

We are what we eat

Investigating enabling factors for dietary change and sustainable diets in Skåne

Luisa Fernanda Suarez Rozo

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Abstract

The health and environmental impacts of food consumption are increasingly recognized as sustainability issues in developed countries. Therefore, promotion of sustainable diets is becoming more popular among governments and International NGOs. However, the question persists of how best to do this. While the determinants of behavioural change have been studied extensively, the motivations behind behaviour change and those driving sustainable food choices in particular, are not well understood. To help fill this knowledge gap I investigated Skåne residents' motivations to adopt diets that reduce environmental impacts and enhance health (i.e., vegetarian and vegan diets).

To examine these motivations I conducted a literature review based on which I designed and applied a survey among 121 vegetarians and vegans living in Skåne. The survey measured 20 different possible motivations, combining 17 motivations considered in well-established food choice surveys, and 3 additional motivations that I derived from literature on pro-environmental behaviour. I undertook descriptive statistical analysis to determine which were the most and least important motivations, and compared all motivations by gender, age, occupation, income and type of vegetarian diet, using t- tests. I also used Self-Determination Theory (SDT) to interpret these findings.

Results show that "animal welfare", "intrinsic motivation", "frugality", "environmental concern" and "health" were the most important motivations, while "sociability", "social image" and "weight control" were the least important. All demographic factors, except for gender, had an effect on motivations. While older people found "health" significantly more important than younger people, the low-income group found "price", "sociability" and "social image" significantly more important than the high-income group, and students rated "mood" and "sociability" significantly higher compared with paid employees. In the context of SDT, the most highly rated motivations were consistent with integrated and intrinsic regulatory styles, classifying as autonomous types of motivation. Accordingly, respondents adopted vegetarian diets because eating vegetarian was consistent with their value structure and other priorities in their lives, but also because they enjoyed eating vegetarian food. However in order to promote sustainable diets it is not enough to promote environmental values. Engaging people with animal welfare, frugal lifestyles and the intrinsic enjoyment of vegetarian food is also necessary, and might prove more effective. Further research on how to engage non- vegetarians with animal welfare and the intrinsic enjoyment of vegetarian food, might illustrate strategies to promote vegetarianism.

Key words: intrinsic motivation, vegetarian food-choice motives, external regulation, demographic factors, healthy diets, environmentally-friendly diets, controlled motivations.

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1. Introduction

1.1 Food consumption and the challenges to human health

The global food system faces several sustainability challenges, one of them being the increasing levels of under-nutrition and overweight around the globe. On the one hand, one billion people, especially in developing countries, lack access to adequate food supply (Riley & Buttriss, 2011). On the other hand, more than one billion people, especially in developed countries, are overweight or obese, and the prevalence of diet-related non-communicable diseases (NCDs) such as cardiovascular disease, type-2 diabetes, and some cancers is increasing (Riley & Buttriss, 2011). To add to the challenge, many countries are experiencing significant incidence of both obesity and undernourishment (Riley & Buttriss, 2011). But why is this? Rising obesity rates are said to be largely explained by the nutrition transition experienced by countries with increasing socio-economic development. This transition entails dietary changes towards reduced intake of carbohydrates and unrefined foods, and increased intake of animal protein and energy-dense foods that are high in sugar and saturated fats (Steyn & Mchiza, 2014; Popkin, 1993). The problem is that these unhealthy diets and the associated obesity are well known risk factors for NCDs, including certain cancers, cardiovascular disease and type 2 diabetes (Winston & Reed, 2009; Li, 2013; Key et al., 2006). As a result, with the nutrition transition NCDs rather than infectious diseases become the major causes of death (Popkin, 1993). Accordingly, NCDs account for 59% of global annual deaths (WHO 2003, FAO 2012, Cassidy et al. 2013). In this context, lower consumption of animal- protein, saturated fats and sugar can help reduce the prevalence of NCDs, making food consumption more sustainable.

1.2 Environmental challenges associated with food

The environmental impacts of food are also substantial. As Foley et al. (2011) have emphasized, agriculture is a central force pushing the environment beyond planetary boundaries, through water depletion, emissions from farming and land use, habitat and biodiversity loss as well as pollution of water sources from agricultural inputs. A food system that has undergone a nutrition transition and is highly dependent on energy-intensive foods, increases the resources used for food production and transportation, as well as the associated environmental impacts (Bruinsma 2003). In this direction, several studies have shown that the food system and human diets are responsible for one third of the anthropogenic influence on land use and climate change (Garnett 2011, Tukker et al. 2006). Changing people's diets towards sustainable consumption can be especially relevant because

promoting consumption of less resource-intensive foods, can contribute to balance food supply and demand (Foresight, 2011), alleviating pressures on the environment and ecosystems. For instance, changing to healthy diets is acknowledged as the most important measure to reverse biodiversity loss by 2050 (UNEP- GEO-5, 2012).

Given that personal dietary choices are considered to influence these impacts strongly (van Dooren et al., 2014), several organizations like the FAO, The British Nutrition Foundation, WWF, CGIAR, The Mediterranean Agronomic Institute of Montpellier, The Barilla Center for Nutrition and Food, and UNEP have stressed the need to make dietary patterns more sustainable. Likewise, the German, Swedish, Belgian, Finnish and British governments have appointed committees to provide policy advice regarding sustainable diets (van Dooren et al., 2014).

1.3 What is a sustainable diet?

Debate over what constitutes a sustainable diet is on-going. But one of the most commonly cited definitions comes from the FAO and refers to “diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources” (FAO, 2012: 7).

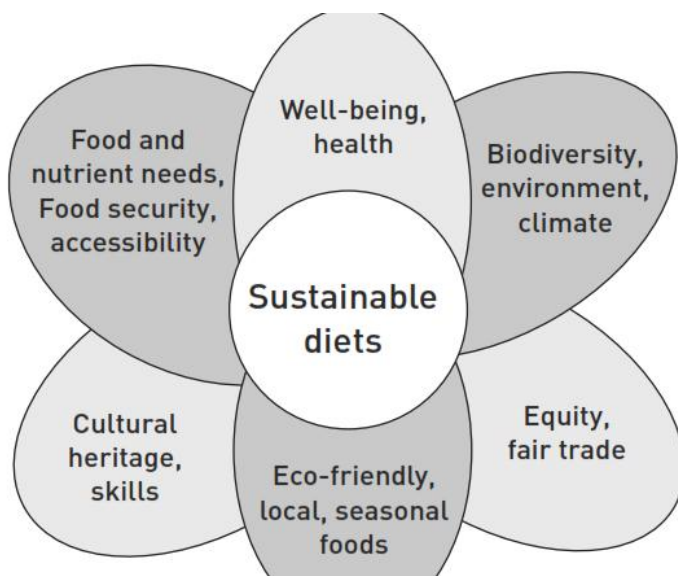


Fig. 1. Key elements composing a sustainable diet. These include cultural, environmental, equity, nutrition and health related aspects of diets. Source: FAO, 2012.

1.4 My definition of sustainable diets

The FAO definition is comprehensive, but measuring all of its dimensions is too ambitious a task for the scope of this thesis. Instead I focus on the well-being and health dimension, as well as those highlighting biodiversity, the environment, the climate, and eco-friendly foods (Fig. 1). In doing so, and following previous research, I limit my definition of sustainable diets to diets that enhance human health and reduce the environmental impact of the food consumed (Riley & Buttriss 2011, van Dooren et al. 2014).

Plant-based (vegetarian and vegan) diets have been shown to fulfil both of these requirements. Regarding the lower environmental impacts of these diets Godfray et al., (2010) showed that their production requires less energy and land. The authors argued that conversion efficiency of plant to animal matter is low (10%), so a certain amount of land can support more vegetarians than omnivores. In turn, Cassidy et al., (2013) showed that plant-based foods have lower water footprints compared with animal products. Furthermore, reducing consumption of energy-intensive foods like meat, can help reduce GHG emissions from livestock and tropical deforestation, which currently stand at 30- 35% of the global total (Cassidy et al., 2013; Foley et al., 2011). Lastly, as it was mentioned above, changing to healthy diets (that are low in meat), is the most powerful potential measure to reverse biodiversity loss (UNEP- GEO-5, 2012).

Research has also demonstrated the health benefits of vegetarian and vegan diets. In a meta-analysis of the effect of vegetarian diets on NCDs, Li (2013) concludes that vegetarians were significantly less likely to suffer from cardiovascular disease, cancer and type- 2 diabetes, compared with omnivores. He reports various studies including one where vegetarians were found to have lower mortality rates from ischemic heart disease, circulatory diseases and cerebrovascular disease, by 29%, 16% and 12%, respectively. One of the studies reviewed by Li also reported 18% lower incidence of cancers among vegetarians than omnivores. Regarding type- 2 diabetes, one of the studies mentioned by Li showed that prevalence of type- 2 diabetes ranged between 2% and 6% for different types of vegetarians, while it was 7.6% for omnivores. Based on a literature review, the American Dietetic Association also showed that compared with non-vegetarians, vegetarians have a lower risk of death from ischemic heart disease, lower rates of diabetes and cancer (Winston & Reed, 2009). With all this research in mind, I assume vegetarian diets also offer these health and environmental benefits in Sweden, where my study area is located.

1.5 Linking sustainable diets and behavioural research

Sustainable diets is a young concept and research has focused mainly on assessing the possibilities to enhance low carbon diets. Within behavioural research, studies of sustainable food choices have covered climate-friendly food choices (Vermeir & Verbeke, 2008; Lea and Worsley, 2008; Tobler et al., 2011) including alternatives to meat consumption (Schösler et al., 2014; De Boer et al, 2013; Vanhonacker et al., 2013; Makiniemi & Vainio, 2014) and organic food (Salonen & Ahlberg, 2013).

Research including both the human and environmental health dimensions in the concept of sustainable diets is also recent and concentrates on determining the sustainability of specific diets (van Dooren et al., 2014) or what a sustainable diet looks like (Thompson et al., 2010; Buchner et al., 2010; FAO, 2012; Riley & Buttriss, 2011). To my knowledge, within behavioural research only a few studies have defined sustainable diets as those that are healthy and have a low environmental impact (Schösler et al., 2014).

In behavioural literature there is a long history of studies examining the determinants of environmental behaviour. Determinants include internal factors like environmental knowledge, attitudes, values, motives and perceived behavioural control (Han et al., 2011; Vicente-Molina et al., 2013), as well as contextual factors encompassing social, economic and institutional incentives or barriers (Steg & Vlek, 2009; Miao & Wei, 2013; Vermeir & Verbeke, 2008), and demographic factors like gender and age (Ye et al., 2003).

1.6 Examining one fragment of behaviour: motivations

It is argued however that pro-environmental values (Howell, 2013), knowledge and attitudes (Vicente-Molina et al., 2013; Vermeir & Verbeke, 2008) are insufficient to enhance environmental behaviour. Howell insists that it is necessary to look into people's motivations since they can go beyond (altruistic and eco-centric) values, to include intrinsic satisfaction (De Young, 2000), saving money (Whitmarsh, 2009) a need for non-hectic lifestyles (Shaw & Newholm, 2002) and frugality in reducing consumption and waste (Fujii, 2006), as reasons for pro-environmental action.

Investigations of vegetarian food choice motives have not looked into these motivations. Instead they have focused on motives like animal welfare, environmental concern, religion and health (Haverstock and Forgays, 2012; Ogden et al. 2007; Ruby, 2012; Fox & Ward, 2008). With this thesis I

intend to expand the range of motivations to include frugality, price, intrinsic satisfaction and the desire for non-hectic lifestyles that have been found relevant for pro-environmental behaviour.

Dowd & Burke (2013) suggest that studies examining food choice motivations among ethical consumers should not just investigate ethical or environmental motives, but rather consider a wider range of motivations that underlie food choices in general (i.e., taste, texture, social norms). These more general motivations are well captured by the Food Choice Questionnaire (FCQ) (Steptoe et al., 1995) and various adaptations of it. The FCQ measures nine motivations including health, mood, convenience, sensory appeal, ethical concern, price, weight control, habit and familiarity. Adaptations of the FCQ add motives like environmental protection, animal welfare (Lindeman & Väänänen, 2000) social image, social norms, and sociability (Renner et al., 2012).

My study follows Dowd and Burke's suggestion by combining the FCQ motivations with those from the literature on pro-environmental behaviour and the ones contained in studies of vegetarian food choice motives. I explain this in more detail in the methods chapter. This is also pertinent because behaviour is said to be driven by a multiplicity of motives which might be compatible or incompatible with each other (Miao & Wei, 2013; Shaw & Newholm, 2002, Schösler et al.; Steg & Vlek, 2009), but environmental behaviour studies tend to focus on one type of motive, inhibiting the analysis of multiple motives (Miao & Wei, 2013). On the contrary, my thesis facilitates such an analysis.

