TURUN
YLIOPISTO
UNIVERSITY
OF TURKU

CONSUMER PERCEPTIONS ON MEAT CONSUMPTION AND THE POTENTIAL FOR REDUCTION IN FINLAND

Pasi Pohjolainen

TURUN YLIOPISTON JULKAISUJA – ANNALES UNIVERSITATIS TURKUENSIS
SARJA – SER. B OSA – TOM. 666 | HUMANIORA | TURKU 2024

TURUN
YLIOPISTO
UNIVERSITY
OF TURKU

CONSUMER PERCEPTIONS ON MEAT CONSUMPTION AND THE POTENTIAL FOR REDUCTION IN FINLAND

Pasi Pohjolainen

TURUN YLIOPISTON JULKAISUJA – ANNALES UNIVERSITATIS TURKUENSIS
SARJA – SER. B OSA – TOM. 666 | HUMANIORA | TURKU 2024

University of Turku

Faculty of Social Sciences
Department of Social Research
Economic Sociology
Doctoral Programme of Social and Behavioural Sciences

Supervised by

Professor Pekka Räsänen
Department of Social Research
University of Turku
Turku, Finland

Professor Pekka Jokinen
Administrative Studies
Tampere University
Tampere, Finland

Professor Petri Tapio
Finland Futures Research Centre
University of Turku
Turku, Finland

Reviewed by

Professor Minna Autio
Department of Education
University of Helsinki
Helsinki, Finland

Assistant Professor João Graça
Department of Communication and
Information Sciences
University of Groningen
Groningen, Netherlands

Opponent

Professor Annukka Vainio
Helsinki Institute of Sustainability Science
University of Helsinki
Helsinki, Finland

ISBN 978-951-29-9707-7 (PRINT)
ISBN 978-951-29-9708-4 (PDF)
ISSN 0082-6987 (Print)
ISSN 2343-3191 (Online)
Painosalama, Turku, Finland 2024

UNIVERSITY OF TURKU
Faculty of Social Sciences
Department of Social Sciences
Economic Sociology
PASI POHJOLAINEN: Consumer Perceptions on Meat Consumption and the Potential for Reduction in Finland
Doctoral Dissertation, 139 pp.
Doctoral Programme of Social and Behavioural Sciences
May 2024

ABSTRACT

High meat consumption in Finland and other affluent countries poses many sustainability challenges that call for urgent reduction of the current consumption levels. However, the course of development has been the opposite in recent decades; meat consumption has increased strongly and is linked to, among other factors, the rise in the standard of living and the food system's techno-cultural change. Meat has historically held a prestigious position in Western food culture, and modern economic and sociotechnical transitions have greatly enabled the growth of its production and consumption. In recent years, the food system has also seen new approaches that have strengthened the sociocultural status of plant-based foods, and the growth in meat consumption has simultaneously started to slow down. However, meat consumption has not shown signs of a clear downturn in the affluent countries thus far.

This dissertation focuses on consumers' perceptions on meat consumption and the possibilities of reducing it in Finland at the beginning of the 2010s, when new approaches and framings for plant-based foods started to emerge in the food system. This work can be considered pioneering; when the research frames were structured and dataset collected, not much had been published on the subject, making the work, in many ways, explorative by nature.

In more detail, the work concerns what barriers, opportunities, and pathways consumers perceive for potential meat reduction as well as what social and cultural factors can help us understand such phenomena. This is done through sociological lenses regarding consumption, food and eating, environmental perspectives, and nonhuman animals. Detailed research interests include how consumers view meat as an environmental issue, what type of sociodemographic factors and values are connected to perceptions of meat and reducing meat consumption, and how these themes are conceptualized, politicized, and perceived in the context of everyday life. This dissertation takes quantitative and qualitative approaches to study the phenomena with three research articles, each of which offers different angles to increase understanding of the topic.

The research articles' main findings can be summarized as follows. The first research article suggests that although consumers' general awareness of the environmental impact of meat consumption is moderate or low, neutral responses

were the most common in the data, and based on a segmentation approach, several consumer positions seem to relate to the phenomenon. The second research article more generally concerns the barriers to reducing meat consumption, and the results show that such a barrier effect can be seen as a multifaceted concept that various sociodemographic factors and values also determine. The collective social media meat reduction campaign discussed in the third research article—specifically based on the participants' personal experiences—seemed a generally successful promoter of experiments in meat reduction despite the many uncertainties that the participants had initially. Here, the campaign participants' discussion and actions were placed in the context of everyday life instead of a more general-level policy discussion frame.

In sum, this dissertation's results highlight a wide variety of factors that concern the understanding of consumer behavior and determinants behind it as well as various themes of politicization. Therefore, for example, when the challenges underlying the assessment of the environmental effects of meat production and consumption are combined with the multifaceted choice factors of consumption, such bundles emerge in which there are possibly no easy ways to reorient consumer positions into a more sustainable path from the current situation. Such elements are also socially and culturally structured in many ways in which, for example, single policy measures aimed at changing the state of affairs may have limited effects. However, the multiplicity of consumer positions can be seen to pose not only challenges but also opportunities for various policy measures, which could be perceived as acceptable and effective.

As a whole, this dissertation is focused on the beginning of the 2010s in Finland, but meat consumption has not decreased significantly to date, either in Finland or in other affluent countries worldwide. Therefore, this work's findings and perspectives can be considered valuable additions to the understanding of how changes aimed at reducing meat consumption could take place in the future.

