74)	3.10[a] (.68)
Political	2.31[b] (.88)	2.24[b] (.68)	2.73[a] (.78)
Health	3.17 (.54)	3.12 (.49)	3.09 (.53)

All comparisons with different superscript letters are significant at $p < .002$ or better level.
Absence of letter superscript indicates no significant difference from other lettered groups.

Table 4
Means and (standard deviations) on FCQ by former limiter eating pattern.

	Regular meat eater $N = 16$	Occasional meat eater $N = 26$	Meat avoider $N = 4$	Pescatarian $N = 5$
Animal Rights	2.34 (1.11)	2.52 (1.05)	2.00 (1.08)	3.20 (.84)
Environmental	2.13 (.94)	2.67 (.80)	2.17 (.43)	2.54 (.88)
Political	1.66 (.83)	2.22 (.76)	1.88 (.95)	2.70 (.57)
Health	2.63 (.81)	3.08 (.56)	2.50 (.24)	3.33 (.71)

decision to limit animal products also impacts people in the limiter's life, including family members. Limiting animal products gradually may make the change easier for family members as well, which may lead to continuation of animal product limitation.

Vegetarian group membership

Being a member of a vegetarian or vegan group may make the transition to animal product limiter easier. Participants were asked if they were members of a vegetarian or vegan group; these groups ranged from potluck get-togethers to online message boards. Current limiters were more likely to belong to a vegetarian group than were former limiters during the time that they limited animal products, $\chi^2(1, N = 247) = 9.97, p < .05$. Length of time as an animal product limiter did not differ as a function of group membership. Women were not more likely to belong to vegetarian groups than men.

Former limiters

Within the group of former limiters were 16 individuals who had limited animal products for at least 6 years. Of these former limiters, there are 3 regular meat eaters, 7 occasional meat eaters, 2 meat avoiders, and 4 pescatarians. Six limited animal products for 6–10 years and 10 limited animal products for more than 10 years. They ranged in age from 25 to 56 years ($M = 35.44$, $SD = 8.56$). Half indicated that self identity was not at all important and only one met with a group of other vegetarians (this was a group of friends, not a formal vegetarian group). Six indicated that they had friends and family members who were vegetarian, two indicated they had only family members who were vegetarian, four had vegetarian friends, and four indicated they had no friends or family members who were vegetarian.

Open-ended responses from all 51 former limiters provide some additional insight into their motivations for limiting and then returning to ingestion of animal products. Forty-three percent of these former limiters decided to start limiting animal products after seeing a video, or reading a book or zine about animal product limitation. Others described their disgust with animal based food after working in the food service industry or the sudden realization that eating meat meant eating animals. With regard to adjustment to their new eating pattern, difficulty preparing food (35.2%), boredom with food options (41.2%) and cravings for meat (54.9%) were especially problematic. These challenges were present when the former limiters began limiting animal products and continued to be stumbling blocks to maintenance. In sum, these long term former limiters did not view their eating pattern as part of their identity, made the transition abruptly, and did not access support through vegetarian groups.

Discussion

In the current investigation of motivations for animal product limitation, there was a decided attempt to recruit current and former animal product limiters across the spectrum of animal product limiters. There was a range of eating patterns with vegans constituting the majority of current limiters, followed by ovo-lacto vegetarians, and pescatarians; the majority of former limiters were occasional meat eaters, followed by regular meat eaters, meat avoiders, and pescatarians. Given the preponderance of women in other animal product limiter samples, (Smart, 1995; Vegan Research Panel, 2003), the gender imbalance in the current sample is comparable to other studied populations. The difference in weight between current and former limiters is consistent with the EPIC-Oxford findings that meat eaters gain more weight over a 5 year period than vegetable eaters (Rosell et al., 2006).

Personal values can be the impetus to adopt a lifestyle that goes against the dietary norms of society. Past researchers investigating animal product limiters found that ethical reasons are often cited by vegetarians and vegans as a reason for limiting animal products (MacNair, 1998; VRG, 2006). The current sample replicated those findings. The ethical implications of food choices were more important for current limiters than former limiters. That is, current limiters consider food choices to have an impact on animal rights, environmental protection, and political values. Many current limiters indicated that they decided to start limiting animal products upon realizing that meat came from living creatures. One current vegan described her decision to stop eating meat: "I was eating Kentucky Fried Chicken in my kitchen with my family and my neighbors. I remember having a sudden epiphany – this chicken that I was eating had a mother and father, brothers and sisters just like I did. I could not stomach eating it anymore, so I threw the chicken in the trash and declared to my parents that I would not eat animals anymore". This response is consistent with a "pure food" motivation noted by earlier researchers. According to this perspective, one motivation for renouncing animal ingestion is that animal flesh provides less pure/wholesome nutrition than vegetables. Therefore, if one's goal is to eat only the purist food – vegetables are a logical choice over animal products (Beardsworth & Keil, 1992).