Some argue that identifying the different motivations behind people's relation to food can support eating practices that are healthy and environmentally friendly (De Boer et al., 2013). Similarly, scrutinizing people's motivations for adopting sustainable behaviours helps uncover the reasons that enable them to act environmentally. This is an important research pursuit especially considering that there is a lack of research on motivations (Howell, 2013), and on theory explaining what can motivate people to adopt more sustainable food choices (Schösler et al., 2014). I expect to contribute to filling these knowledge gaps, by investigating the motivations that enabled Skåne residents to adopt vegetarian or vegan diets.

1.7 Why Sweden?

Examining motivations for vegetarian diets is relevant in the Swedish context because according to the WHO (2011), NCDs accounted for approximately 90% of deaths, with cardio-vascular disease contributing 42%, cancers 25% and diabetes 2% (WHO, 2011). Pursuing this investigation is further

relevant given that the environmental impact of the food sector is among the worst in Sweden, representing a third of GHG emissions from Swedish households (Minx et al., 2008). In addition, 15% of people living in Skåne are vegetarian, representing the largest proportion for a region in Sweden (Djurens Rått, 2014). This makes the region especially adequate for my study.

1.8 Research questions

Many existing studies on vegetarian food choice motives predict that concern for animal welfare, personal health and the environment are the most important motivations (Ruby, 2012). But this has not been tested in the context of Skåne, which I will do with my first research question (See research questions at the end of the chapter). Research has also revealed consistent differences in motivation for food choice depending on gender, age group, income group and vegetarian types (Haverstock & Forgays, 2012; Jáuregui- Lobera & Bolaños 2011; Share & Stewart- Knox, 2012; Pollard et al., 1998; Steptoe et al, 1995). In my second research question I investigate these differences for my study sample, and add a new variable to be scrutinized: occupation. Given that I measure a multiplicity of food choice motivations, I devote my third research question to assessing all these motivations jointly. I do so by placing all motivations in the context of Self Determination Theory (SDT). SDT (Deci & Ryan, 1985) is a theory of motivation that investigates six different types of motivation, each of which is defined according to the reasons why people regulate their behaviour. This theory is explained in detail in the chapter that follows. For now it is sufficient to say that SDT provides a framework to jointly assess very different motivations depending on whether they are intrinsic or extrinsic, autonomous or controlled.

The overarching research question is: Which motives drove Skåne residents to adopt sustainable diets in the past?

Research sub-questions are:

1. What are the most and least important motivations that drove residents of Skåne to adopt a vegetarian or vegan diet?
2. How do demographic factors such as gender, age, type of vegetarian diet, occupation and income affect motivations to adopt vegetarian diets?
3. How can the most and least important motivations be interpreted through Self- Determination Theory?

The following chapter explains the underlying principles of SDT.

2. Theory

2.1 The essence of Self Determination Theory (SDT)

SDT posits that human beings have three innate psychological needs for autonomy, competence and relatedness. These needs must be met for a person to function and develop well in the social world (Schösler et al., 2014). In the realm of food these needs translate to perceiving the different available choices (autonomy), having and exercising the skills to cook and taste food (competence), and having a sense of connectedness and solidarity toward others, including people, the universe or nature (relatedness). People who fulfil their needs for competence, autonomy and relatedness are considered to be self-determined and to possess intrinsic motivation. However, contextual factors might stop individuals from fulfilling these innate needs and the intrinsic motivation associated with them. When this is the case, people will take action based on extrinsic motivations. SDT identifies four types of extrinsic motivation (external regulation, introjected regulation, identified regulation, integrated regulation), and it provides a framework to examine them, alongside intrinsic motivation.

SDT identifies a sixth motivational type –amotivation- characterized by a complete lack of motivation (Matusitz & Martin, 2013). Amotivation is emblematic of people who feel they are not competent enough to perform a behaviour and they completely lack control over that behaviour (Pelletier et al., 2004). Since amotivation captures people who are not motivated and my research focuses on people who were indeed motivated (to adopt a vegetarian diet), I do not consider amotivation in my analysis.

The six types of motivations mentioned above are distributed along a continuum of self-determination, from the least self-determined and autonomous motivation (amotivation), to the most self-determined and autonomous motivation (intrinsic motivation). (Fig. 2). (Matusitz & Martin, 2013). People who are driven by the most self-determined motivational types when adopting a specific behaviour are more likely to maintain that behaviour in the long-term, but those with non- self-determined motivations are said to maintain it only for a short period of time.

	Nonself-determined				Self-determined	
Type of motivation	Amotivation	Extrinsic motivation				Intrinsic motivation
Type of regulation	Non-regulation	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic regulation
	Controlled				Autonomous	

Fig. 2. The Self-determination continuum depicts four extrinsic motivational types (external regulation, introjected regulation, identified regulation and integrated regulation), and one intrinsic motivational type (intrinsic regulation) to explain why people regulate their behaviour. These five types of regulations differ in their degree of self-determination and autonomy, with the levels of autonomy and self-determination increasing as one moves towards the right hand side of the figure. The motivational type with highest self-determination and autonomy is intrinsic motivation, whereas amotivation exhibits the complete absence of self-determination and lack of autonomy. As one progresses from left to right the motivation for action is more integrated into a person's identity and sense of self, and the regulation of behaviour is more internalized. (Adapted from Deci & Ryan, 2000).

In the remaining part of this chapter I explain the definitions of intrinsic and extrinsic motivation, as well as those of external, introjected, identified and integrated regulation. At the end I present a visual showing how the motivations to adopt vegetarian diets -which I considered in my research- fit within the self-determination continuum.

2.2 Intrinsic (and extrinsic) motivation

Intrinsic motivation (and regulation), imply that individuals engage in a specific behaviour for the satisfaction, pleasure and interest they derive from it (Matusitz & Martin, 2013; Pelletier et al., 2004). In this case, people carry out an action for its own sake, and it is regarded as an end in itself (Pelletier et al., 2004; Schösler et al., 2014). Likewise, intrinsically motivated people undertake an activity for their own motives rather than doing it for material rewards or external pressures (Pelletier et al., 2004; Matusitz & Martin, 2013). People who enjoy the act of eating vegetarian food, or derive pleasure from fixing vegetarian meals, are said to be intrinsically motivated.

On the contrary, extrinsically motivated individuals undertake an activity as a means to an end. In other words, they carry out this activity in order to gain a reward that is different from the activity as such (Matusitz & Martin, 2013; Pelletier et al., 2004; Schösler et al., 2014). The activity might also be undertaken with the purpose of avoiding certain punishments (Pelletier et al., 2004). In either case, satisfaction is not derived from the activity itself, but rather from the rewards that it leads to or the punishments that it avoids. (Matusitz & Martin, 2013).

2.3 The four distinct types of extrinsic motivation

As I mentioned earlier, SDT identifies 4 different types of extrinsic motivation (external, introjected, identified and integrated regulation). Each type varies in the degree of self-determination and autonomy.

External regulation involves behaviour that is directed by external sources of control such as rewards and punishments (Pelletier et al., 2004; Kato et al., 2013). In this case individuals regulate their eating behaviour as a means to obtain a reward or escape punishment (Matusitz & Martin, 2013). Some examples of external sources of control or external contingencies include social expectations, imposed rules, emotional comfort, losing time or status (Schösler et al., 2014; Pelletier & Sharp, 2008). When people undertake a specific behaviour in order to avoid criticism from their loved ones, they are said to be externally regulated (and motivated). They are also externally regulated when they behave in a particular manner to gain others' recognition. Therefore, adopting vegetarian diets because of "social norms" or "social image" would indicate external regulatory styles. Other motivations to adopt vegetarian diets that reflect this regulatory style are convenience, sociability, and weight control (Fig. 3).

In the case of introjected regulation the external source of control is not required in order to prompt the behaviour. This external source of control is unnecessary because the source of control has been internalized by the person (Kato et al., 2013; Pelletier et al., 2004). Here, the source of control comes from the person's inherent fear of failure to undertake the behaviour, and from the associated feelings of guilt and anxiety (Matusitz & Martin, 2013; Pelletier et al., 2004). People who behave in a certain way because they would feel ashamed otherwise, are said to have introjected regulatory styles. Within the host of motivations for adopting a vegetarian diet, "introjected motivation" is the one consistent with introjected regulation (Fig. 3).

	Nonself-determined				Self-determined	
Type of motivation	Amotivation	Extrinsic motivation				Intrinsic motivation
Type of regulation	Non-regulation	External regulation	Introjected regulation	Identified regulation	Integrated regulation	Intrinsic regulation
Motivations to adopt vegetarian/vegan diets		Convenience, habit, mood, price, sensory appeal, sociability, social image, social norms, visual appeal, weight control	Introjected motivation	Health, quality of life	Animal welfare, environmental concern, frugality, political concern, religion, social concern,	Intrinsic motivation
	Controlled				Autonomous	

Fig.3. Specific motivations for adopting vegetarian or vegan diets, distributed along two continuums: a) self-determination and b) autonomous vs. controlled motivation. The majority of motivations to adopt vegetarian or vegan diets fall within the extrinsic motivational type and most of them are concentrated within the external regulatory style or the integrated regulatory style. This means that behaviour is mostly assumed to be driven by contingencies external to the individual, such as social norms, rewards and punishments, or because it is consistent with a person’s value structure and with other priorities in that person’s life. (Created by the author, based on an adaptation of Deci & Ryan’s self-determination continuum; 2000).

With identified regulation the person has internalized the external sources of control, such that they have become a part of the person’s sense of self (Kato et al., 2013). This means that the person autonomously chooses to carry out the behaviour because he/she perceives it as a valuable behaviour to obtain his/ her own goals. (Matusitz & Martin, 2013). In this case people behave in a particular way because they think it will be good for them and let them feel better about themselves (Pelletier et al., 2004). For instance, individuals are said to exhibit identified regulation when they adopt a vegetarian diet because they think it will be good for their health, or because they believe it will increase their quality of life (Fig. 3).

Integrated regulation is at play when the behaviour is coherent with other aspects of a person’s life. For such integration to materialise it does not suffice that the person thinks a behaviour is good or important for his / her life. It is also necessary that the behaviour is coherent with values and experiences that the person has already integrated into his/ her sense of self (Matusitz & Martin, 2013). In this case, regulating what he / she eats becomes an integral part of the person’s identity, and it enhances other priorities in his/ her life (Pelletier et al., 2004). Clear examples of integrated regulation are individuals who adopt a vegetarian diet because it is a way to reduce waste, because it reduces harm to the environment and society, or because it comes from a country where human

rights are respected. These factors are indicative of motivations like “frugality”, “environmental concern”, “social concern” and “political concern” (Fig. 3).

2.4 Autonomous vs. controlled motivation

Both integrated and identified regulation can be considered autonomous forms of motivation because they involve a conscious choice of behaviour and the source that controls the behaviour has been somewhat or completely internalized as part of the self. But they are less autonomous and different from intrinsic motivation because they involve behaviours that are performed with a separate outcome in mind, instead of being pursued for sheer satisfaction or enjoyment. This is also why integrated and identified regulation, although autonomous; continue to be defined as extrinsic motivational types (Matusitz & Martin, 2013).

On the other hand, introjected and external regulation are catalogued as controlled types of motivation. With introjected regulation, the source controlling the motivation is internal to the person. But given that this source is predominantly fear and guilt, it cannot be considered an autonomous source of control. With external regulation, external sources of control determine the behaviour, such that the sources of control have failed to be internalized within the person's identity. In such a case the person is not sufficiently autonomous to freely choose his/ her own behaviour, but is rather coerced by external factors to behave in a specific way (Deci & Ryan, 2000).

3. Methodology

In this chapter I explain the research design that I used for this thesis. Figure 4 below gives an overview of the research design. The theory and concepts used have been explained previously in the introduction and theory chapters. So I will not examine them in this chapter.

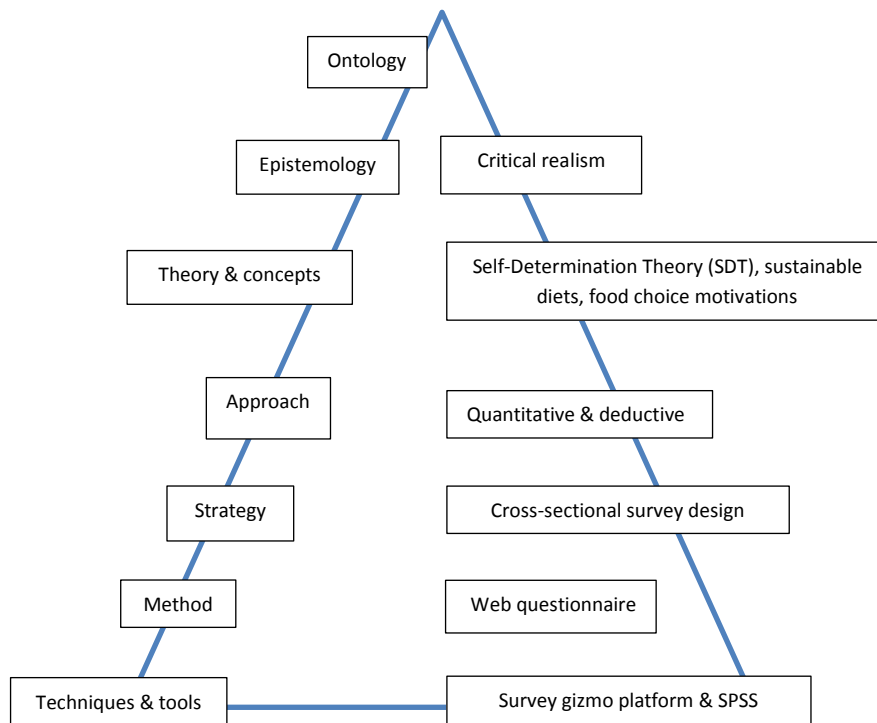


Fig. 4. The research design for this thesis comprises the critical realist epistemology and a quantitative and deductive approach that starts from the theory and tests it with the data collected. Motivations for food choice provide the main conceptual frame, within the context of sustainable diets, and SDT facilitates the theoretical foundation to interpret main findings. Statistical analysis is carried out using SPSS (Adapted from Jerneck, 2013).