KEYWORDS: meat consumption, meat reduction, plant-based diets, environmental consciousness, socio-demographics, values, political consumption, everyday life food choices

TURUN YLIOPISTO
Yhteiskuntatieteellinen tiedekunta
Sosiaalitieteiden laitos
Taloussosiologia
Pasi Pohjolainen: Consumer Perceptions on Meat Consumption and the Potential for Reduction in Finland
Väitöskirja, 139 s.
Yhteiskunta- ja käyttäytymistieteiden tohtoriohjelma
May 2024

TIIVISTELMÄ

Runsas lihankulutus Suomessa ja muissa vauraissa maissa on muodostunut globaalisti monialaiseksi kestävyyshaasteeksi, jonka ratkaisuksi on esitetty selkeää kulutustason laskua nykyisestä. Kehityskulku on kuitenkin ollut viime vuosikymmeninä päinvastainen, kun lihankulutus on kasvanut voimakkaasti kytkeytyen muun muassa elintason nousuun ja ruokajärjestelmän teknis-kulttuurisen muutokseen. Lihaa on toisaalta pidetty historiallisesti jo pitkään arvostetussa asemassa länsimaisessa ruokakulttuurissa, ja nykyaikaiset taloudelliset ja sosio-tekniset siirtymät ovat paljolti mahdollistaneet sen tuotannon ja kulutuksen kasvun. Ruokajärjestelmässä on viime vuosina nähty myös uusia lähestymistapoja, jotka ovat vahvistaneet kasviperäisten ruokien sosio-kulttuurista asemaa samalla, kun lihan kokonaiskulutuksen kasvu vauraissa maissa on alkanut hidastua. Toisaalta lihankulutus ei näytä tässä suhteessa toistaiseksi merkkejä selvästä laskusuhdanteesta.

Tämä väitöskirja keskittyy kuluttajien käsityksiin lihankulutuksesta ja sen vähentämisen mahdollisuuksista Suomessa 2010-luvun alussa, jolloin uudenlaisia tulokulmia ja kehystyksiä kasvipohjaisiin ruokiin voidaan nähdä alkaneen syntyä ruokajärjestelmässä. Työtä voidaan pitää alallaan pioneerihenkisenä, koska tutkimuskehysten suunnitteluvaiheen ja aineistojenkeruun ajankohtana aihepiiristä ei oltu vielä julkaistu sanottavasti tutkimusta, mikä on myös korostanut työn eksploratiivista luonnetta.

Työ tarkastelee, mitä esteitä, mahdollisuuksia ja polkuja kuluttajilla on lihankulutuksen vähentämisen suhteen, ja minkälaiset sosiaaliset ja kulttuuriset tekijät osaltaan määrittävät näitä kysymyksiä. Lähestymistapana toimii sosiologinen tulokulma erityisesti kulutukseen, ruokaan ja syömiseen, ympäristökysymyksiin sekä muunlajisiin eläimiin. Yksityiskohtaisia tutkimusintressejä ovat, miten kuluttajat näkevät lihan ympäristökysymyksenä, minkälaiset sosio-demografisiin muuttujiin ja arvoihin liittyvät tekijät kytkeytyvät erilaisiin käsityksiin lihasta ja lihankulutuksen vähentämisestä, sekä miten näitä teemoja hahmotetaan, politisoidaan ja koetellaan arkielämän kontekstissa. Tässä väitöskirjassa tarkastellaan näitä ilmiöitä sekä määrällisen että laadullisen tutkimusotteen kautta kolmessa eri tutkimusartikkelissa, joista kukin tarjoaa erilaisia tulokulmia ymmärryksen lisäämiseksi aihepiiristä.

Tutkimusartikkelien keskeisimmät havainnot voidaan tiivistää seuraavasti: ensimmäinen tutkimusartikkeli ehdottaa, että vaikka kuluttajien yleinen tietoisuus lihankulutuksen ympäristökuormituksesta on kohtalaista tai vähäistä, neutraalit

vastaukset olivat aineistossa kuitenkin kaikkein yleisimpiä, minkä lisäksi kuluttajaryhmäkohtainen lähestymistavan pohjalta ilmiöön vaikuttaisi liittyvän useita erilaisia kuluttajapositioita. Tarkasteltaessa lihankulutuksen vähentämisen esteitä yleisemmin toisessa tutkimusartikkelissa tulokset viittaavat johtopäätökseen, jossa tällainen estevaikutus voidaan nähdä monitahoisena käsitteenä, jota myös määrittävät erilaiset sosio-demografiset tekijät ja arvoulottuvuudet. Kolmannessa tutkimusartikkelissa käsitellyn kollektiivisen sosiaalisen median lihanvähentämiskampanjan ja siihen liittyvien osallistujien omakohtaisten kokemusten läpikäynnin kautta kampanja näyttäytyi yleisesti onnistuneena lihankulutuksen vähennyskokeilujen edistäjänä osallistujien kampanjan alussa kokemista epävarmuuksista huolimatta. Kampanjan osallistujien keskustelun ja toiminnan painopiste asettui myös selkeän poliittisuuden sijaan arkielämän kontekstiin.

Kaiken kaikkiaan työn tulokset nostavat esiin monenlaisia tekijöitä, jotka koskevat kuluttajakäyttäytymisen ja sen taustalla vaikuttavien tekijöiden ymmärrystä sekä näihin kytkeytyviä politisoitumisen teemoja. Näin ollen esimerkiksi lihantuotannon ja -kulutuksen ympäristövaikutusten arvioinnin taustalla vaikuttavien haasteiden yhdistyessä kulutuksen monimerkityksellisiin valintatekijöihin syntyy kokonaisuus, jota ei välttämättä ole yksioikoisesti mahdollista suunnata kestävämmälle uralle vallitsevasta tilanteesta. Tällaiset tekijät ovat myös monella tapaa sosio-kulttuurisesti jäsentyneitä, jolloin esimerkiksi yksittäiset poliittiset ohjauskeinot asiantilan muuttamiseksi saattavat olla vaikutuksiltaan rajallisia. Kuluttajapositioiden moninaisuuden voidaan kuitenkin nähdä asettavan paitsi haasteita myös mahdollisuuksia erilaisille poliittisille ohjaiskeinoille, jotka koettaisiin sekä hyväksyttäviksi että vaikuttaviksi.

