

Model of the Process of Adopting Vegetarian Diets: Health Vegetarians and Ethical Vegetarians

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ABSTRACT Interest in vegetarian diets is growing due to health and animal welfare concerns. This study examined the experiences of individuals who adopted vegetarian diets as adolescents or adults. Nineteen self-identified adult vegetarians, recruited from a vegetarian group in one city using snowball sampling, participated in qualitative interviews. The majority of respondents were well-educated, middle-class adults of European-American backgrounds, although they varied in age and sex as well as type and duration of vegetarian diet. The constant comparative method was used for analysis of these qualitative data. A process model describing the adoption of vegetarian diets was developed. Two types of vegetarians, health and ethical, were identified based on respondents' major reasons for adopting a vegetarian diet. Health vegetarians were motivated by a perceived threat of disease and the potential health benefits associated with vegetarian diets. Ethical vegetarians were motivated by moral considerations and viewed a vegetarian diet as a way to align dietary behaviors with beliefs and values about animal welfare. Adoption of a vegetarian diet was influenced by the receipt of information about the health and ethical impacts of vegetarian diets, physical aversions to animal-derived food, and life transitions. These findings can assist nutrition educators in developing strategies to work with clients adopting vegetarian diets and expand understanding of food choice behavior.

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INTRODUCTION

Many people report that they are following vegetarian diets. Surveys from the 1990s estimated that 5% to 7% of the U.S. population was vegetarian,^{1–3} while a 1977 poll found vegetarians to be only 1.2% of the population,⁴ although the specific proportion is influenced by the wording of surveys.⁵ Most vegetarians consume some selected animal products, with a smaller portion being vegan (eating no animal products). Greater acceptance of vegetarian diets is supported by research indicating that vegetarian diets can be nutritionally adequate,^{6,7} and health promotion messages emphasizing the benefits of plant-based diets.^{8–12}

Greater public acceptance of vegetarianism has occurred in the context of increased concerns about health,^{13,14} animal

welfare,^{15–17} and the environment.^{18,19} Past studies of vegetarians have suggested that people adopt a vegetarian diet for many reasons, including health, environmental concerns, ethical or moral values, animal rights, or a combination of these.^{3,14,15,20} It is not clear from existing studies whether vegetarians can be differentiated according to their motivations for adopting a vegetarian diet.

The process of adopting a vegetarian diet may occur gradually or abruptly. In prior research, the majority of respondents adopted a vegetarian diet gradually.^{15,21–23} In this gradual process, adopters moved along a continuum of behaviors until they reached a physical and psychological equilibrium where they felt their dietary behaviors were aligned with their beliefs and values.¹⁵ By contrast, a minority of individuals have been reported to adopt a vegetarian diet abruptly. In one nonrepresentative sample, only 2 of 23 vegetarian respondents adopted a vegetarian diet in an abrupt manner.²³ Beardsworth and Keil found that respondents who abruptly began a vegetarian diet experienced a “conversion experience” in which respondents associated meat with distress or disgust.¹⁵

Although past studies have identified various reasons given by people who adopt vegetarian diets, the process of adoption is not well understood. This research examined the process of adoption as well as progression into stricter vegetarian diets. The goal of the research was to increase understanding of the complex factors involved in making dietary change and to develop theoretical understanding of the process. In order to explain the multifaceted topic of vegetarianism, it was necessary to borrow elements from many theories including cognitive consistency theory^{24,25} and life course analysis.^{26–29} Cognitive consistency theory describes the desire of people to reduce dissonance and find agreement between existing beliefs and values and new information.^{24,25} Life course analysis examines continuity and change in behaviors across the lifespan.^{26–29} Theory triangulation³⁰ uses multiple theoretical perspectives to interpret different aspects of behavior and was employed here to allow for a more complete and holistic view of vegetarianism.

METHODS

This research was part of a larger qualitative study that examined respondents' experience with vegetarianism and the psychosocial aspects of adopting a vegetarian diet. The

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research was guided by an interpretivist approach to data collection and analysis.³¹ An interpretivist approach allowed the investigator to gain insight into the complex and dynamic influences on the adoption of vegetarian diets by studying the topic from the point of view of the participants.^{32,33} The study was approved by the University Institutional Review Board.