3.1 A critical realist perspective

As depicted in Fig. 4, I followed a critical realist epistemology. I did so for different reasons. Firstly, as naturalists do, I recognize that the world out there exists, but I also acknowledge, as constructivists do, that to understand the social world I need to scrutinize the underlying structures generating the events that make up that world (Bryman, 2008). Combining these two perspectives, I set out to study reality by using the online questionnaire method, to examine its underlying structures, disguised as motivations, which produce specific food choices. Not all the motivations included in my questionnaire are contextual or structural, some of them are internal to the individual. By scrutinizing both the structural and internal mechanisms that fuel food choices, I am simply recognizing that transformation of the status-quo requires looking at both the agent and structure-

based factors that shape a person's diet. In any case, by incorporating some motivations that are indicative of structures, my study is indeed driven by a critical realist perspective.

Like critical realists I am aware that the motivations that represent an underlying structure (i.e., "social image", "sensory appeal", "weight control"), are not directly observable. But I recognize that I can still see their effects (food choices) (Bryman, 2008). In this sense, within my study, motivations represent the underlying structures that generated a specific event, but also the internal and individual mechanisms responsible for that event. Finally, by identifying the underlying structures, critical realists also seek to introduce changes in the status-quo (Bryman, 2008). My research is coherent with this pursuit because I sought to identify the most important motivations behind vegetarian food choices, in order to understand ways of promoting more sustainable diets, hence transforming the status-quo.

3.2 A quantitative approach to research

As shown in Fig. 4, my research is quantitative and deductive. A quantitative research approach is characterized by being deductive, having a positivist epistemological orientation, and an objectivist ontology (Bryman, 2008). This thesis is deductive in that the theory and concepts came first and they provided orientation for the subsequent process of data collection (Bryman, 2008). However, my study is far from the positivist or objectivist perspectives because as I explained above, I adopted a critical realist epistemology. Despite this, my investigation can be considered primarily quantitative because I employed a research strategy commonly used to collect quantitative data (the cross-sectional survey design) (Bryman, 2008), and performed statistical analysis of the data using SPSS (See Fig. 4). For clarity, the cross-sectional design entails designing a survey to collect quantifiable data on a number of variables, from a sample of cases at a single point in time (Kelley et al., 2003). This strategy commonly uses questionnaires as the method for data collection (Kelley et al., 2003). As my method I used a web questionnaire that respondents completed online by following a link to surveygizmo.com. (See Fig. 4).

Even if my approach, strategy and methods are quantitative, I interpreted my results in the light of a qualitative framework that differentiates between six types of motivation (Self-Determination Theory). As Bryman (2008) points out, this is common in social research. Sometimes a study can be predominantly quantitative while still exhibiting a characteristic of qualitative research in the way that findings are interpreted. It must be made clear that this does not mean the research undertook

a mixed methods approach. For such an approach one must use both qualitative and quantitative methods (Bryman, 2008), and I only used quantitative web questionnaires.

3.3. Study sample and participants

The diversity of groups included in the sample was intended to provide the widest variety of vegetarian and vegan respondents possible, while assuring a large sample size. The study sample included vegetarians or vegans living in Skåne who were contacted through convenience sampling of three vegetarian groups and organizations: Smålands nation (a vegan student nation at Lund University), Veganer i Lund (a voluntary organization of vegans living in Lund), and the Malmo, Lund and Helsingborg chapters of Djurens Rått (an animal rights organization that supports vegetarian diets). For Smålands nation and Veganer i Lund, contact was made through the organizations' Facebook groups by posting a description and link to the online survey. For Djurens Rått, members of the organization were contacted through employees of the different chapters, who posted the survey link on each chapter's Facebook page. This information was also posted on the Facebook page of Småland's vegetarian and vegan Caffé (Kalles Kafé), by one of their members. Respondents were also recruited at Govindas, a popular vegetarian restaurant in Lund. I visited the restaurant every weekday for 1 week and distributed cards with the online link to the survey. The survey was also e-mailed to a group of people who purchase eco- boxes regularly.

As I mentioned before, the survey was designed and administered as an online web questionnaire through surveygizmo.com. Data were collected between April 4 and 18, 2014. Of the 209 surveys collected, 88 were discarded from the analysis because they were incomplete, which resulted in a 58% completion rate. The final sample was therefore composed of 121 people, most of which lived in Lund (62%), and Malmo (27.3%). People living in Helsingborg, Landskrona, Kristianstad or somewhere else in Skåne were less represented in the sample (See Table 1 for a summary of the sample's demographic characteristics). Most of the sample was vegan (44.6%), and the majority of respondents were Swedish (69.4%). With only two developing countries represented in the sample, this was a predominantly western sample. The mean age was XX, ranging from 19 to 61. More than half the participants were students, over a third were paid employees and a small amount had other occupations. The level of education was quite high, with just over 85% obtaining or having an undergraduate degree or higher. Income levels were moderate with only 13% earning more than SEK 30.000, and most respondents (59.5%) earning SEK 9.999 or less.

Table 1. Demographic characteristics of the sample

Gender	%	Country of origin	%	Income	%
Female	62	Sweden	69.4	≤ SEK 9,999	59.5
Male	33	Germany	5.8	SEK 10,000- SEK 19,999	9.1
Other	5	USA	5	SEK 20,000- SEK 29,999	18.2
City		Finland	3.3	SEK 30,000- SEK 39,999	9.9
Helsingborg	1.7	France	2.5	≥SEK 40,000	3.3
Kristianstad	0.8	Canada	1.7		
Landskrona	1.7	Denmark	1.7		
Lund	62	Other	10.4		
Malmö	27.3	Occupation			
Other	6.6	Students	53.7		
Vegetarian type		Paid employees at a university	9.1		
Lacto-ovo vegetarians	33.1	Paid employees outside of university	24.8		
Pesco-vegetarians	22.3	Unemployed	4.1		
Vegan	44.6	Other	8.3		
Age distribution		Education			
18- 30	68.6	Middle school (högstadiet)	1.7		
31- 43	26.4	Highschool (gymnasium)	12.4		
44- 56	4.1	Undergraduate degree	38		
Over 56	0.8	Masters	41.3		
		Terminal degree	6.6		

3.5 Survey design and reliability

In the survey respondents were asked: “How important were the following motives to explain why you adopted a vegetarian / vegan diet?” They were instructed to rate each statement on the following 5- point Likert scale: “Not at all important” (1), “Slightly important” (2), “Somewhat important” (3), “Very important” (4), and “Extremely important” (5).

The survey consisted of twenty scales comprising multiple statements. Each scale represented a motivation to adopt vegetarian or vegan diets and the survey measured the importance of each motivation for adopting such diets. The twenty motivations measured were: “animal welfare”, “convenience”, “environmental concern”, “frugality”, “habit”, “health”, “intrinsic motivation”, “introjected motivation”, “mood”, “political concern”, “price”, “quality of life”, “religion”, “sensory appeal”, “sociability”, “social concern”, “social image”, “social norms”, “visual appeal”, “weight control”. Each scale contained between 2 to 8 statements, for a total of 77 statements (see Table 2). Most scales were derived from existing questionnaires. “Sensory appeal”, “price”, “mood” and “weight control” were taken from the FCQ (Steptoe et al, 1995). “Habit”, “health”, “sociability”, “social image”, “social norms” and “visual appeal” were taken from The Eating Motivation Survey (TEMS) (Renner et al, 2012), which incorporates the nine motivations measured by the FCQ and adds psychological and social factors as food choice motives. Scales measuring “political concern”, “animal welfare” and “religion” were taken from Lindeman & Väänänen (2000), who devised these scales for an extended version of Steptoe and colleagues’ original FCQ. The scales for “intrinsic

motivation” and “introjected motivation” were adopted from the Regulation of Eating Behaviour Scale (REBS) by Pelletier et al. (2004). All of these scales have been validated and tested in previous studies. However, based on literature on intrinsic satisfaction I added five statements to the intrinsic motivation scale (Howell, 2013; Schösler et al., 2014). Lastly, the convenience scale is a combination of statements from the FCQ and TEMS.

I devised the additional scales (frugality, quality of life and social concern) through a literature review on motivations for pro-environmental behaviour (Fujii, 2006; Shaw & Newholm, 2002; Howell, 2013). The environmental concern scale was designed by merging statements from a variety of validated scales, including “Ethical concern”, “Environmental protection” and “Natural concern”. The statement “...it is packaged in an environmentally friendly way” was adopted from the scale from Steptoe et al. (1995) on “Ethical concern”, whereas “has been produced in a way which has not shaken the balance of nature” was retrieved from the scale “Environmental protection” by Lindeman and Väänänen (2000). . These two statements capture the environmental friendliness of the production and packaging processes, which is also measured in the statement “it is environmentally friendly (eg., production, packaging, transport)” by Renner et al. (2012). Therefore, I revised this statement to avoid content repetition, while assuring that I measured the environmental friendliness of transport. The revised statement read “It was transported in an environmentally friendly way”. Three other statements were also borrowed from Renner et al.’s “Natural concern” scale, and an additional one was based on Pelletier et al. (2013). Finally, I came up with a statement of my own (“It was low in GHG emissions”). I also incorporated the the statement “it is fair trade” in the social concern scale, instead of grouping it with the other environment-related statements as Renner et al. (2012) did. For practical reasons in any future reference to a statement I will use the short name specified in the third column of Table 2.

The twenty scales were tested for internal reliability using Cronbach’s alpha, which indicates the degree to which the statements comprising one scale are coherent with each other and measure the same thing. Cronbach’s alpha levels range from 0 to 1, with 0.7 being the point above which a scale can be considered to have acceptable internal reliability. If the value is lower, some statements in the scale might be measuring something different (Bryman, 2008; Pallant, 2007). Fourteen scales exhibited sufficient reliability, with α values ranging from 0.72 to 0.91 (Table 2). Due to low α values, the remaining six scales (social concern, social norms, quality of life, introjected motivation, religion and visual appeal) were not considered for further analysis. Given that the survey statements were

derived from existing literature and robust questionnaires, they can be considered to have content validity.