Kokonaisuutena tämä väitöskirjatyö on keskittynyt 2010-luvun alkuun Suomessa, mutta samalla tiedetään, ettei lihankulutus ole toistaiseksi kuitenkaan merkittävästi vähentynyt niin Suomessa kuin muissakaan vauraissa maissa maailmanlaajuisesti. Näin ollen tämän työn löydöksiä ja näkökulmia voidaan pitää arvokkaina ymmärryksen lisääjinä sen suhteen, kuinka lihankulutuksen vähentymiseen tähtäävät muutokset voisivat tapahtua tulevaisuudessa.

ASIASANAT: lihankulutus, lihankulutuksen vähennys, kasvispainotteinen ruokavalio, ympäristötietoisuus, sosio-demografia, arvot, poliittinen kuluttajuus, arkielämän ruokavalinnat

Acknowledgements

In many ways, my doctoral thesis journey has been a long and winding process that has spanned multiple years. During many of these years, I have also been involved in other projects, but I feel that all the experiences and skills gathered by taking these "side paths" have made me feel more experienced and ready to finalize the "main path" as the next step in my research career.

It probably goes without saying that getting to this point would not have been possible without multiple instances and persons who have offered their guidance and support for my work over the years. Foremost, I wish to express my gratitude to my thesis supervisors, Pekka Räsänen, Pekka Jokinen, and Petri Tapio. Their expertise and insightfulness in guiding my work and helping me over various pitfalls and challenging phases has been significant. In particular, Pekka Räsänen has always found suggestions for practical approaches to overcome tricky situations and has been tremendously patient and encouraging in the face of my somewhat contemplative ways of proceeding. I have had many insightful discussions with Pekka Jokinen, and he has challenged my thinking in terms of asking the right type of questions, which has pushed me forward. He has also been a thoughtful co-author and offered me opportunities to work on interesting research projects, which have also been essential for my thesis work in providing research data and many other resources. Petri Tapio has supervised my work as early as my master's thesis phase. Petri's multifaceted yet practical approach to research has greatly supported our joint research endeavors. His contribution in introducing and encouraging me to take first steps into the academic world has also been significant.

I am also grateful to the pre-examiners of this work: Minna Autio from the University of Helsinki and João Graça from the University of Groningen. Their wise and thoughtful comments enabled me to look at my work with fresh eyes and made the final outcome more scientifically robust. I also want to thank Annukka Vainio from the University of Helsinki for being the opponent to my thesis.

Markus Vinnari has not only been a central co-author in my work but also an experienced colleague with whom I have tackled multiple challenging projects and issues when working with animal-related topics. Markus's unique research expertise in this field has not only taught me a lot but also offered me an opportunity to bring

my own, somewhat different, knowledge background to the table. I feel that jointly, our contributions have truly been greater than the sum of their parts. I also want to thank Saara Kupsala for working on a joint project with me in the beginning of my research career and supporting my way to the world of research.

The doctoral research seminars arranged the Unit of Economic Sociology have offered an important venue to develop my thesis, and I want to thank everybody who has commented my work and discussed these topics with me over the years at these events and at the Unit in general. I especially want to thank Jukka Sivonen for many insightful discussions that have helped me take my thinking about my work (and life in general) outside the box, and Iida Kukkonen, who has an elegant approach to research and with whom I have also had a pleasure to work with on a joint project. Along with Pekka Räsänen, Aki Koivula and Kim Holmberg have taken care of leading the Unit of Economic Sociology during my studies, and they have created an atmosphere that has been inspiring and pleasant for conducting research. My thanks also go to the people at the Finland Futures Research Centre, where I had the privilege to work on my thesis and be involved in other interesting projects with researchers of multiple scientific backgrounds.

The Maj and Tor Nessling Foundation, Turku University Foundation, Foundation for Economic Education, and Faculty and the Department of Social Sciences at the University of Turku have all been important funders of my work. Further, the research projects “Politicised animals: The consumer and farm animals” (POLLE) and “Politics, practices and the transformative potential of sustainable diets” (POPRASUS) have supported my work in invaluable ways.

I also want to thank everyone who has been involved in guiding and teaching me in the world of yoga, enabling me to become more closely in touch with my true self. This has also had a remarkable positive effect on my relationship with my thesis process.

Lastly, my deepest gratitude goes to my friends and family for being so supportive over all these years. I wish not to say that I finally did it but that we truly finally did.

April 2024
Pasi Pohjolainen

Table of Contents

Tables

Figures

List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

I Pohjolainen, P., Tapio, P., Vinnari, M., Jokinen, P., & Räsänen, P. (2016). Consumer consciousness on meat and the environment – Exploring differences. *Appetite*, *101*: 37–45.

II Pohjolainen, P., Vinnari, M., & Jokinen, P. (2015). Consumers' perceived barriers to following a plant-based diet. *British Food Journal, 117*(3): 1150–1167.

III Pohjolainen, P., & Jokinen, P. (2020). Meat reduction practices in the context of a social media grassroots experiment campaign. *Sustainability*, *12*(9): 3822.