Sample selection. Sampling for this study was purposeful and stratified³³ to achieve variation according to age and sex as well as type and duration of vegetarian diet. These characteristics were chosen in order to assess possible differences in respondents' experiences with vegetarian diets. Participants were recruited via snowball sampling, which has been successfully used in other projects to study people following a vegetarian diet.^{15,21,23,34,35} Snowball sampling is a process where current participants in the study are asked to contribute names of others who may be interested in participating in the study. This is an effective method to identify largely "invisible" groups, such as vegetarians, in larger populations.³⁶

Recruitment process. Nineteen vegetarian respondents were recruited from a vegetarian group by formal and informal referral. Initially, the primary investigator announced the purpose of the study at a vegetarian group meeting in a city in Western New York State. Nine respondents were recruited from this meeting, two responded to a recruitment card placed in the member newsletter, six were referrals from previous respondents, and two responded to recruitment cards left with other respondents.

Data collection. One in-depth, open-ended, semi-structured interview³⁷ was conducted at locations convenient for respondents such as their homes, food shops, and local parks. One investigator conducted all of the interviews and the data analysis. Respondents were informed that the purpose of the study was to learn about their experiences in adopting and following a vegetarian diet.

The interviews followed a semi-structured interview guide that provided an outline for the interview but allowed flexibility to probe emergent themes and issues. Topics in the interview guide included reasons for, factors aiding and hindering, and the process of adopting a vegetarian diet. A pilot interview guide was pretested for clarity and coverage of important concepts with nutrition and social science faculty and two community members not included in the sample. It was then revised to improve clarity of questions and add more questions about the process of becoming vegetarian, the challenges of being vegetarian, and influences on adoption of a vegetarian diet. The guide was further revised after the first three interviews with study participants to include new issues that came up during these interviews. These included the challenges of traveling for vegetarians and the inclusion of terms used by respondents when referring to their diets. Interviews ranged from approximately 45 minutes to 3 hours in length and were audiotape recorded. All inter-

views were transcribed verbatim by the primary investigator. Following all interviews, detailed field notes were taken to describe the setting of the interview and capture important issues such as the trustworthiness of the responses and other pertinent information. Recruitment was discontinued when interviews provided little new information regarding respondents' experiences with vegetarianism.

Data analysis. Data analysis was guided by the constant comparative method of qualitative data analysis.^{31,32,38} Following transcription of approximately 10 interviews, the interviews and field notes were reviewed to develop an initial coding scheme. The codes represented concepts that the majority of respondents expressed throughout the interview. Throughout the study, the primary investigator coded and recoded transcripts on concepts and dimensions that evolved in the course of subsequent interviews. The Ethnograph v4.0 Software Package³⁹ was used to assist in sorting concepts and themes aiding in data analysis.

For each respondent, a timeline was developed of the process of adopting a vegetarian diet. These individual timelines, along with the analysis of coded transcripts, aided in identifying common patterns and the creation of a process model describing the adoption of vegetarian diets. The timelines were also useful in identifying respondents who did not follow the dominant patterns, which enhanced further development of the model. Data were analyzed and codes were modified throughout the investigative process.

Several techniques were used to enhance data trustworthiness. Throughout the study, the primary investigator engaged in peer debriefing.⁴⁰ University faculty in nutrition and the social sciences read a sample of interviews and discussed research findings with the primary investigator. The emerging research findings were also presented to and discussed with nutrition graduate students who conducted qualitative research with vegetarian and nonvegetarian peers to aid in the development and expansion of the findings. Member checks⁴⁰ were used to further validate the findings. In this process, the emerging model was presented and discussed with three study participants to obtain their responses to this interpretation of the data. All three confirmed the results of the analysis and provided further descriptions and details that corroborated the results.