Table 2. Twenty scales and seventy-seven statements, rated by 121 participants to illustrate motivations for adopting vegetarian diets

Scale name (motivation)	Statement	Short Name
Animal welfare $\alpha = 0.86$	It was produced in a way in which animal rights were respected	AnimalRights
	It was produced in a way that animals did not experience pain	AnimalPain
Convenience $\alpha = 0.86$	It was readily available in shops and supermarkets	ReadilyAvailable
	I could buy it in shops close to my house or workplace	CloseToHouse
	It was quick to prepare	QuickToPrepare
	It was easy to prepare	EasyToPrepare
	It was the most convenient	MostConvenient
Environmental concern $\alpha = 0.90$	It was Low in GHG emissions	LowGHG
	It was packaged in an environmentally friendly way	Packaged
	It had been transported in an environmentally friendly way	Transported
	It was produced in a way which did not shake the balance of nature	BalanceOfNature
	It was natural (e.g., not genetically modified)	Natural
	It was locally grown	Local
	It contained no harmful substances (eg., pesticides, pollutants, antibiotics)	NoHarmfulSubstances
	It was organic	Organic
Frugality $\alpha = 0.78$	It was a way to reduce consumption	ReduceConsumption
	It was a way to reduce waste	ReduceWaste
Habit $\alpha = 0.90$	I was accustomed to eating it	Accustomed
	It was what I usually ate	UsuallyAte
	I was familiar with it	Familiar
Health $\alpha = 0.91$	I wanted to stay healthy	StayHealthy
	It helped me to fulfil my need for nutrients, vitamins and minerals	Nutrients
	I wanted to maintain a balanced diet	BalancedDiet
	I wanted to Stay in shape (e.g., energetic, motivated)	StayInShape
Intrinsic motivation $\alpha = 0.88$	Eating it gave me a sense of integrity in living up to my values	Integrity
	I found pleasure in fixing vegetarian/ vegan meals	PleasureFixingMeals
	I enjoyed eating it	EnjoyedEating
	It was fun to create vegetarian/ vegan meals	FunToCreate
	Eating it made me feel competent	Competent
	Eating it contributed to my sense of wellbeing	Wellbeing
	I enjoyed taking the time to taste it	TakingTimeToTaste
I enjoyed finding new ways to create vegetarian/ vegan meals	NewWaysToCreate	
Introjected motivation	I felt ashamed of myself for not eating it	AshamedOfMyself

Scale name (motivation)	Statement	Short Name
$\alpha = 0.38$	I felt I should absolutely be thin	AbsolutlyThin
	I did not want to be ashamed of how I looked	AshamedLooks
Mood $\alpha = 0.83$	It helped me cope with life	CopeLife
	It kept me awake/ alert	Awake
	It helped me relax	Relax
	It helped me cope with stress	CopeStress
	It cheered me up	CheeredMeUp
Political concern $\alpha = 0.74$	It came from a country in which HR were not violated	HRightsNotViolated
	It came from countries that I approved of politically	CountryApprovedPolitically
	The country of origin was clearly marked	CountryOfOriginMarked
	It had been prepared in a way that did not conflict with my political values	PoliticalValues
Price $\alpha = 0.89$	It was good value for money	GoodValueMoney
	It was inexpensive	Inexpensive
	It was cheap	Cheap
Quality of life $\alpha = 0.52$	It was coherent with a slower-paced lifestyle	Slow
	It increased my quality time	QualityTime
Religion $\alpha = 0.57$	It was in harmony with my religious or spiritual views	ReligiousViews
	It was not forbidden by my religious or spiritual values	NotForbidden
Sensory appeal $\alpha = 0.85$	It tasted good	TastedGood
	It looked nice	LookedNice
	It smelled nice	SmelledNice
	It had a pleasant texture	PleasantTexture
Sociability $\alpha = 0.72$	It allowed me to spend time with other people	SpendTimeWithOthers
	It made social gatherings more comfortable	SocialGatherings
	It was social	Social
Social concern $\alpha = 0.69$	It helped reduce negative impacts on poor people in developing countries	PoorPeople
	It was fair trade	FairTrade
	Doing so contributed to the community as a whole	Community
	it was part of my sense of community	SenseOfCommunity
Social image $\alpha = 0.76$	it made me look good in front of others	MadeMeLookGood
	It was trendy	Trendy
	Others liked it	OthersLikedIt
Social norms $\alpha = 0.66$	My family/ partner thought that it was good for me	FamilyPartner
	other people (e.g., my colleagues , friends, family) ate it	OthersAtelt
	It would be impolite not to eat it	Impolite
	My doctor said I should eat it	Doctor
	I did not want to disappoint someone who was trying to make me happy	Disappoint
	I was expected to eat it	Expected
Visual appeal $\alpha = 0.40$	I recognized it from advertisements or had seen it on TV	TV
	it spontaneously appealed to me (e.g., situated at eye level, appealing colours)	SpontaneousAppeal
	it had an appealing presentation (e.g., packaging)	AppealingPresentation

Scale name (motivation)	Statement	Short Name
Weight control $\alpha = 0.87$	It helped me control my weight	ControlWeight
	It was low in calories	LowCalories
	It was low in fat	LowFat

Twenty scales (column 1) with their corresponding statements (column 2) and internal reliabilities (column 1 beneath the scale name). The internal reliability for each scale is indicated by Cronbach's alpha (α). This alpha value indicates the extent to which the statements comprising a scale, measure the same construct. Values equal or above 0.7 indicate acceptable internal reliability. Consequently, scales with lower α were excluded from the analysis and results. These scales included "introjected motivation", "quality of life", "religion", "social concern", "social norms" and "visual appeal". Column 3 contains a short name corresponding to each statement. These names were devised for practical reasons so that it is easier to refer to the statements in the following chapters.

All statements in the survey were randomly ordered for each participant, and scale names were not shown, in order to avoid influencing participants' responses. To make sure that the question was clear and well understood, a pilot survey was conducted amongst 5 people, and their feedback was incorporated to improve question wording in the survey. To comply with informed consent, the covering letter for the survey clearly stated what the purpose of the research was and how the data would be used. It also assured total anonymity and confidentiality of the data, throughout the entire research process. See Annex 1 for a copy of the survey.

3.6 Statistical analysis

In order to answer my first and second research sub-questions, I analysed the data from the survey, using SPSS Statistics, Version 22 (Fig. 4). To answer the first research sub-question (Table 3) I first calculated the mean score for each statement on a scale of 1 ("not at all important") to 5 ("Extremely important"). This allowed me to understand what statements were the most and least important within each scale. To get a picture of the most and least important motivation scales I calculated the scale mean scores. I did this by averaging the mean scores of every statement within each scale. This procedure has been followed by previous studies on food choice motivations, which also used some form of the FCQ (Renner et al, 2012; Milošević et al, 2012; Share & Stewart- Knox, 2012).

In addressing the second research sub-question (Table 3) I used t- tests to assess the hypothesis that there are differences in motivations between genders, age groups, people with differing types of vegetarian diets, occupational statuses and incomes. To answer the third research sub-question (Table 3) I placed the findings for most and least important motivations within the framework of Self Determination Theory, which I explained in detail in the previous chapter.

Table 3. Main research question and research sub- questions

Overarching research question	
Which motives drove Skåne residents to adopt sustainable diets in the past?	
Research sub-questions	1. What are the most and least important motivations that drove residents of Skåne to adopt a vegetarian or vegan diet?
	2. How do demographic factors such as gender, age, type of vegetarian diet, occupation and income affect motivations to adopt vegetarian diets?
	3. How can the most and least important motivations be interpreted through Self- Determination Theory?

Only 6 people identified themselves as part of the gender category “other”, so it was not possible to run a t-test for this group. To perform t- tests I divided respondents in groups of “young” (≤ 26) and “adult” (≥ 27), so that the number of participants per group was more or less equal. The income groups “SEK 10.000- 19.999”, “SEK 20.000- 29.999”, “SEK 30.000- 39.999”, and “ \geq SEK 40.000” were collapsed to create a “high income” group ($n = 49$), to be compared with the low income group “SEK $\leq 9,999$ ” ($n = 72$). The groups “paid employee at a university” ($n = 11$) and “paid employee outside of university” ($n = 30$) were also merged into a group of “paid employees”, to be compared with the pre-existing group “student” ($n = 65$). The group “unemployed” was also disregarded from the analysis since it included only 5 people. Differences were calculated using scale means, and based on existing studies, they were deemed significant at a 5% level (Pettinger et al., 2004; Brown et al., 2009).

When presenting the results for t- tests I use the following format ($t (d.f) = XXX, P = XXX$) which is customary of scientific articles. In this format t is the value of the t- statistic, (d.f) indicates the corresponding degrees of freedom, and P stands for the p- value that is used to determine if the difference in mean scores is significant or not (Gravetter & Wallnau, 2013). I also calculated the effect size for each significant difference, using the formula for Eta squared. This value represents the proportion of variance in each motivation (i.e., “price”, “sociability”) that is explained by the demographic characteristic defining the groups (i.e., gender, age group). (Pallant, 2007). Eta squared values may range from 0 to 1 with values between 0.01 and 0.05 indicating a small effect size, values ranging from 0.06 to 0.13 denoting moderate effect size and values above 0.14 being consistent with a large effect size (Pallant, 2007). The formula I used to calculate Eta squared is:

$$t^2 / t^2 + N12 + N2 - 2$$

Where, t stands for the t statistic and N12 and N2 represent the number of people in each group. As a final step I translated Eta squared into a proportion, simply by multiplying by 100 (Pallant, 2007).

4. Results

In this chapter I explore collected data to answer my first and second research sub-questions. In the first section I investigate what were, on average, the least and most important scales of motivation, for Skåne residents to adopt a vegetarian or vegan diet. In addition, I explore what were the most and least important statements of motivation within each scale. To do so, I report the mean scores for scales and individual statements. In section two I examine the effect of various demographic characteristics (gender, age, type of vegetarian diet, occupation and income) on the scales of motivation.

4.1 Motivations

4.1.1 *Most and least important scales of motivation*

For scale means only values ranging from 2 to 5 are considered important, because they indicate that motivations were regarded as either “slightly”, “somewhat”, “very” or “extremely” important. Values of 1 are considered unimportant since they indicate that motives were “not at all important”. With this in mind, the most important motives were “animal welfare” and “intrinsic motivation” with means falling within the categories “very important” and “somewhat important”, respectively (see Fig. 5). Interestingly, no other motivations fell within those response categories, and no motivation at all, corresponded with the “extremely important” category. “Frugality”, “environmental concern”, “health”, “sensory appeal”, “habit”, “political concern” and “price” (in that order), fell under the response option “slightly important”. But as Fig 5 shows, the first three motivations are more proximate to the “somewhat important” category, whereas the last four motivations are more proximate to the “Not at all important” response alternative. Lastly, “convenience”, “mood”, “weight control”, “social image” and “sociability” (in that order) corresponded with the “not at all important” response. In this case, “convenience” and “mood” were close to the category “slightly important”, and “weight control” was somewhat further, while “social image” and “sociability” were distant from it.

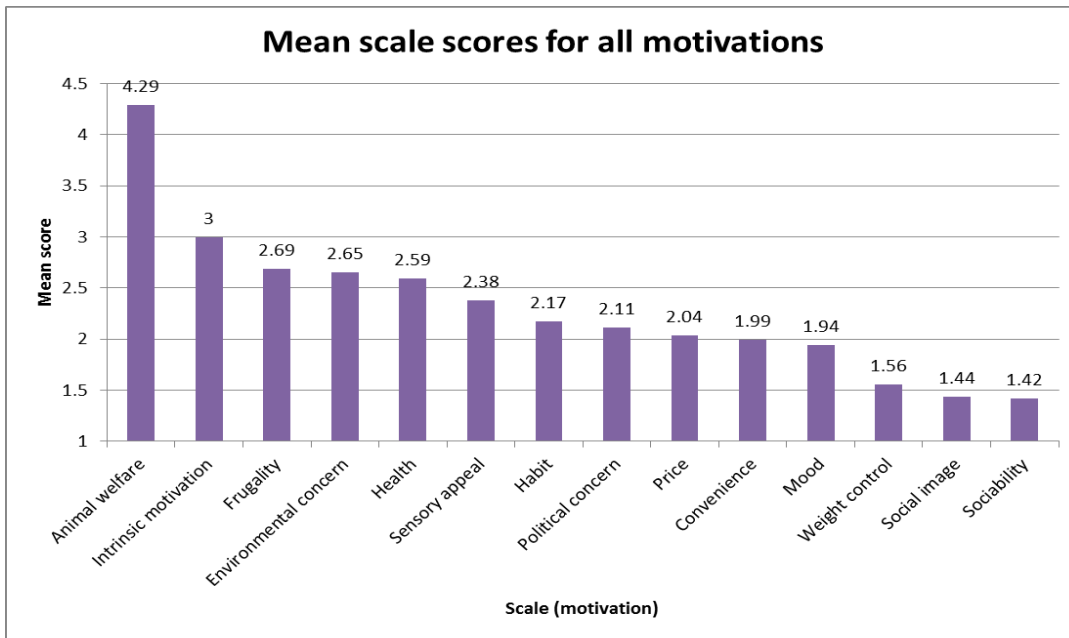


Fig.5. Average rating for each of the fourteen motivation scales, for all N = 121 survey respondents. These averages were calculated by averaging mean scores for all individual statements within each scale.

4.1.2 Most important statements

Statements with the highest average scores (above 3) belong to the scales “animal welfare”, “intrinsic motivation”, “sensory appeal”, “environmental concern” and “political concern”. They are displayed in Fig. 6 below, with their corresponding mean scores. These means indicate that the statements were rated as either being “very important” or “somewhat important”.

Just as “animal welfare” was the highest rated scale, the two statements comprising this scale had the highest average scores in the whole set, with values in the “very important” response category (Fig. 6). In turn, the statements for “intrinsic motivation” were divided between the response categories “very important”, “somewhat important” and “slightly important”. As Fig. 6 shows, the statements Integrity, EnjoyedEating, Wellbeing and PleasureFixingMeals were among the highest rated, while the remaining four statements (FunToCreate, NewWaysToCreate, Competent, TakingTimeToTaste) had average ratings below 3, corresponding with the “slightly important” response.