1 Introduction

1.1 Meat and sustainability challenges

High meat consumption has increasingly been recognized as a sustainability issue in academic research on many fronts, including the fields of environmental and public health studies. The interlinkages between these two approaches have also become more evident (Dasgupta et al., 2021; de Boer & Aiking, 2018; EAT-Lancet, 2019; Food and Agricultural Organization of the United Nations [FAO], 2018).

From an environmental perspective, animals can be considered a rather inefficient means to produce food for humans, requiring a notable share of land, water, and nutrients compared to (nutritionally equivalent) plant-based food production (e.g., de Boer & Aiking, 2018; Godfray et al., 2018). According to the FAO, animal production contributes around 15% of all human-based greenhouse gases (Gerber et al., 2013), and more recent estimates point to even higher numbers than that (e.g., Twine, 2021; Xu et al., 2021). Moreover, one relatively recent evaluation published in *Science* shows that 83% of all global agricultural land is currently used for animal-based production, but only 18% of globally produced calories come from this source (Poore & Nemecek, 2018).

This all suggests that animal-based food production puts major pressure on Earth's ecosystems, causing threats to biodiversity and various vital ecosystem services (Dasgupta et al., 2021). It also underlines the urgent need to find alternative ways to structure food systems to follow a more sustainable pathway, particularly in the affluent Western countries, such as Finland (see also Kaljonen et al., 2022; Pohjolainen et al., 2023).

From another perspective, what threatens the nature surrounding human beings is also problematic for their bodies: high meat consumption has been found to contribute to several public health issues, such as diabetes, cardiovascular diseases, and cancers (EAT-Lancet, 2019; Sanders et al., 2023; Yip et. al., 2018). It is also evident that the depicted environmental threats can cause immense negative consequences for human communities globally, linked not only to the threats of biodiversity loss and climate change as such but also directly endangering adequate food supply and security (Dasgupta et al., 2021; Gerber et al., 2013). Furthermore, when the discussion widens to the role and welfare of nonhuman animals (Köllen &

Schneeberger, 2023; Peggs, 2012), the many-sided pressures and suffering that the current animal-based food systems cause creates a complex web of challenges to tackle.

Evaluation of the causes of such dilemmas indicates that these issues are currently particularly acute in Western countries with high meat consumption levels, which correlates to abundant living standards and affluence (e.g., FAO, 2018; Food and Agriculture Organization Corporate Statistical Database [FAOSTAT], 2023; Mata et al., 2023; Milford et al., 2019). However, as economic prosperity is rising in the other parts of the world as well, addressing and understanding meat consumption is becoming increasingly pressing as a global issue (Milford et al., 2019; Weis & Ellis, 2022). Moreover, even though there are hints of slowing or even curbing consumption trends in this respect in the West, no major decrease has been witnessed to date (FAOSTAT, 2023). Besides economics, various sociocultural and political factors affect the witnessed consumption levels, as will be discussed later.

Further, as the interactions in the food system have grown increasingly global, many important linkages should be considered when discussing sustainable food systems. For example, even though many Western countries are practically self-sufficient regarding meat production, this is often not the case in the market for animal feed, where, for example, the European Union has historically been heavily dependent on imported soy (Kuokkanen et al., 2018; MacDonald et al., 2015). Additionally, it is well known that many environmental effects span national borders, and actions in more affluent countries affect most those well-off populations with less resilience and fewer coping strategies.

This dissertation focuses on consumer perspectives on meat consumption in Finland by looking at barriers, possibilities, and pathways to meat reduction. These include issues of how people perceive meat consumption from environmental perspectives, how is it positioned in everyday life in relation to plant-based options, and what practical possibilities can be found for promoting meat reduction.

Despite focusing on individual views and sentiments, this study places these phenomena in a context of social, cultural, and political factors and thereby suggests ways to understand how consumption is built and upheld in a society. Furthermore, this study also offers perspectives that can contribute to the discussion of sustainable policy implications. It presents these subjects from the perspective of economic sociology with a special focus on consumption and policy issues in the thematic approaches of sustainability, environmental, food, and nonhuman animal aspects.

1.2 History of meat consumption – Focusing on Finland

Concerning the aforementioned sustainability burden that meat poses, it is relevant to ask why and how meat consumption has grown into such a major role in the current food systems. Meat has traditionally been held in a highly valued position among humans, dating back to before the agricultural revolution (e.g., Lieberman, 2013; Spencer, 1993). Meat has most likely provided valuable nutrition in times of scarcity, but reducing its (main) meaning to nutritional aspects might be somewhat of an overstatement. Indeed, the nutritional role of meat was perhaps not always in line with the high cultural valuation linked to the hunting, preparing, eating, and ritual religious sacrifice of meat (Peggs, 2012; Spencer, 1993). Yet, such a correlation might make sense because of it. Moreover, cultural studies suggest how, in various cultural contexts, meat has been often seen through the symbolic meanings of masculinity, power, and human superiority over nature whereas vegetarian foods have been linked to contrasting low-value profile dimensions associated with femininity, weakness, and passivity (e.g., de Backer et al. 2020; Fiddes, 1991; Peggs, 2012; Salmen & Dhont, 2023). Therefore, meat versus plant-based food consumption potentially also reflects gender roles and other cultural dimensions.

When one focuses on the European and Western context, the combination of scarcity and valuation has historically defined humans' relation to meat, which started to change to a larger extent no earlier than during the modern industrialization era, also marking a significant shift in meat production and consumption (e.g., Braudel, 1992; Franklin, 1999; Leggett & Lambert, 2022).

Here, it is relevant to focus particularly to Finland. During the end of the 19th century, Finland was by contemporary European standards a rather poor, sparsely populated agrarian country. People's diet consisted mostly of wheat and barley, complemented by some vegetables, milk, and cured fish. Meat was rare and more of a luxury item than staple for most of the population; in other words, meat was highly valued but rarely available (Kylli, 2021; Sillanpää, 1999).