Sample description. The majority of respondents were female, middle-aged, married, from the middle to upper-middle classes, well-educated adults of European-American backgrounds (Table 1). Two respondents were African American and one was Venezuelan American. A variety of dietary practices were represented, although at the time of the interviews a vegan diet (in which no animal-derived food was consumed) was the most common dietary pattern among respondents. Most had adopted vegetarian diets as adults, had followed a vegetarian diet for over 4 years, and belonged to a vegetarian group. There is relatively little nationally representative data on vegetarians⁵ for comparisons, but these participants in a vege-

tarian group were probably more involved with other vegetarians than most of those who follow a vegetarian diet.

RESULTS

The adoption of vegetarian diets among study respondents was characterized by differences in motivations, processes, and influences. Two pathways to vegetarianism emerged from this group of respondents, recruited from an urban vegetarian group; these are identified in the model presented in Figure 1. Components of the model will be described separately and then summarized.

Motivations. Respondents' motives for adopting vegetarian diets differentiated them into health-motivated and ethically motivated vegetarians.

Health was the main motive for eight respondents who adopted a vegetarian diet due either to experiencing a physical disease or making a diet-health connection. Those who had personally experienced a physical problem tended to be older, and they adopted the diet after being diagnosed with a chronic degenerative disease such as cancer or heart disease.

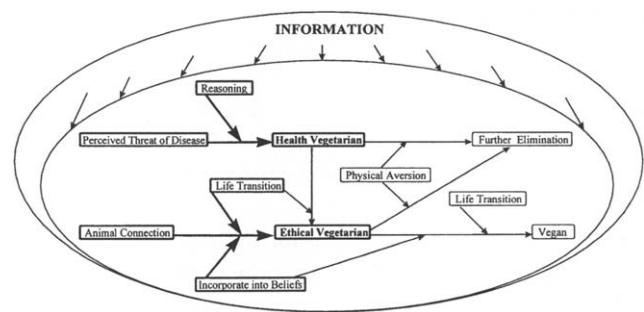


Figure 1. Process model of adoption of a vegetarian diet.

A 57-year-old man explained why he had adopted a lacto-ovo-vegetarian diet a year earlier:

I didn't need too much incentive. You know I had heart disease and I didn't care if I reversed it, I just didn't want it to get any worse . . . heart disease is a big killer. So once you have heart disease you get a little more serious.

Based on their evaluation of their health, these respondents used logical reasoning to decide to adopt a vegetarian

Table 1. Characteristics of vegetarian respondents (n = 19).

Sex		Type of Vegetarian Diet	
Female	13	Semi	1
Male	6	Pesco	1
Age (yr)		Lacto-ovo	3
25–29	1	Pesco-ovo	1
30–39	5	Ovo	1
40–49	5	Lacto	5
50–59	6	Vegan	7
60–69	1	Age Adopted Vegetarian Diet (yr)	
70–74	1	< 25	4
Marital Status		25–29	2
Divorced	5	30–39	5
Married	8	40–49	3
Never married	5	50–59	4
Separated	1	> 60	1
Annual Household Income (\$)		Duration of Vegetarian Diet (yr)	
10,000–19,999	3	< 1	1
20,000–49,999	8	1–3	2
50,000–99,999	4	4–6	5
> 100,000	3	7–9	5
Unreported	1	10–15	1
Education		> 15	5
High school	1	Community Affiliations	
< 2 years college	2	Vegetarian	12
2 years college—Bachelor's	7	Animal rights	4
> Bachelor's—Master's	5	Environmental	3
> Master's	4	Health	4
		Other	11
		None	1

diet, which they perceived to have health benefits relevant to their current health problems.

Respondents who adopted a vegetarian diet as a preventive measure against future chronic degenerative diseases, often following the diagnosis of a health problem in a parent or spouse, tended to be younger. A 41-year-old vegan who worked as a health care professional described her perceptions about the influence of diet on health:

I started to put together the pieces as far as diet and disease prevention, health promotion . . . I began to see more clearly that connection between healing and health and diet. I always said to people that I thought that food was the strongest medicine known.