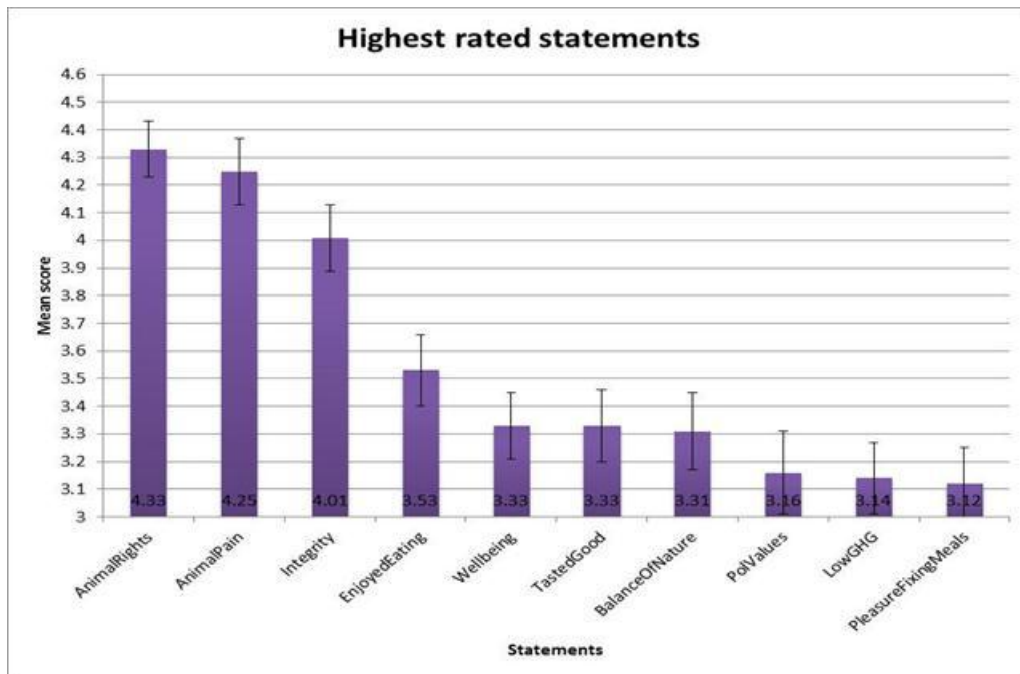


Fig. 6. Average rating of individual statements with ratings > 3.0, by N= 121 survey participants.

The statements for “sensory appeal” and “environmental concern” were also divided, but in this case between two response options. While participants regarded the taste of vegetarian food, it’s impact on nature, and food- related GHG emissions, as “somewhat important” (Fig. 6), they perceived many other sensory and environmental aspects of vegetarian food as “slightly important” (i.e., the appearance and texture of vegetarian food, whether it contained harmful substances, was natural, organic, or transported in an environmentally friendly way, among others).

Even though one statement in the “political concern” scale was rated as “somewhat important” (Fig. 6), all other statements were categorized as “not at all important” (HRightsNotViolated, CountryOriginMarked, CountrieApprovedPol). In this case coherence between personal political values and the way food was prepared was a much more important motivation than respect for human rights in the country of origin, or having the country of origin clearly marked.

4.1.3 Intermediately rated statements

All statements for “health”, “frugality” and “habit” had average scores between 2-3, corresponding with the category “slightly important”. This means that respondents recognized a (minor) responsibility of those statements in changing their eating pattern. Staying healthy, getting the needed nutrients, reducing consumption, being familiar with vegetarian food or eating it on a

regular basis, seemed to motivate respondents more than staying in shape, reducing waste or being accustomed to eating it (See Fig. 7 below).

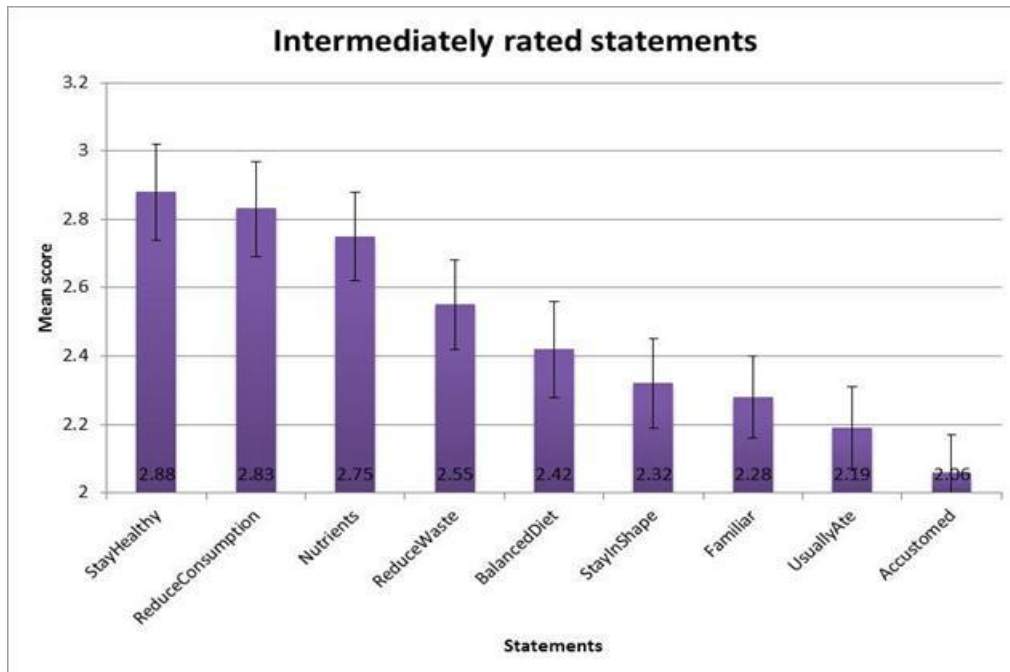


Fig. 7. Average rating of individual statements with ratings between 2.0- 3,0, by N= 121 survey participants.

4.1.4 Lowest rated statements

Other statements with the lowest average ratings (scores between 1-2) belonged to the “sociability”, “social image”, “weight control” and “mood” scales. These statements, with their corresponding mean scores are displayed in Fig. 8., all falling under the category “not at all important”.

As it is clear from Fig. 8, on average, respondents rated all the statements for “sociability”, “social image” and “weight control” as “not at all important”. According to this, intentions to lose weight and social pressures to eat certain food did not play a role in participants’ decision to turn vegetarian or vegan. In the case of “mood”, three out of five statements fell within the “not at all important” category (Fig. 8), while the two additional statements were rated as “slightly important” (CheeredMeUp, CopeLife). The statements related to “price” showed a similar trend, with two being rated as “not at all important” (Fig. 8), and one as “slightly important” (GoodValueMoney). Statements for “convenience” were also divided between these response categories. But in this case, only two statements were considered as “not at all important”, while three statements were categorised as “slightly important”.

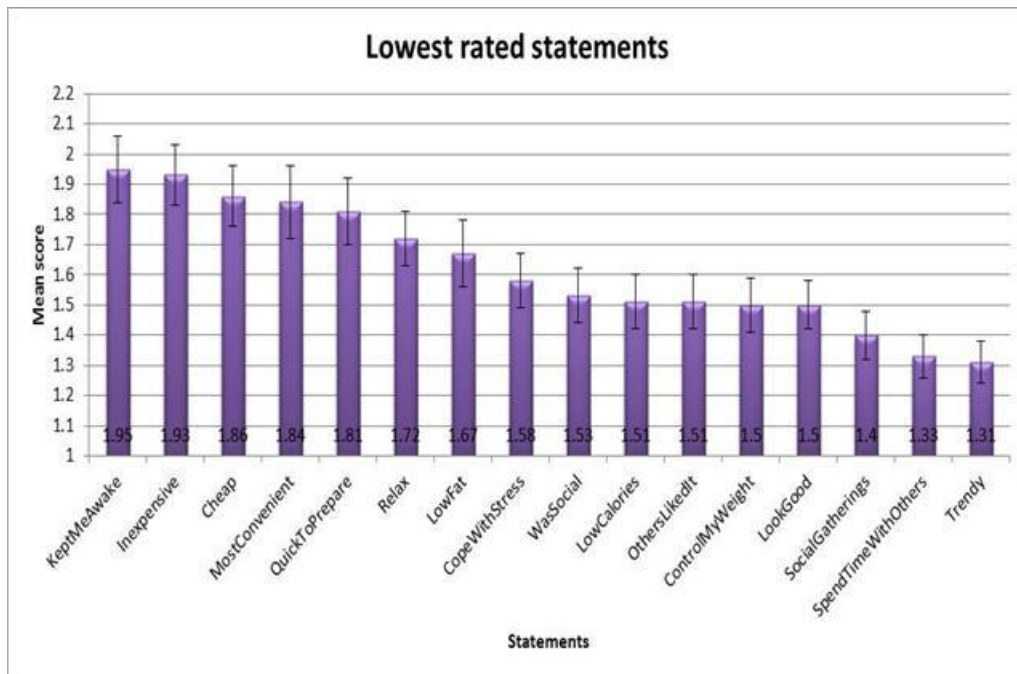


Fig. 8. Average rating of individual statements with ratings between 1.0 - 2.0, by N= 121 survey participants.

On average, dealing with life, balancing the cost and quality of food, and feeling better motivated participants more than buying cheap food, relaxing, and handling stress. The ease of preparation and availability of vegetarian food were also more motivating compared to the time required for preparation. But in general, participants did not change their diet to save time, effort or money, nor because it enhanced their emotional wellbeing.

4.2 Effects of demographic characteristics on motivations

4.2.1 Differences in motivations by gender

Independent samples t- tests were employed to determine whether there were differences in the 14 types of motivations by gender, age, type of vegetarian diet, occupation and income. No significant differences were found between men and women, for any motivation.

4.2.2 Differences in motivations by age groups

The t- test for age groups was used to assess differences in motivations between “adult” (≥ 27) versus “young” (≤ 26) participants. Differences were significant only for the health scale ($t(118.844) = 2.07, P= 0.041$). Mean scores indicated that “adult” participants were on average more motivated by health than “young” respondents (See Table 4 for mean and standard deviation). With an Eta

squared value of 0.0354, it was clear that age had a small effect on health, accounting for only 3.54% of the variance.

4.2.3 Differences in motivations by occupation

When assessing the motivations of students and paid employees, significant differences were found for sociability ($t(102.408) = -2.66, P= 0.009$) and mood ($t(101.435) = 1.98, P= 0.05$). Compared to paid employees, students were on average more likely to be motivated by these two types of motivations (Table 4). Occupational status had a small effect on mood (3.6%) and a moderate effect on sociability (6%).

4.2.4 Differences in motivations by income

The data showed significant differences in price ($t(118.996) = 2.93, P= 0.004$), social image ($t(115.648) = 2.74, P= 0.007$) and sociability ($t(118.584) = 2.31, P= 0.023$) between participants with monthly incomes equal or lower than SEK 9.999, and those with incomes above SEK 10.000. Respondents earning incomes of SEK 9.999 or less were on average more motivated by price, social image and sociability, than respondents earning more than SEK 10.000 (Table 4). Monthly income had a small effect over sociability (4.2%) and social image (5.9%), and a moderate effect on price (6.7%).

Table 4. Means and standard deviations for all statistically significant ($p < 0.05$) differences by age group, occupation and income

	Occupation		Age group		Monthly income	
	Student	Paid employee	Adult	Young	Low income	High income
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Health			2.81 (1.39)	2.34 (1.12)		
Mood	2.10 (1.04)	1.76 (0.76)				
Price					2.26 (1.19)	1.73 (0.80)
Sociability	1.58 (0.84)	1.24 (0.46)			1.53 (0.78)	1.25 (0.56)
Social image					1.57 (0.81)	1.25 (0.46)

Statistical significance was calculated using t-tests. The higher values (in bold) are significantly higher than for other groups. Income drove three significant differences (in price, sociability and social image), while occupation drove two (in mood and sociability), and age drove only one (in health).

4.2.5 Differences in motivations by type of vegetarian diet

T-tests were also conducted to evaluate whether the type of vegetarian diet followed by participants influenced the motivations that they considered important. Pesco-vegetarians were compared with lacto-ovo vegetarians and vegans. When comparing pesco-vegetarians and lacto-ovo vegetarians, significant differences were found for scores in the sociability ($t(38.088) = 2.033, P = 0.049$) and intrinsic motivation ($t(65) = 2.940, P = 0.005$) scales. On average, pesco-vegetarians were more likely to be motivated by intrinsic motivation and sociability, compared to lacto-ovo vegetarians (See Table 5 for means and standard deviations of all significant differences by type of vegetarian diet). The type of vegetarian diet had a small effect on sociability (5.9%), and a moderate impact on intrinsic motivation (11.7%).

Table 5. Means and standard deviations for all statistically significant ($p < 0.05$) differences by type of vegetarian diet.

	Vegetarian Group					
	Pesco-vegetarian	Lacto-ovo vegetarian	Vegan	Pesco-vegetarian	Vegan	Lacto-ovo vegetarian
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Convenience					1.72 (0.81)	2.11 (1.05)
Intrinsic motivation	3.32 (1.11)	2.59 (0.89)			3.16 (1.02)	2.59 (0.89)
Mood					2.11 (1.04)	1.74 (0.71)
Sociability	1.76 (0.95)	1.33 (0.61)	1.32 (0.60)	1.76 (0.95)		

Statistical significance was calculated using t-tests. The higher values (in bold) are significantly higher than for other groups. Pesco-vegetarians drove three significant differences, one in intrinsic motivation, and two in sociability (versus both vegans and lacto-ovo vegetarians). Vegans drove two significant differences (in intrinsic motivation and mood), and lacto-ovo vegetarians drove only one (in convenience).