Moving toward the 20th century, Finland suffered grave famines during 1866–1868, which decreased the total population size by up to 8% (e.g., Häkkinen, 2012). The food system was heavily dependent on favorable climatic conditions for grain yields with limited resilience in the context of challenging northern conditions, which could greatly distort food supply. However, global markets for food products had started to develop, which began to enable large-scale grain imports. During this nexus, the Finnish food system was steered toward animal-based options as there was no longer a perceived need to produce all the grains domestically. This meant focusing particularly on dairy farming, which was seen as a reasonable option to utilize grass pastures. In addition, perhaps most importantly and backed by agro-technological development and political support, butter in particular became a

product that could not only be consumed domestically but also exported (Kylli, 2021; Sillanpää, 1999). In other words, as the development of transportation systems and global food markets started to enable grain imports in greater magnitudes, the transition to more animal-based food systems became viable in Finland.

During the 20th century, Finland increased the self-sufficiency and efficiency of food production further, yet the country was still strongly an agrarian, less well-off society in the Western context after World War II. However, Finland started to develop rapidly into an affluent and urbanized Western country that was also able to produce food more efficiently, cheaply, and abundantly—including various animal-based products that had already been highly valued for a long while (Kylli, 2021; Sillanpää, 1999). Therefore, there was also a major transition in meat consumption patterns during this period (see Figure 1).

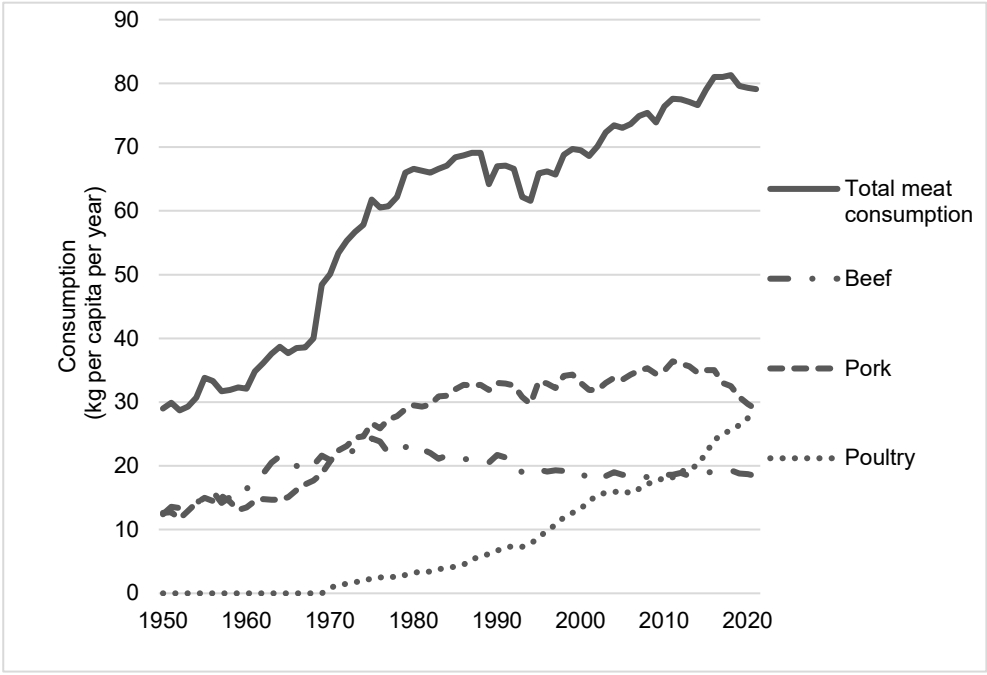

Figure 1. Meat consumption in Finland from 1950 to 2021 (Luonnonvarakeskus [Luke] 2022)

However, more detailed perspectives should be pointed out in this context. First, meat consumption is not a monolith but includes various meats that have had varying roles during the last decades (see Figure 1). Second, even though meat consumption showed increase in Finland from the 1950s onward, during the 2010s, the increase in total consumption may have started to level out; the peak year was 2018. Third, and related to something that the consumption figures do not show, the storylines

and framings connected to meat consumption seemingly started to change during the 2010s. To explore this third perspective in particular, it is useful to consider not only the past decade but also the longer historical narrative and discuss the role of plant-based foods and vegetarian and/or vegan diets in Finland.

There are two major discussion points in this respect. For most of its history, Finnish food culture has been low in animal-based foods, particularly meat, mostly due to the limited availability of such products in the past, as discussed above (see also Kylli, 2021; Sillanpää, 1999). This has also meant that many of the traditional foods were heavily based on grains and vegetables. In contrast, strictly vegetarian diets became a trend at the beginning of the 20th century among the urbanizing population linked to, among other factors, Eastern spiritual ideas circulated by theosophical and other alternative movements that, in many cases, framed vegetarian foods as an ideal alternative to cultivate physical and mental well-being and overall personal growth. However, in the temporal context of an agrarian and poor society, this trend never became mainstream, and it was ultimately practically forgotten in the midst of the World Wars (Anttonen & Vornanen, 2016; Kylli, 2021). Nevertheless, it perhaps left a memory on which such elements were able to be built anew later on (see also Campbell, 2008).