Ethical concerns were the major motive for 11 respondents who adopted a vegetarian diet upon making a connection between the animal-derived food they ate and the animal from which it originated. Respondents who adopted a vegetarian diet in their childhood recalled the experience when they realized that meat came from an animal and they subsequently eliminated that animal-derived food from their diet. Adults who were ethically motivated to adopt a vegetarian diet were influenced by a combination of an animal-meat connection and information about animal welfare issues. For a 39-year-old woman who had been a vegan for 7 years, getting a dog made her more aware of animals' lives:

I got a dog . . . and I really think that made a difference [in adopting a vegetarian diet] because I spent a lot more time actually interacting with the dog, actually observing him in a different environment, and I just started thinking about the ethics of how animals are treated in our society.

For many ethical vegetarians, the adoption of a vegetarian diet occurred concurrently with other significant life transitions in location or social roles such as moving to a new area, attending college, or experiencing a divorce. Several respondents reported that their change in diet was a way for them to take control of their life when things seemed beyond their control during these transitional periods. A 35-year-old, 5-year lacto-ovo-vegetarian reported that she adopted a vegetarian diet at the same time she lost her job, ended a relationship, and experienced other changes in her life. When asked if there were any connections between her adopting a vegetarian diet and the other changes that occurred, she replied, "Taking more personal control. Deciding for [myself] which way [I] wanted to go."

Process. A gradual process or an abrupt change were the two routes that respondents followed when adopting a vegetarian diet. Four respondents who adopted a vegetarian diet abruptly based their decision upon making an animal connection with meat when they were children or young adults. A 31-year-old, 11-year lacto-ovo-vegetarian, 7-year vegan

described how he abruptly adopted a lacto-ovo-vegetarian diet when he was 13 years old:

My grandma was cooking hamburgers, um, and you get all that you know gook when you're frying the hamburgers and my sister said, you know what that is, it's blood. Um, you know I said, I'm not eating it. So, you know, that's when I became vegetarian.

The majority of the respondents, however, adopted a vegetarian diet gradually by eliminating red meat, chicken, and fish, then dairy products and eggs, typically in that order. They described it as "an evolutionary process" or "a journey." One respondent explained:

You progress from first picking off the pepperoni and eating the cheese pizza to saying, uh, I can't eat the pizza because it's got pepperoni on it.

In the process of eliminating additional animal products from their diets, an asymmetrical relationship existed between respondents motivated for health and ethical reasons. Although ethically motivated vegetarians mentioned the secondary benefits of health, they felt health was not an important motive in maintaining their diets. On the other hand, respondents initially motivated for health reasons often became more aware of animal welfare issues and reported that this awareness encouraged them to eliminate more animal products from their diets.

Influences. Physical aversions, additional life transitions, and information were influences on the move from one type of vegetarian diet to another. In the journey of adopting a vegetarian diet, experiencing a physical aversion to animal food products, often dairy products, moved respondents to eliminate additional animal-derived foods from their diet. A 55-year-old man who had been a lacto-ovo-vegetarian for 33 years and a vegan for the past 5 years described this sensation:

Physiologically I, for some reason . . . my body seemed to not want to eat meat any more. I was getting ill actually from it.

Moving to a vegan diet was influenced by significant life transitions and focusing on issues about animal welfare. Only two initially health-motivated vegetarians reported that they followed a vegan diet, thus joining the group of ethical vegetarians. One was persuaded to adopt a vegan diet by her vegan child after getting a divorce. The other adopted a vegan diet when she moved to a new area and changed careers. The vegan respondents described how information they received about animal welfare issues influenced their decision to move to a vegan diet. Four ethical vegetarians adopted vegan diets after experiencing additional life transitions, such as moving to a new area or becoming divorced.

Information indirectly influenced the adoption of a vegetarian diet by providing an initial awareness of animal wel-

fare issues and of the diet-health connection. The form of information was not only tangible, such as that from books or media messages, but also sensory, such as physical feedback from dietary changes. A 35-year-old lacto-ovo-vegetarian described the role of information:

Your eyes open up to different things you didn't consider before or weren't aware of before . . . They may be more concerned about animal rights once they give up meat for health reasons. You know it's all interconnected . . . given that for one reason it helps a lot of other reasons and you probably become aware of it as you continue.