The t-test comparing pesco-vegetarians and vegans showed that differences were significant for the sociability scale ($t(35.145) = 2.147, P = 0.039$). In this case, pesco-vegetarians were more motivated by sociability than vegans were (Table 5). The type of vegetarian diet had a small effect on sociability (5.5%). Finally, comparison of lacto-ovo vegetarians and vegans showed significant differences in the convenience ($t(93) = 2.062, P = 0.042$), mood ($t(92.185) = -2.082, P = 0.040$) and intrinsic motivation ($t(93) = -2.815, P = 0.006$) scales. In this case, lacto-ovo vegetarians were more motivated by convenience compared to vegans, whereas vegans were more motivated by intrinsic motivation and mood, compared to lacto-ovo vegetarians (Table 5). The type of vegetarian diet had a small effect on convenience (4.3%) and mood (4.4%), while having a moderate effect on intrinsic motivation (7.8%).

5. Analysis

In this chapter I address research sub- question 3, by interpreting the findings for most and least important motivations using Self-Determination Theory (SDT). As established in chapter 2, SDT assesses six types of motivation based on six different regulatory styles, five of which are relevant to this study (intrinsic, integrated, identified, introjected and external regulation/ motivation). It is important to clarify that the regulatory style known as introjected regulation will not be examined. This is so because the one motivation that corresponded with it (“introjected motivation”) exhibited unacceptable internal reliability, and was excluded from the results. Although it reflected low internal reliability within my sample, this regulatory style is very relevant for food choice motivations, and it should be included in future studies.

5.1 Integrated and intrinsic regulations

In chapter 4 I established that “animal welfare” and “intrinsic motivation” were the most highly rated motivations (Fig. 5). With this in mind, surveyed vegetarians and vegans residing in Skåne adopted vegetarian or vegan diets mostly driven by integrated regulation (i.e., “animal welfare”) and intrinsic regulation (i.e., “intrinsic motivation”). As such, they can be said to portray both extrinsic and intrinsic motivational types.

Expressed within the framework of SDT, respondents were motivated by integrated regulation because eating vegetarian enhanced and was coherent with other priorities in their lives (i.e., protecting animal rights) and with their value structure (i.e., sparing animal pain)(Pelletier et al, 2004; Matusitz & Martin, 2013). In this way, their decision to become vegetarian was autonomous and responded more to their self-identity than to external factors. However, they were extrinsically motivated because they turned vegetarian with the expectation of achieving goals that were separate from the action of eating vegetarian itself (Matusitz & Martin, 2013).

In the case of intrinsic regulation, participants can be said to have adopted vegetarianism because of the interest, pleasure and satisfaction they derived from eating vegetarian (Matusitz & Martin, 2013; Pelletier et al., 2004). Eating vegetarian represented an end in itself and was found valuable in its own sake (Pelletier et al., 2004; Schösler et al., 2014), because it made participants feel integral and gave them a sense of wellbeing, but also because they enjoyed eating vegetarian and found it pleasurable to cook (or fix) vegetarian meals (Fig. 6). This is consistent with previous research on

pro-environmental behaviour (Howell, 2013; De Young, 2000; Chawla, 1999) which has shown that intrinsic motivation is an important factor driving environmentally responsible behaviour.

When assessing the mean ratings for all motivations it is clear that motivations consistent with integrated regulation were highly rated. As shown above, “animal welfare” was the top rated motivation. In turn, “frugality” and “environmental concern” received the third and fourth highest ratings. The remaining motivation that is consistent with integrated regulation (“political concern”), received the eighth highest rating, and was closer to the response option “not at all important” than the “slightly important” option (Fig. 5). Despite this, it is fair to say that overall, integrated regulation played an important role in motivating participants to adopt vegetarian and vegan diets. It must be clear however, that political priorities and values played a lesser role compared to environmental, frugal, or animal welfare-related values and priorities.

It should also be clear that the values and priorities associated with “animal welfare” were not the only ones regarded as important by respondents. Values and priorities concerning “frugality” and “environmental concern” were also important. These included maintaining the balance of nature, reducing GHG emissions, and lowering consumption and waste levels (Figs. 6 and 7). In terms of SDT, respondents adopted vegetarian diets because these diets were in line with those values and priorities. In any case, values and priorities related with “frugality” and “environmental concern” were less important than those related with “animal welfare”. Conversely, values and priorities related with “frugality” and “animal welfare” were less important compared with “intrinsic motivation”, which was the second highest rated motivation.

5.2 External regulation: reward and punishment contingencies.

On the other hand, eight of the nine motives with lowest ratings corresponded with external regulation, including “sociability”, “social image”, “mood”, “price” and “habit” (Fig. 5). The only motive that did not belong with external regulation was “political concern”, which I discussed earlier. Like “political concern”, these eight motivations were closer to the “not at all important” category than the “slightly important” category. Following SDT, external regulation is at play when people regulate their eating behaviour seeking to obtain specific rewards or avoid certain punishments (Pelletier et al., 2004; Kato, 2013). In this case, such rewards ranged from, controlling one’s weight and coping with stress, to saving money. In turn, avoidable punishments could include, looking bad in front of others and losing time in the preparation of vegetarian food (Fig. 8). If eight of the lowest rated motives corresponded with external regulation, it seems like respondents were not

very much motivated by external sources of control such as social expectations (“weight control”, “sociability”), imposed rules (“price”, “habit”, “sensory appeal”), emotional comfort (“mood”), and not wanting to lose time or status (“convenience”, “social image”).

5.3 Controlled or autonomous vegetarians?

Given that these motivations correspond with external regulation, they can also be said to represent controlled types of motivation rather than autonomous motivations (Deci & Ryan, 2000). Since participants rated these motivations as the lowest ones, it is clear that controlled motivations did not have much influence on respondents’ decision to become vegetarian. On the contrary, as I showed at the beginning of this chapter, they responded to integrated regulation and intrinsic regulation, both of which are regarded as autonomous types of motivations (Matusitz & Martin, 2013). This also suggests that participants were more motivated by values, the desire to be coherent with other priorities in their lives and the intrinsic enjoyment of vegetarian food, than they were by external rewards or punishments.

5.4 Identified regulation

Only “health” classified as identified regulation, because due to a low Cronbach’s alpha “quality of life” was excluded from the analysis. In the case of identified regulation, respondents opted for vegetarianism because they saw it as a valuable behaviour to obtain the desired outcome of being healthy (Matusitz & Martin, 2013). Being vegetarian helped them achieve this goal by helping them stay healthy, providing them the necessary nutrients or allowing them to follow a balanced diet. “Health” was a considerably important motivation, being rated as the fifth most important after “environmental concern” (Fig. 5). It was also closer to the response option “somewhat important” than the response option “not at all important”. Therefore identified regulation can be thought of as having played a role in respondents’ decision to turn vegetarian. This role however, was not as important as that played by integrated or intrinsic regulations.

5.5 Summing up

In synthesis, integrated regulation and intrinsic regulation seemed to influence adoption of vegetarian diets the most, while identified regulation played a smaller role, and external regulation did not seem to play much of a role. Therefore, when adopting vegetarian diets participants seemed to be primarily motivated by their value structure, the desire to be coherent with other priorities in

their lives and the pleasure/ satisfaction derived from eating and engaging with vegetarian food. The perceived importance of being healthy played a lesser role in motivating participants and the desire to obtain external rewards or avoid certain punishments played almost no role. With this in mind, respondents were both intrinsically and extrinsically motivated. But overall, autonomous regulatory styles (i.e., intrinsic, integrated and identified) had more influence over the adoption of vegetarian diets than did controlled regulatory styles (i.e., external regulation).

6. Discussion

In this chapter I discuss my findings from chapters 4 and 5. In the first section I scrutinize the most and least important scales of motivation, followed by the most and least important statements. In section two I go through the demographic characteristics and their effects on different motivations. The third section discusses the findings from Self-Determination Theory, while section four points to various limitations of my research. The final section suggests topics for further research.

6.1 Motivations

In chapter 4, results showed that the most important scales of motivation for adopting vegetarian diets were “animal welfare”, “intrinsic motivation”, “frugality”, “environmental concern”, and “health”. The remaining scales of motivation either fell within the “not at all important” response category, or they were closer to this category than the “somewhat important” response category. Therefore they are considered unimportant. “Weight control”, “social image”, and “sociability” were the lowest rated scales of motivations.

6.1.1 Most important motivations

In line with these findings, previous research has shown that “animal welfare” was either the top motivation (Haverstock and Forgays, 2012) or one of the most important motivations for food choice (Ogden et al. 2007; Santos & Booth, 1996).

On the other hand, the second and third highest rated motivations in my study (“intrinsic motivation” and “frugality”) are not measured by previous food choice studies. So it is not possible to assess these motivations against the literature. However, they represent an important finding to complement previous studies, which have consistently identified animal welfare, health and environmental factors as the main motivators behind vegetarian food choices (Ruby, 2012; Hoffman et al., 2013). This is an important finding because while there is evidence that “intrinsic motivation” and “frugality” are important motivators for pro-environmental behaviour in the realms of electricity consumption (Fujii, 2006) and climate change (Howell, 2013), their relevance for sustainable food choices and vegetarianism is not as clear. My research is a contribution in that direction.

Studies have also documented the role of “environmental concern” (Haverstock and Forgays., 2012; Santos & Booth, 1996;) and “health” (Haverstock and Forgays., 2012; Lindeman and Väänänen,

2000; Steptoe et al, 1995; Renner et al., 2012; Ogden et al., 2007; Santos & Booth, 1996; Milošević et al, 2012) as important food choice motivations. These motivations received the fourth and fifth highest ratings among all motivations in my study, and they remain within the top rated motivations. However they seem less central than previous research had suggested, since they have been somewhat displaced in importance by “intrinsic motivation” and “frugality”.

Price has also been shown to be a central motivator in some studies (Prescott et al., 2002; Jáuregui-Lobera & Bolaños, 2011; Steptoe et al., 1995; Pollard et al., 1998). However, it was rated considerably low in my study (Fig. 5). The relative unimportance of price in my sample might be an indication that the desire to eat vegetarian food outweighs the cost of food, perhaps particularly in Sweden, but this needs to be examined further.

6.1.2 Least important motivations

In my findings, the least important motivations for adopting vegetarian diets were “convenience”, “mood”, “weight control”, “social image,” and last of all, “sociability” (Fig 5). Other studies have also reported weight control (Renner et al., 2012; Milošević et al., 2012; Lindeman & Väänänen, 2000), social image, sociability (Renner et al., 2012), and mood (Steptoe et al., 1995) among the least important motivational factors for food choice. With weight control as one of the least important motivations, my findings suggest that respondents were not “weight motivated vegetarians”, but that it would be more accurate to consider them “ethical” or even “health” vegetarians (Brinkman et al., 2014; Hoffman, 2013).

6.1.3 Most and least important statements

Findings from my study also showed that the individual statements AnimalRights, AnimalPain, Integrity, EnjoyedEating, Wellbeing, TastedGood, BalanceOfNature, PoliticalValues, LowGHG and PleasureFixingMeals, received the highest ratings (above 3). The statements Trendy, SpendTimeWithOthers, SocialGatherings, ControlWeight, MadeMeLookGood, LowCalories, OthersLikedIt, Social, CopeStress and LowFat, were among the lowest rated (See Fig. 8 for all the lowest rated statements).

Literature on the relative importance of individual statements is scarce. Milošević and colleagues (2012) posit that the individual statements considered most important in their study were “tastes good,” “keeps me healthy”, “contains natural ingredients”, “smells nice”, “is good value for money,”

and “is nutritious”. Of these, only TastedGood was among the most important in my study. Similarly, of the lowest rated statements in the study by Milošević et al. (2012), only one coincided with the lowest rated in my study (LowCalories). However these findings are non-comparable since some of the lowest and highest rated statements in my study belong to the social image, sociability, intrinsic motivation and animal welfare scales, which were not measured by Milošević et al. In-depth understanding of the relative importance of individual statements is central to get a more detailed perspective of the specific factors motivating people.

For instance, TastedGood was among the most highly rated statements in my study, but the scale of motivation that it belonged to (“sensory appeal”) received a rating of “slightly important” and was closer to the “not at all important” response category than the “somewhat important” category. The same case applies to the statement PolValues, which belongs to the scale “political concern”. Looking beyond the scores for scales of motivation, and considering the ratings of individual statements can indicate which aspects need to be prioritized. This knowledge can prove useful when designing accurate and effective interventions to enhance dietary change and sustainable eating patterns. With this in mind, both individual statements for “animal welfare” could be prioritized, whereas in the case of “intrinsic motivation”, it would be more appropriate to prioritize Integrity, EnjoyedEating and Wellbeing (Fig. 6).