The second coming of vegetarianism in the 1960s was related to the emergence of counterculture and environmental movements, again mostly among certain urban and educated groups. The main difference from the first wave was perhaps a greater emphasis on environmental and ethical questions compared to more personal motives of bodily and mental purification and health. Yet, they shared the same framing of counterculture and marginalization, and they were never able to develop as a phenomenon for wider audiences (e.g., Anttonen & Vornanen, 2016; Spencer, 1993). Campbell (2008) also explained how this counterculture movement's political aspirations started gradually to individualize after the 1960s and therefore perhaps did not facilitate the wider acceptance of plant-based food. Additionally, as affluence was growing after World War II at the same time that long-valued animal-based foods were increasingly available, it was hard to see any viable option for such a megatrend in food culture to take place (see also Lang & Heasman, 2015; Swatland, 2010).

The next disruption of such developments was witnessed during the 1990s, when curbing of total meat consumption was connected to economic constraints in Finland (recession) and likely to some of the health scares linked to animal production, of which most notable was perhaps bovine spongiform encephalopathy (Anttonen & Vornanen, 2016; Franklin, 1999). These were ultimately surpassed, and the steady growth continued again in the beginning of the 21st century. However, within the last 10 years or so, new developments have again emerged as certain cumulative phenomena have started to arise. This can be seen as stemming largely from environmental issues, but other perspectives have been involved as well.

As mentioned, environmentalism featured heavily in the counterculture during the past decades, but environmental concerns and related public discussions have only reached wider audiences concerning food issues during the 21st century. In that field, the role of animal-based options did not receive much publicity among consumers or other actors (discussed in more detail in Section 2.2.1). The environmental question in the agricultural sector had long been framed in Finland as particularly concerning the conservation of traditional agricultural biotopes and the quality of water (and the linked threat of eutrophication) as the key issues (Ruuskanen et al., 2022). These can be considered major threats as such, and the related issues have yet to be solved, but the issues of global climate change and biodiversity loss that can threaten life on Earth much more profoundly were linked to public discussions much later.

It is not easy to pinpoint exactly what has changed, but if one considers academic discussions on the topic, certain studies and framings started to gain a new type of publicity: for one, the Intergovernmental Panel on Climate Change (IPCC) reports started to emphasize the threat of global warming even more profoundly, and they gained more popularity along with more popular style publications on the subject (e.g., Kaaronen & Pulkka, 2022; Klein, 2014). Moreover, linking environmental threats more closely to economic discussion (e.g., Doughnut Economics by Raworth [2012]), and public health (e.g., Ecological Public Health by Lang and Rayner [2012]), or more broadly, the sustainability frame in innovative ways (Planetary Boundaries by Rockström et al. [2009]), seemingly increased public and political discussion around these issues. Additionally, more closely to the subject, the FAO's report on livestock emissions in 2006 by Steinfeld et al. has been considered the first such report on that institutional level, which has also claimed to have raised controversies due to its radical nature in that context (see, e.g., Neslen 2023, October 20).

These effects are also exemplified in some more practical solutions in the food system, such as the FAO's report on insects in 2013, representing various sustainability possibilities for creating production and consumption anew. What soon followed was a start-up boom around the issue, anticipating revised legislation on novel foods in the European Union in this case, which ultimately allowed the market sales of insects for human consumption for the first time in 2018 (An official website of European Union law and other public documents of the European Union [EUR-Lex], 2021).

Further, and particularly concerning the Finnish food system, nutritional recommendations acknowledged the negative health effects of red and processed meat for the first time in 2012, based on Nordic recommendations, which set the limit of maximum weekly intake to 500 grams per person (see "Nordic Nutrition Recommendations", 2012). Additionally, for the first time, these recommendations

included explicitly the environmental frame in addition to the public health one—a perspective that has since been further elaborated (see Blomhoff et al., 2023).

Finnish public school catering saw its first vegetarian day initiative in Helsinki in 2013, which came along with controversial political discussion. However, the proposed changes to the school meal plans were not completely new as such, but more of an extension of those that had already been developed successfully. Additionally, after the initial resistance, more positive feedback started to accumulate (see, e.g., Lombardini & Lankoski, 2013).

The same year also witnessed a novelty social media meat reduction campaign called Meatless October, which received much more positive feedback compared to the discussed vegetarian day initiatives. Local television celebrities started it to raise awareness of environmental and public health issues (see also Pohjolainen & Jokinen, 2020). Where Meatless October focused on meat reduction, more recent social media campaigns and phenomena around vegan foods have gradually surpassed it in popularity, further widening the scope to target more comprehensively different animal- and plant-based products (see, e.g., Laakso et al., 2021; Santaoja & Jallinoja, 2021).

Common to all these phenomena is their aim to extend plant-based food consumption to those consumers who would like to experiment with plant-based foods but have, for one reason or another, been uncertain how to do so without making major compromises regarding issues such as taste, convenience, price, and availability. In other words, these frames have, to some extent, enabled structuring consumption anew, often representing aspects such as playfulness, convenience, hedonistic traits, and trendiness instead of more marginal, political frames that have been more common in the past, hence, also reframing political consumption (see a more detailed discussion in Section 2.2.3).

Overall, during the 2010s, veganism started to become a trendy lifestyle choice, further breaking the marginal, political frame that had been traditionally linked to it. The rise of social media, segments of vegan-minded celebrity culture, and the wider media sphere in general regarding meat and plant-based foods all supported this trend (see, e.g., Gheihman, 2021; Jallinoja et al., 2019; Lundahl, 2017).