Information also moved respondents to eliminate additional animal-derived foods from their diets. Respondents collected information about the health effects of vegetarian diets or the ethical implications of meat-based diets. Once respondents received information, they often began the process of dietary change by a trial of eliminating one animal-derived food, most often meat. Over time, respondents collected more information and often progressed, using additional trials, to eliminate other animal-derived foods.

The elimination of meat was not usually generalized to all flesh foods; respondents only eliminated the one flesh food with which they made an animal connection. Respondents selectively attended to new information that they used to construct and reconstruct their practices and views of vegetarianism. They discussed information that supported their beliefs about the connection of animal welfare issues or health to a vegetarian diet as a basis for rationalizing their current dietary practices.

The findings of this study can be portrayed in a process model (see Fig. 1) of the adoption of vegetarian diets. Adoption processes differed between respondents in this study motivated to adopt a vegetarian diet for health reasons (labeled "health vegetarians") and those motivated to adopt a vegetarian diet for animal welfare issues (labeled "ethical vegetarians"). The model reflects the dual health and ethical motivations that led to the two different pathways that oper-

ated in the adoption of vegetarian diets. Information was an influence throughout the process for all vegetarians; however, life transitions played different roles within each pathway.

Comparison of the characteristics of these health and ethical vegetarians on the major factors involved in adopting a vegetarian diet is summarized in Table 2. This table portrays the different categories of factors that were important to these health and ethical vegetarians.

DISCUSSION

There was a clear distinction between those who adopted a vegetarian diet for health reasons as contrasted with ethical reasons. Health vegetarians adopted a vegetarian diet on the basis of a perceived threat of disease and an analysis of the benefits and barriers to making dietary changes. Heart disease and high cholesterol were the main diagnoses that motivated the adoption of a vegetarian diet for health reasons, and this finding is similar to that of Beardsworth and Keil.¹⁵ Ethical vegetarians were motivated to adopt a vegetarian diet when they made a connection between food and its animal origin. Although not previously labeled as such, health and ethical motivations are similar to other reports about patterns of vegetarians.^{15,21,22,35}

The adoption process described by the majority of study participants is consistent with cognitive consistency theory.^{24,25} People collected and processed information, and when an inconsistency existed they changed their behaviors to support their beliefs or changed their beliefs to support their behaviors. Information from books, personal experiences, and discussions with others was a key component in creating an awareness of issues that influenced respondents' beliefs. This information made ethical vegetarians aware of the treatment of animals raised for human consumption and/or the environmental consequences of eating animal-derived foods. This awareness led to internal dissonance when respondents realized that their behavior of eating animal-derived food was against their values of compassion,

Table 2. Summary characteristics of health and ethical vegetarians.

<i>Categories</i>	<i>Health Vegetarians</i>	<i>Ethical Vegetarians</i>
Perceived disease threat	Primary motivator	Not important
Animal welfare issues	Progression	Adoption and maintenance
Adoption age	Health problem of self or other	Youth: food-animal connection Adult: animal welfare
Adoption process	Gradual	Abrupt: child/adolescent Gradual: adult
Life transition	Disease diagnosis	Life event change
Information	Diet and health	Animal welfare
Physical results	Good health and weight	Not important
Physical aversion	Lactose intolerant	Disgust to meat
Progression to vegan	Less likely	More likely

nonviolence, and ecological preservation. In order to alleviate this dissonance, respondents re-evaluated their food choices and changed their behaviors by adopting vegetarian diets. Health vegetarians adopted vegetarian diets because of information that influenced their beliefs about the benefits of these diets to their health.