In general it is safe to say that promoting people’s engagement with animal welfare, the intrinsic enjoyment of vegetarian food, frugal lifestyles, environmental issues and the health enhancing features of vegetarian diets, could prove adequate strategies to promote adoption of vegetarianism in Skåne. However, these strategies need to take into consideration the differences in ratings of individual statements, to prioritize those that are most important, as well as those that are rated high but belong to low rating scales.

6.2 Effects of demographic characteristics on motivations

Regarding differences in motivations based on demographic characteristics, my results yielded no significant differences between genders. Nevertheless, differences were significant when comparing between age groups, type of vegetarian diets, occupational statuses and monthly incomes. These differences were significant for health, sociability, intrinsic motivation, convenience, mood, price and social image. While older participants valued health more than young participants, vegans were more motivated by intrinsic motivation and mood than lacto-ovo vegetarians. The lower income

group was also more driven by price, compared with the high income group, and students considered mood and sociability more important compared with paid employees.

6.2.1 Gender

My study yielded no significant differences in any motivation between men and women. This contradicts a wide range of research, which has shown that women tend to score higher than men in most food-related motivations, reflecting women's higher concern and involvement with food in general (Ruby, 2012). Accordingly, Jáuregui- Lobera & Bolaños (2011) reported that women scored significantly higher in mood, health, sensory appeal, weight control, convenience and habit in a Spanish sample, while Share & Stewart-Knox (2012) found that women considered health and animal rights more important compared with men, and men regarded religion as more important than women. Likewise, several studies by Steptoe and colleagues revealed gender differences, with women scoring significantly higher in seven out of nine motivations (Steptoe et al., 1995), six out of nine motivations (Pollard et al., 1998) and eight out of nine motivations, compared with men (Steptoe & Wardle, 1999). Adding to this literature, Renner et al. (2012) showed significant gender differences for 10 out of 15 motivations including Natural Concerns, Affect Regulation, Weight Control, Sociability, Visual Appeal and Health, with higher ratings by women. In turn, Lindeman and Väänänen (2000) found that women rated political values, ecological welfare, health, mood, price and weight control higher than men, and in a second study they discovered that women rated sensory appeal and weight control higher. Finally, Haverstock and Forgays (2012) found gender differences for health and environmental issues, with women scoring higher than men, and Lockie et al. (2004) showed significant gender differences regarding sensory appeal and the natural content of food .

Clearly, gender differences seem commonplace when measuring food choice motivations, still my study revealed no such differences. This is a surprising result. Nevertheless, a limited number of gender differences could be explained because men and women equally value avoidance of animal products (Haverstock and Forgays, 2012). An alternative explanation could lie in Sweden's high level of gender equality. This is documented by the Gender Gap Index, which measures gender equality across the domains of economic participation, educational attainment, health and political empowerment. Sweden has been consistently ranked as the fourth country in gender equality, globally, since 2009 (World Economic Forum, 2013).

6.2.2 Age

Regarding differences across age groups, my sample revealed significant differences only for the health scale, with adults placing more importance on it than young respondents. A study by Haverstock & Forgays (2012) on motivations by current animal product limiters, also found health to be the only significant difference between older and younger participants, with older participants considering health as more important. Studies of non-vegetarian samples have also documented significantly higher ratings for health among older participants than younger ones (Renner et al, 2012; Steptoe et al., 1995). Although these studies also reported higher ratings for several motivations by young participants (i.e., mood, convenience, sensory appeal, visual appeal and social image), my study did not. This indicates that my sample was overall more homogeneous, but also that respondents were in general more autonomously motivated and had internalized the vegetarian diet as part of their identity and value structure. As a counterpart, these findings reflect that external contingencies influenced their motivations less. Both of these ideas are supported by my analysis of the different motivations using SDT (see chapter 5).

6.2.3 Income

Research has shown that in addition to gender and age, income also affects motivations for food choice (Dowd & Burke, 2013). In line with my findings that lower income respondents were on average more motivated by price, Steptoe et al. (1995) reported that people with higher incomes rated price as a less important motivation for their food choices. However, my findings that social image and sociability were rated higher by low income compared to high income respondents, cannot be supported by previous research. This is however an interesting and useful result that might indicate higher vulnerability to social pressure and norms by vegetarians with low incomes (social image), as well as the higher potential to diffuse vegetarianism among low income groups by enhancing the social networks that support it (sociability). In any case, it would be useful to test these hypotheses with other similar samples to be able to reach a more reliable conclusion. When doing so it is also important to bear in mind the size of the effect of income over sociability and social image, which was small in my study. If the effect size is found to be low, interventions to boost vegetarian social networks might not prove very effective in diffusing vegetarianism.

Related to income, I found students value sociability more than paid employees, but I did not find literature comparing food-choice motivations by occupation. Further studies should consider occupation because even though it relates to income, it also represents a separate construct.

Therefore, compared to income, occupation could indicate significant differences for other motivations, as was the case with my study, where income had an effect on price, sociability and social image, and occupation had an effect on sociability but also mood.

6.2.4 Type of vegetarian diet

The data also revealed that vegans were significantly more highly motivated by intrinsic motivation and mood, compared to lacto-ovo vegetarians, but lacto-ovo vegetarians were more motivated by convenience. In turn, pesco-vegetarians were more motivated by intrinsic motivation than lacto-ovo vegetarians, and more motivated by sociability compared with both vegans and lacto-ovo vegetarians. However, previous work has focused on differences for animal rights, environmental and political motives (Haverstock & Forgays, 2012), which I did not find in my study.

More importantly, the differences in my study reflect that potential pesco-vegetarians and vegans could be targeted by enhancing their intrinsic enjoyment of vegetarian food, while increasing the number of lacto-ovo vegetarians might have more to do with making vegetarian food more convenient. Given their significantly higher endorsement of “sociability”, the number of pesco-vegetarians could also be boosted by enhancing the social networks that support pesco-vegetarian diets. However, the type of vegetarian diet had small effects on sociability and convenience, and moderate effects on intrinsic satisfaction. Therefore, it is unclear whether pursuing the above strategies would prove effective, or if they would be more effective in cases where the type of vegetarian diet has a large effect over these motivations.

Most of the highest rated motivations (i.e., “animal welfare”, “frugality” and “environmental concern”), were unaffected by statistically significant differences derived from demographic factors. This is a sign that survey respondents valued these motivations highly in a consistent manner, regardless of their varying demographic characteristics.

6.3 Interpretation of results using SDT

When interpreting the findings from chapter 4 through Self Determination Theory (SDT) I found that integrated regulation and intrinsic regulation influenced adoption of vegetarian diets the most, while identified regulation played a smaller role and external regulation did not seem to play much of a role. This means that when adopting vegetarian diets participants seemed to be primarily motivated by their value structure, the desire to be coherent with other priorities in their lives and the pleasure/ satisfaction derived from eating and engaging with vegetarian food. The perceived importance of being healthy played a lesser role in motivating participants, and the desire to obtain external rewards or avoid certain punishments played almost no role. Therefore, respondents were both intrinsically and extrinsically motivated. But overall, autonomous regulatory styles (i.e., integrated, intrinsic and identified) had more influence on the adoption of vegetarian diets compared to extrinsic regulatory styles (i.e., external regulation).

As stated above, integrated regulation and intrinsic regulation were the most influential for adoption of vegetarian diets. In addition, within integrated regulation, animal welfare was the most important motivation, followed by frugality and environmental concern. This suggests that while promoting environmental values is likely to facilitate transitions to vegetarianism, promoting such values is not enough. Strategies that promote animal welfare, increase the pleasure that people derive from vegetarian food, and make it easier to follow a frugal lifestyle, are also necessary and could prove more effective. Again, it is important to consider the differences in ratings of individual statements in order to prioritize those that are most important.

In general, these findings indicate that promoting autonomous regulatory styles can aid in promoting adoption of vegetarian diets. This supports previous research that showed autonomous regulatory styles like intrinsic regulation, can enhance healthy dietary habits (Pelletier et al., 2004; Teixeira, 2011).

Despite the valuable insights gained through SDT, this theory does not provide a rationale for designing appropriate strategies to enhance autonomous motivations that can foster sustainable diets. How to design appropriate strategies is a question that needs to be researched further. Studies on the principles of persuasive communication (Pelletier & Sharp, 2008) and the literature on nutrition interventions (Spahn et al., 2010) might help in crafting such strategies. The field of nutrition intervention has shown self-monitoring, problem solving and goal setting to be effective strategies for promoting healthy eating (Spahn et al., 2010), while persuasive communication studies

have suggested that message tailoring and framing can provide consumers with information, in ways that lead to behavioural change (Pelletier & Sharp, 2008). These frameworks could help to successfully enhance intrinsic or integrated motivations in practice. Interdisciplinary work in this direction is therefore, necessary.

My research has important implications for Sustainability Science. It demonstrates the relevance of intrinsic motivation for vegetarian food-choices, and the concept's potential to help advance transitions towards more sustainable dietary patterns. In general, my findings signal ways of moving forward in a transition towards vegetarianism (i.e., promoting autonomous motivations in the realms of animal welfare, frugal lifestyles, environmental concern, and intrinsic engagement with vegetarian food). Hence, my research is in line with one of the core research questions within Sustainability Science, which asks how to lead human-environment systems towards sustainability transitions (Kates, 2011). By pointing to potential strategies to promote vegetarian diets, I also indicate potential ways to close the knowledge-to-action gap in the field of sustainable food consumption, which is another key goal of Sustainability Science (Clark & Dickson, 2003; Cash et al., 2003). Finally, by suggesting the need and value of using frameworks like nutrition intervention and persuasive communication, I point towards paths for conducting interdisciplinary work, which Kates et al. (2001) argue is an important pursuit of Sustainability Science. Therefore, Sustainability Science can employ SDT, nutrition intervention strategies and persuasive communication, in an interdisciplinary approach that bridges the knowledge to action gap in order to enhance behavioural transitions towards sustainable dietary habits, and pro- environmental behaviour.

6.4 Limitations

In this study data were collected through voluntary online surveys, which could have limited the amount and variety of respondents, to those with a particular interest in food related issues. The fact that most of the respondents (over 85%) had earned or is currently obtaining a bachelor's degree seems to also limit the sample to highly educated individuals. These factors might have skewed the results. Recruiting participants through a vegan and vegetarian students' nation and an animal rights group might have also biased the results, representing the views of highly politicized and environmentally conscious people. I tried to attenuate this effect by diffusing the survey through other groups such as Veganer i Lund, purchasers of Eco-boxes and Govindas restaurant. However, my findings may not be representative of a wider population. In addition, the sample is of predominantly European origin, which means the findings cannot be extended to non-western

populations. As suggested earlier, it is a good idea to replicate this research with other samples that have similar demographic characteristics to my study sample.

The fact that I chose convenience sampling over random sampling might explain why my sample is not representative of the wider population (Bryman, 2008; Kalley et al, 2003). I opted for convenience sampling because it is common in social sciences research and it would have been much more time consuming and costly to pursue random sampling. As Bryman (2008) suggests, when dealing with sampling decisions researchers must find a balance between time, costs and precision. On the other hand, all organizations were very eager to cooperate with diffusing the survey, and this was a valuable research opportunity that I could not disregard.

An additional problem with this type of research design is the general inaccuracy of self-reported data retrieved through questionnaires. Based on this inaccuracy, the perceived motivations indicated by respondents might not be the actual motivations behind their food choices (Share & Stewart- Knox, 2012; Renner et al., 2012; Steptoe et al., 1995). With this in mind, precautions were taken, which have also been used by other researchers, to reduce social desirability bias and enhance respondents' honesty. These precautions included assuring participants that all data would remain anonymous while not requiring them to reveal their identity.

The low internal reliability yielded by six scales in my survey reflects the need to revise the statements to assure that they are measuring the same motivation. Doing so will enhance construct validity by allowing a more complete measurement of the motivations driving food choices. It would have been interesting to include these scales in the analysis, even if they did not fulfil reliability requirements, just to capture any interesting patterns in the data. However I decided not to do so because of space constraints.

An additional limitation has to do with my focus on motivations. Behavioural research has established that studying motivations is important, but insufficient to understand behavioural change. Understanding such change also demands an examination of the contextual factors that constrain pro-environmental behaviour (Whitmarsh et al., 2011; Vermer & Verbeke, 2008; Howell, 2013). Investigating barriers for the adoption of vegetarian diets among non- vegetarians could provide valuable insights on strategies to overcome these barriers. However, scrutinizing both motivations and barriers in my research, was too ambitious a task.

Furthermore, some argue that it is not enough to focus on behavioural change (Power and Mont, 2010). According to this line of thought, facilitating sustainable consumption depends primarily on efforts at the policy level, to change the concept of a normal lifestyle, so that sustainable lifestyles are perceived as the normal lifestyles at the societal level (Power and Mont, 2010). This is a worthy research enquiry, and in order to fully understand the governance of sustainable diets, it is indeed necessary to examine the broad policy context, alongside food choice motivations. But scrutinizing both of these aspects was too large of a task for my thesis.