The 2010s also saw an array of new market products developed as alternatives to animal-based products. There were not only some technically new approaches, which brought the texture and taste to resemble more closely the animal-based products, but also new frames and emphasis for marketing to reach wider audiences than vegetarians or vegans. Finally, a local approach utilized ingredients that have had a strong role in Nordic food culture, such as oats and faba beans, in innovative ways. Pulled oats were a pioneering product in this respect in 2016, and similar products soon followed (Vaskelainen et al., 2022). In the dairy sector, the same type of development took place, particularly with fluid milk, led by oat milk products,

and it was linked to a simultaneous longer-term decrease in animal-based fluid milk consumption (Autio et al., 2023; Lonkila & Kaljonen, 2021). Moreover, further market expansion is expected based on, for example, the growing research and innovation input in the field as well as growing consumer interest toward more radical novel solutions, such as products from cellular agriculture (e.g., The Good Food Institute [GFI], 2023; Leung et al., 2023; Pohjolainen et al., 2023).

These changes have made public debates on plant-based foods and vegetarian and vegan diets more interesting and open to consumers and citizens (Jallinoja et al., 2019). In other words, these foods' positive cultural significance has strengthened while the food environment has become more supportive of such choices, potentially enabling experimental consumers to embrace more diverse pathways to increase the consumption of plant-based foods (e.g., Jallinoja et al., 2019; Pohjolainen & Tapio, 2016). At the same time, more emphasis has been placed on discussing meat reduction, often framed as de-meatification or flexitarianism, instead of the sharp dichotomy between vegetarian or vegan and meat-based diets, suggesting that the choice of food would not be a matter of following either marginal or normative practice but could be many things in between (e.g., Lonkila & Kaljonen, 2021; Mäkelä & Niva, 2016; Pohjolainen & Tapio, 2016; Weis & Ellis, 2022).

Three notions are important to state here. First, as discussed, plant-based foods are not historically a new phenomenon in the Finnish food culture, but quite the opposite when one looks at historical consumption figures (see Figure 1). Second, the recent vegetarian boom has not significantly altered the level of meat consumption. There has seemingly been a switch from pork meat to poultry, but not to plant-based products to the same extent, as total meat consumption has remained more or less constant (see also Erkkola et al., 2022). Hence, despite the new framings and openings discussed above, plant-based dishes cannot still be considered (one of) the main staple(s) in the food environment but tend to have a more marginal role in this respect (Manners et al., 2020). Third, there is discussion pointing out how the biggest media and cultural trend hype around plant-based foods in Finland might already be passing, and the long-term effects of this phenomenon are thus far mostly unknown (Vaskelainen et al., 2022).

To conclude, one can claim that some new types of seeds—or old, already forgotten ones—were planted into Finnish food culture during the past decade. In the context of this doctoral thesis, the most interesting questions could concern into which type of ground these seeds were placed and what type of growth actually followed. Put in a less poetic manner, in the following, the focus is turned more specifically to consumers' everyday life perspectives.

1.3 Consumer perspectives on meat reduction

In consumer surveys, vegetarian foods have typically not been evaluated as practical, tasty, effortless, or familiar choices, and consumers typically cite these factors as key barriers for increasing plant-based options to their diets in Finland and in Western countries in general (e.g., Fehér et al., 2020; Stoll-Kleemann & Schmidt, 2017; Vainio et al., 2016).

However, questions about the sustainability and ethics of meat production and consumption have gradually gained social ground and increased consumer interest, exemplified also by the above-depicted changes in the food environment during the 2010s. Here, a new, critical consumer image has been rising, in which social and political–moral agency is increasingly concerned with individuals' consumption choices (e.g., Jallinoja et al., 2019; Soneryd & Uggla, 2015; Wahlen & Laamanen, 2015). During the 2010s in particular, critical views on meat consumption were increasingly connected to various public debates on ethics, public health, environmental policies, and the general well-being of humans and nonhuman animals (e.g., Jallinoja et al., 2019; Koskinen, 2024; Sanches-Sabate & Sabaté, 2019).

Yet, this framing has not been reflected in total meat consumption figures, as discussed above—a phenomenon that has also been referred to as the meat paradox (Loughnan et al., 2010; Oleschuk et al., 2019). In this setting, consumers typically experience meat products in a positive light, but they also have begun to attach sustainability problems to production, which are not necessarily activated in the context of consumption, partly due to selective role activation (see de Boer & Aiking, 2017; Gabriel & Lang, 2015; Kwasny et al., 2022; Randers & Thøgersen, 2023; Thorslund & Lassen, 2017). This perspective hence suggests that existing consumption patterns tend to resist change.

It might be idealistic to state that modern consumer images would somehow be something other than controversial, complex, and even paradoxical. As Gabriel and Lang (2015) have presented, it is far easier to detect various framings, be them possibilities or constraints, that consumer images carry, from citizen, activist, hedonist, and other roles than the reverse. Hence, an interesting question could then become which factors are linked to each other and in what ways they structure consumers' actions.

In this context, various sociodemographic factors are connected to consumption choices and place individuals in various positions in this respect (e.g., Konttinen et al., 2021; Lehikoinen & Salonen, 2019). Consumers can also grouped based on sustainability-relevant matters, such as personal relationships and attributes to eating, or environmental aspects that can be conceptualized in diverse ways (e.g., Hartmann & Siegrist, 2017; Kemper et al., 2023; Lehikoinen & Salonen, 2019). On this basis, it can be assumed that the relationship between consumers and the

consumption of meat and plant-based foods is ambiguous and requires closer examination to reveal the factors underlying macrolevel consumption trends and differences between consumer groups.

One can also look at overall values, which have steered toward equality, environmentalism, and other universalistic traits in the longer term, whereas meat has gradually started to lose its symbolic special value and has instead become more of an everyday staple (Franklin, 1999; Peggs, 2012). However, meat's position at the heart of food culture has not been threatened, and it has begun to bear new meanings of practicality and health (Fehér et al., 2020).