The gradual adoption process is also consistent with other studies of vegetarians.^{15,22,23} These respondents described an adoption process that occurred through the collection of information and the elimination of additional animal-derived foods. For each new dietary change a respondent made, the process of trial and adoption was repeated. Most respondents in this study eliminated animal-derived foods in a step-wise manner by eliminating red meat, chicken, and fish, then dairy products and eggs from their diets, similar to other studies.^{15,23,41} Such a progressive adoption process allowed respondents to develop strategies, form behavior patterns, and modify personal systems of food choice to adjust to each change as it occurred without overwhelming their coping mechanisms. An abrupt dietary change may be more difficult to maintain since people's dietary practices are based on mental, emotional, and physical dimensions that develop over a long period of time and are embedded in a variety of social and cultural contexts.⁴²

Study respondents who adopted vegetarian diets while children or young adults, like those described by Beardsworth and Keil,¹⁵ vividly described a "conversion experience" where they made a connection between meat and animals. This realization motivated them to abruptly eliminate that particular animal-derived food from their diets. Biological factors of being physically ill upon ingesting animal products, most often dairy products, as well as a psychological construction of disgust,⁴³ motivated respondents to further eliminate animal-derived foods from their diets. A psychological "meat disgust" developed as a result of respondents connecting food to its animal origins.

Life course experiences and trajectories have been found to be significant influences on food choices.²⁶⁻²⁸ Various types of life course transitions contributed to the adoption of a vegetarian diet among both health and ethical vegetarians. Respondents who adopted a vegetarian diet due to a perceived threat of disease varied in age. Those who became vegetarians due to the illness of a parent or spouse, to prevent chronic degenerative disease, tended to be younger. Those who became vegetarians when they themselves were diagnosed with a chronic degenerative disease tended to be older. Another life course difference was observed among respondents who, while adolescents, abruptly adopted vegetarian diets upon making a connection between meat and animals. In this age group, people often experiment with new practices and expand personal capacities.⁴⁴ Independence, individuality, and openness were contributing influences for this cohort to adopt vegetarian diets.

Going through various types of significant life transitions was a major influence on the adoption of vegetarian diets by ethical vegetarians who participated in this study, as well as on the elimination of additional animal-derived foods by some

respondents in both health and ethical groups. One significant life transition was entering college, where respondents were surrounded by other people experimenting with new identities and practices. These factors created an atmosphere where people could adopt a vegetarian diet and be supported by others following similar dietary practices. Other important life transitions included divorce, changing jobs, and moving to a new location. Such major lifestyle changes removed established barriers and facilitated adoption of a vegetarian diet.

The results of this study are grounded in a particular time and influenced by the historical experiences of the respondents as well as the recruitment originating in a vegetarian group. The 19 respondents were a nonrandom sample of primarily European-American, female adults from the middle to upper-middle classes, residing in a metropolitan area in Western New York State. Although a diverse sample was recruited from a vegetarian group due to the nature of snowball sampling, the respondents were interconnected; most were involved in one or more organized vegetarian groups. These characteristics of the study suggest that the findings may not be generalized to all vegetarians and will be most useful in understanding the motives and behavior of people like those in this primarily middle-class, European-American, urban, socially involved sample who adopted vegetarian diets as adolescents or adults.

IMPLICATIONS FOR RESEARCHERS AND PRACTITIONERS

Each person's dietary practices are complex because they are shaped not only by the surrounding culture and society, but also by the individual psychological perspectives about food and eating. For many people, adopting a vegetarian diet is a conscious decision to eliminate many of the animal-derived foods they have traditionally eaten. Despite the psychological and sociological influences on dietary choices, relatively little research has investigated people's experiences in adopting vegetarian diets as adolescents or adults. This study addressed these issues in a group of primarily middle-class, European-American, socially involved adults from an urban area, differentiating health and ethical vegetarians and identifying motivations, processes, and influences involved in adopting a vegetarian diet. The use of an interpretivist approach and qualitative methods were successful in obtaining an abundance of information about psychosocial influences affecting people following vegetarian diets. By combining theories and models with these results, a process model of adopting vegetarian diets was developed. Information from this study and other resources can be used by nutrition educators to develop and target messages to influence people adopting vegetarian diets.⁴⁵ Since this is one of the early studies to focus on the process of adopting a vegetarian diet, other research is needed to verify and develop this model. Those who are brought up as vegetarians or whose vegetarian practices are related to religious affiliations may follow a different process.

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