Finally, my research is fundamentally quantitative (even if I did employ a qualitative framework to interpret results). There can be objections against this choice of approach or the exclusion of qualitative methods from my research. But my research objectives were not oriented towards revealing the meaning or depth behind motivations for adopting sustainable diets, in which case, interviews would have been appropriate. On the contrary, I wanted to determine what were the most and least important motivations in a specific sample, and examine the effect of various demographic characteristics on such motivations. With these objectives in mind, and considering that most motivations have already been identified in various surveys, I deemed designing a survey as the most appropriate way to go.

6.5 Further research

As noted above, the objective of putting findings from SDT into practice could be achieved by using the frameworks of nutrition intervention and persuasive communication. In the context of my study, these frameworks could inspire further research on how to engage non-vegetarians with animal welfare and the intrinsic enjoyment of vegetarian food in Skåne. Research on the relative importance assigned to individual statements must be extended too. Focussing on scales is not enough, since the rating of statements composing the scales can inform strategies to promote dietary change among specific target groups. Future studies should also incorporate intrinsic motivation as a food choice motivation, which my study demonstrated was a very important factor driving food choices. Using this survey with samples that have different demographic characteristics from my sample, and belong to non-western cultural contexts can be an interesting research pursuit. It might help delineate paths for promoting sustainable diets in developing countries. This is relevant especially since meat consumption is increasing among well-off populations in some developing countries (Popkin, 1993). But to do this, it would be necessary to adapt the survey so that it is context-sensitive.

Since previous research has identified social concern, quality of life and frugality as relevant motivators for pro environmental behaviour, I defined and incorporated these factors in my survey. However, social concern and quality of life returned low levels of internal reliability. New research could revise and improve their definitions and subsequent operationalization into statements, through further literature review and expert advice. To facilitate the measurement of social concern it will also help to better differentiate between this factor and a diversity of other social factors influencing food choices (i.e., social concern which denotes social altruism and justice, social norms which refer to pressure from other people, social image which involves one's self presentation to others, and sociability which measures the importance of being with others). More careful operationalization could assure these factors measure what they are supposed to measure, increasing internal reliability, while assuring measurement of a wider range of relevant motivations. Another way to improve the operationalization process of newly created scales of motivation could be to conduct qualitative interviews, to clarify the factors that could compose each scale. I did not conduct such interviews because as I stated above, most motivations had already been identified in existing surveys.

7. Conclusion

Vegetarian and vegan diets are important contributors to sustainable food consumption patterns. They are associated with various environmental and health benefits that can motivate people to adopt them. Through my research I examined the motivations driving the adoption of vegetarian and vegan diets in Skåne, Sweden. I had three aims when examining these motivations. First, I established what were the most and least important motivations driving vegetarians and vegans in Skåne to adopt these diets. Secondly, I determined the effect of five different demographic factors on the importance recognized to each motivation. Lastly, I interpreted these findings through Self Determination Theory (SDT), to be able to understand whether participants exhibited controlled, autonomous, extrinsic or intrinsic motivational types.

After analysing the survey data it was clear that, “animal welfare”, “intrinsic motivation”, “frugality”, “environmental concern” and “health” were the most valued motivations to explain the adoption of vegetarian diets. On the other hand, more externally oriented motivations, like “sociability”, “social image”, or “weight control”, seem unessential as potential factors driving vegetarian diets. With this in mind, promoting people’s engagement with the top rated motivations could help enhance adoption of vegetarian diets in Skåne. But designing appropriate strategies to promote these motivations requires, examining differences in the ratings of individual statements within the top rated motivations. This can indicate which statements should be prioritized for each motivation. When designing the strategies, it is also important to consider highly rated individual statements that do not belong to a highly rated scale of motivation.

The importance of “intrinsic motivation” and “frugality” is an interesting finding that supports previous research on pro-environmental behaviour. This finding enriches the understanding of vegetarian food choice motives from previous research, which has focused on animal welfare, health and environmental issues. But the relevance of “intrinsic motivation” and “frugality” for adoption of vegetarian and sustainable diets must be tested further.

This study also revealed that gender did not have an effect on any motivation, but the other four demographic characteristics did have an effect on the importance attached to various motivations. In terms of age groups, older participants valued “health” more than young participants. Regarding income groups, “price”, “sociability” and “social image” seemed more important for people with low incomes. Differences by occupational status were significant between students and paid employees, with the former prioritizing “mood” and “sociability” as a motivation. In turn, the type of vegetarian

diet influenced the importance attached to “convenience”, “intrinsic motivation”, “mood” and “sociability”.

While the lack of differences between genders might be explained by high levels of gender equality in Sweden, differences between income groups proved the long-established importance of price for low-income groups compared with high – income groups. Occupational status was presented as an important demographic characteristic that might yield significant differences in other motivations than those indicated by income. But this must be tested further. Finally, based on differences in motivations depending on the type of vegetarian diet I proposed ways of targeting potential pesco-vegetarians, lacto-ovo vegetarians or vegans.

In the context of SDT, these findings reveal a predominance of integrated regulation and intrinsic regulation as motivational types for the adoption of vegetarian and vegan diets. This implies that respondents adopted vegetarian diets because eating vegetarian was consistent with their value structure and other priorities in their lives, but also because they enjoyed eating and engaging with vegetarian food. It also indicates that people who adopt vegetarian diets tend to have autonomous, rather than controlled types of motivations.

Based on these results, I suggested that promoting environmental values might help strengthen a transition towards vegetarian diets, but it is not enough. In fostering this transition it is also necessary (and perhaps more effective) to pursue strategies that promote animal welfare, increase the pleasure that people derive from vegetarian food, and make it easier to follow a frugal lifestyle.

Several topics for future research were pointed out. For instance, research on specific strategies to engage non-vegetarians with animal welfare and the intrinsic enjoyment of vegetarian food is still lacking. Appropriate strategies to achieve this could be designed based on strategies for nutrition intervention or message tailoring and framing. These can help operationalize valuable insights from SDT, into practice, contributing to enhance sustainable diets that are both healthy and environmentally friendly. Given that barriers to pro-environmental behaviour can also influence the adoption of vegetarian diets, research on what these barriers are, and how they can be overcome, should also be pursued.

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Annex 1

Why I turned vegetarian- Survey

Motives to adopt vegetarian & vegan diets

Dear participant,

Thank you so much for participating in this survey and supporting my Master's thesis research. I am a MSc student in Environmental Studies and Sustainability Science (LUMES) at Lund University.

My thesis has the working title "We are what we eat: Investigating motivational factors that enable the adoption of vegetarian diets."

For the purposes of this survey, participants should have either some form of vegetarian (no meat or chicken, possibly including fish) or vegan (no animal products) diet.

Since I am studying motivations to adopt a vegetarian or vegan diet, the survey should be answered by people who at some point in their lives made a conscious choice to adopt such a diet (rather than having always grown up with this diet).

In addition, respondents must live in Skåne, Sweden.

So, if you are a vegetarian or vegan currently living in Skåne, Sweden, please go ahead and answer the survey.

In the survey you will be asked to rate the importance of different motivations to explain why you adopted a vegetarian / vegan diet.

Completing the survey takes approximately 15 minutes.

I am asking about a wide range of possible motivations proposed in the academic literature to see which apply to my survey participants. Please help me understand your motivations by rating each one.

At the end you will be invited to share your e-mail if you want to be contacted for follow up, and receive a copy of the final thesis. Providing your e-mail is optional.

All the data collected through this survey will be handled confidentially and anonymously throughout the entire research process.

If you have any questions or comments, please contact me at lusuar@gmail.com.

Thank you for participating, your response is very important to me.

Regards,

Luisa Suárez

SECTION 1. Demographic Information

1) Where in Skåne do you live?

Note: This survey is only for residents of Skåne*

- Helsingborg Kristianstad Landskrona Lund Malmö
- Somewhere else in Skåne

2) Which best describes your current diet?

Note: This survey is only for people who meet one of these categories.*

- I do not eat meat or chicken, but sometimes I eat fish / seafood.
- I do not eat meat, chicken or fish/ seafood, but sometimes I eat dairy products and / or eggs.
- I am a vegan, I avoid all animal- derived food products.

3) For how long have you had your current diet?*

- Less than one year 1-2 years 3-4 years 5-6 years More than 6 years

4) What is your birth year?

5) What is your gender? *

- Female Male Other

6) What is your country of origin?

7) What is your level of education?

- I have no formal education.
- I completed middle school (högstadiet).
- I completed high school (gymnasium).
- I am obtaining/ have an undergraduate degree.
- I am obtaining/ have a master's degree.
- I am obtaining/ have a terminal degree (eg., PhD, LLD, EdD).

8) What is your occupation?

- Student
- Homemaker
- Paid employee at a university
- Paid employee outside of a university
- Unemployed
- Retired
- Other

9) What is your monthly (before tax) income?*

- SEK 9, 999 or lower
- SEK 10, 000 - SEK 19, 999
- SEK 20, 000 - SEK 29, 999
- SEK 30, 000 - SEK 39, 999
- SEK 40, 000 or higher

10) What is the number of members in your household (including yourself)?*

- 1 2 3 4 5 6 7 8 9 10

11) How is responsibility for food purchases distributed within your household?*

- Most responsibility falls on me.
- Responsibility is equally distributed with other household members.
- Someone else has higher responsibility than me.

In the next section you will rate the importance of different motivations to explain why you adopted a vegetarian or vegan diet. When rating each motivation, please think about the time when you were choosing to adopt a vegetarian / vegan diet.

SECTION 2. Motivations.

12) How important were the following motives to explain why you adopted a vegetarian / vegan diet?

Please rate each motive on a scale of 1 ("Not at all important") to 5 ("Extremely important").

Please answer all questions to help me understand your motivations.

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it came from a country in which human rights were not violated	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was organic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was cheap	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was a way to reduce consumption	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was low in greenhouse gas emissions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was the most convenient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I wanted to stay in shape (e.g., energetic, motivated)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it was packaged in an environmentally friendly way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was natural (e.g., not genetically modified)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it came from countries that I approved of politically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it had been transported in an environmentally friendly way	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it had been prepared in a way that did not conflict with my political values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it helped me cope with life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was produced in a way that animals' rights were respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was coherent with a slower- paced lifestyle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I wanted to stay healthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was fair trade	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was readily available in shops and supermarkets	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it was produced in a way that animals did not experience pain	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was locally grown	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I could buy it in shops close to my house or workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it kept me awake / alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... the country of origin was clearly marked	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was easy to prepare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was a way to reduce waste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was what I usually ate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it helped me to fulfill my need for nutrients, vitamins, and minerals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... eating it gave me a sense of integrity in living up to my values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it contained no harmful substances (e.g., pesticides, pollutants, antibiotics)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I was familiar with it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I found pleasure in fixing vegetarian / vegan meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I was accustomed to eating it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it helped me relax	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was good value for money	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was inexpensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I wanted to maintain a balanced diet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I felt ashamed of myself for not eating it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I enjoyed eating it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... my family/partner thought that it was good for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it helped me control my weight	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I recognized it from advertisements or had seen it on TV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it spontaneously appealed to me (e.g. situated at eye level, appealing colours)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was trendy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it had an appealing presentation (e.g., packaging)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it tasted good	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... other people (my colleagues, friends, family) ate it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was low in calories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was fun to create vegetarian / vegan meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was low in fat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it looked nice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it would be impolite not to eat it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I felt I should absolutely be thin	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... my doctor said I should eat it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... eating it made me feel competent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...it was in harmony with my religious or spiritual views	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I did not want to disappoint someone who was trying to make me happy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was produced in a way which did not shake the balance of nature	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it increased my quality time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it allowed me to spend time with other people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... eating it contributed to my sense of well- being	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it helped reduce negative impacts on poor people in developing countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was not forbidden by my religion or spiritual values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I enjoyed taking the time to taste it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... others liked it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I did not want to be ashamed of how I looked	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it made me look good in front of others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it smelled nice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it cheered me up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it had a pleasant texture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it made social gatherings more comfortable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... doing so contributed to the community as a whole	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I decided to eat vegetarian/vegan food because...	Not at all important (1)	Slightly important (2)	Somewhat important (3)	Very important (4)	Extremely important (5)
... it was social	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I enjoyed finding new ways to create vegetarian / vegan meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... I was expected to eat it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was part of my sense of community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it was quick to prepare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
... it helped me cope with stress	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION 3. Contact information & comments

13) If you would like to be contacted for follow-up, or receive a copy of the final thesis, please provide your e-mail address below.

14) Which of the options would you like to be contacted for? Please check all that apply.

- For follow-up.
- To receive a copy of the thesis

15) Please share your comments with me!

Do you have any comments on the survey? Was it difficult/ interesting?

Do you have any comments on the study?

Thank you for taking my survey! Have a nice day!