More current than former limiters indicated that their eating pattern was part of their self identity. Devine (2005) argues that the relationship between food choice behavior and identity may be based on the use of food choices as a means of establishing one's identity and communicating it to others. Furthermore, people who choose to be vegetarian or vegan for ethical or health reasons would have difficulty returning to meat eating without redefining their identity as an eater (Devine). The results of the current sample support this argument. Overall, current limiters indicated that their eating pattern was part of their self identity whether motivated by ethical and/or health reasons. Furthermore, current limiters who cited animal rights as their initial reason for limiting animal products were more likely to equate their eating pattern with their self identity both initially and currently. In contrast, former limiters did not indicate that their eating pattern was part of their self identity. Without incorporating the adoption of a vegetarian or vegan lifestyle into their identity, the transition back to meat eating may have demanded less adjustment in self view.

Personal choices and identity formation do not occur in a social vacuum. Food choices have ramifications in one's social environment. Researchers investigating animal product limiters have found that vegetarian group membership is common among animal product limiters (Jabs, Devine, & Sobal, 1998; Jabs et al., 2000). Vegetarian group membership provides a social network which supports members in maintaining a vegetarian diet and lifestyle and can provide a shared identity (Jabs et al., 1998). Vegetarian group membership was more common among current limiters; this social support may ease the transition into a new way of eating. As a member in a group, new vegetarians and vegans have access to help with cooking, eating out, and learning what to say to friends and

family members who may question their decision to limit animal products. In contrast, former limiters were less likely to belong to a vegetarian group while they were limiting animal products. A lack of social support among these former limiters may be one of the reasons that they no longer limit animal products. Barr and Chapman (2002) found that changes in living situations (i.e., moving back in with meat eating family members, getting married, or having a child) were often cited as a reason for resuming animal product consumption.

Former limiters also indicated more challenges with limiting animal products, specific to food (difficulty preparing food, bored with food choices, and cravings). It is possible that membership in a vegetarian group could have helped the former limiters overcome these challenges and maintain a vegetarian or vegan lifestyle. In previous research, social support has been identified as an important predictor of successful animal product limitation (Paisley et al., 2008).

The manner in which one limited animal products was a differentiating factor. Current limiters modified their reduced animal products gradually while former limiters limited abruptly. Since animal product limiters' food choices challenge the dietary principles of the dominant culture, a gradual transition from omnivore to animal product limiter may make the transition easier and may affect the stability of the change. Some current limiters indicated that they decided to stop eating red meat, then all meat, and decided to go vegan after being vegetarian for a while and discovering more information regarding animal treatment. These findings are contrary to those found by MacNair (1998). The majority of her vegetarian and vegan sample indicated that the decision to give up meat was sudden. However, upon closer examination, in the vegan dominated sample, many vegans indicated that they used a two step procedure, becoming ovo-lacto vegetarians first and deciding to go vegan at a later time.

With respect to gender, our sample was heavily skewed with female participants. This gender skew has been observed in other studies on meat avoidance (Moony & Walbourn, 2001) with some researchers focusing solely on female meat avoiders and vegetarians (Barr & Chapman, 2002; Santos & Booth, 1996). Based on a national poll, researchers found that almost twice as many women as men reported never eating meat (Vegetarian Resource Group, 2006). In our study, there were few gender differences. Women more strongly endorsed health and the environment motives than did men. However, there were no gender differences on animal rights or political motives. Further, women were no more likely to begin their new eating pattern abruptly or be a member of a vegetarian group. The lack of gender difference on support group membership is somewhat surprising. There is a substantial gender socialization literature indicating that women's identity is embedded in relationships and further, women more readily access and utilize social support than men (Langer, 2010; Miller, 1991). It is possible that the limited number of gender differences may be due to an overriding shared value of limiting animal products by both men and women.

There are a number of design limitations to the current study. With snowball sampling, participants were asked to recruit additional participants by forwarding the study website to friends and family. Snowball sampling is an effective way to identify invisible groups (such as former animal product limiters) but can lead to a homogenous sample (Jabs et al., 2000). The use of free response questions was an effective way to find out about participants' experiences with animal product limitations. However, using an interview format may be a better way to investigate animal product limitation. Interviews may lead to more thorough understanding of current and former animal product limiters by providing participants an opportunity to elaborate and clarify their perspectives.

Overall, current and formers limiters differ on a number of food choice motives and behaviors as they transition to animal product limitation. Current limiters were more likely to limit animal products gradually than former limiters. More current than former limiters belonged to a vegetarian group. Self identity as an animal product limiter was another key factor in that more current limiters indicated that their eating pattern was a part of their self identity compared to former limiters. The majority of participants who indicated an ethical motivation for animal product limitation (animal rights) also indicated that their eating pattern was a part of their self identity.

The current study provides some direction for research investigating predictors of an animal product limiting diet. It appears that maintaining a dietary change to limit or avoid animal products is a complex process involving personal and social dynamics. The results of the current study can inform people interested in promoting animal product limitation for health or ethical reasons. In particular, future researchers could expand our understanding of the dynamics of those limiters who made the transition gradually, as well as the role of social support in maintaining the decision to limit animal products.

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