Furthermore, the emergence of social media and new social movements have enabled new experimental platforms and consecutive learning processes for adopting novel ways of eating (Jallinoja et al., 2019; Pohjolainen & Jokinen, 2020; Pohjolainen & Tapio, 2016). In this respect, for example, grassroots civic campaigns can act as a new type of politicizing space, through which it is possible to build breaking points into established ways of consumption and to learn new forms of everyday activities. Examples of such changes are various meat reduction campaigns (e.g., Jallinoja et al., 2019; Laakso et al., 2021; Marletto & Sillig, 2019; Pohjolainen & Jokinen, 2020; Sengers et al., 2016) and the vegetarian food days launched in schools (e.g., Graça et al., 2022; Kaljonen et al., 2019; Lombardini & Lankoski, 2013).

Overall, there seem to exist tensions and even a mismatch between food aspirations concerning meat and plant-based foods, and simultaneous sustainability policy needs to find practical solutions to understand better the stagnant meat consumption figures. This is the thematic context to which this dissertation contributes by taking an economic sociology perspective, looking at how consumption could be better understood from social and cultural perspectives, incorporating discussions from the sociology of consumption, studies of sustainable consumption, the sociology of food and eating, and nonhuman animals as well as environmental sociology.

1.4 Research task

This article-based doctoral dissertation brings forth perspectives that can increase the understanding of consumers' expertise, thinking, and roles in the food system in Finland concerning perceptions on meat and the potential for reduction during the 2010s. Academically, it belongs to economic sociology, which investigates economic phenomena from social and cultural perspectives, as well as other sociological subfields related particularly to the issues of politics, environment, food and eating, and nonhuman animals.

The dissertation focuses on the interactions between factors behind meat consumption using quantitative and qualitative methodological approaches. Hence, practical cases can be seen as pieces of a puzzle that structure a picture contributing to the research field with some novel aspects. These approaches can be condensed to the following research aims and frames:

- What barriers, possibilities, and pathways do consumers acknowledge concerning meat reduction?
- How do social and cultural factors help to understand such approaches?

Here, as mentioned, three individual empirical articles function as tools with which the two presented research interests can be investigated and discussed. These practical approaches can be specified as follows:

1. How are environmental perspectives on meat consumption and production reflected in public views (contributions from Articles I and III)?
2. How are various sociodemographic factors and values connected to public views on meat (contributions from Articles I and II)?
3. What constructs and politicizes meat reduction in an everyday-life context (contributions from Articles II and III)?

The first two articles are based on a survey with a representative sample (n = 1,890) of Finnish citizens. The first article looked at consumers' environmental consciousness concerning meat production by exploring possibilities for consumer segmentation, while the second one studied the perceived barriers to plant-based diets and their sociodemographic and value dimension determinants. The third article was based on blog content by 10 bloggers (141 blog posts in total) in the context of a grassroots meat reduction campaign called Meatless October. These selected bloggers were campaign participants, and the study aimed to investigate how they perceived the campaign month from political and everyday life perspectives. Hence, by combining quantitative and qualitative research approaches, this doctoral thesis constructs holistic views on the subject matter in the Finnish context.

The following parts of this dissertation represent the background for selecting the aforementioned empirical approaches (Chapter 2), the methodology (Chapter 3), main findings from the articles (Chapter 4), and finally, some theoretical and practical discursive implications and concluding remarks (Chapter 5).

2 Background

This thesis particularly concerns various framings and perceptions that consumers consider relevant in making meat consumption choices. In many ways, this work can be considered theoretically and methodologically explorative as well as empirically driven, yet it places these phenomena in the context of individual, social, and cultural factors and policy discussions around sustainability. Moreover, the academic fields of sociology of consumption, food, eating and nonhuman animals, and the environment and sustainability can be considered to resonate particularly with this work's research focus. These fields are discussed as the contextual multidisciplinary setting in Section 2.1 whereas the conceptual and empirical literature more tightly linked to the empirical work of this thesis is presented in Section 2.2.

2.1 Multidiciplinary context

2.1.1 Sociology of consumption

This dissertation belongs to the field of economic sociology, which focuses on economic phenomena from sociological perspectives. In line with this broad definition, there are no strictly defined theoretical grounds that are shared in economic sociology because the research themes, topics, and methods vary greatly, depending on the research interest in question (Fligstein & Dioun, 2015; Haas, 2020; Smelser & Swedberg, 2005). However, according to Haas (2020), almost all economic sociologists share the two following standpoints: "The first is an appreciation of power, culture, and institutions, which economists downplay or ignore. The second is 'embeddedness,' the centerpiece to Granovetter's criticism of economic theory and its insistence that humans are atomized individuals" (p. 9). Here, 'embeddedness' refers to the concept that market behavior cannot merely be understood from the perspective of economic transactions but as something that is connected to yet not determined by the networks of personal relations (see Granovetter, 1985). These outlines are also central to this dissertation's approach, hence the axiom that will be elaborated further in a specific context of a subfield of economic sociology, namely sociology of consumption.

Shortly put, sociology of consumption has a sociological focus on understanding phenomena concerning consumption in its various forms (e.g., Halkier et al., 2017; Warde, 2015). It has stemmed from the need to understand better consumption in an all-encompassing way, emerging in recent decades as a certain counterforce to the early history of research focusing on consumer behavior, which traditionally has taken various forms and content. Indeed, consumption has historically been studied in economics, marketing, and psychology; therefore, it has its theoretical base firmly in framings that emphasize atomistic individual-actor positions as well as quantitative system modeling, which together underline rational cognition, behavior, and economic transactions in the marketplace instead of various social meanings, identities, emotions, and everyday uses of consumer products and services—these latter being perspectives that have been given only secondary, contextual attention, if at all (see, e.g., Gabriel & Lang, 2015; Haas, 2020).

The important point to make here is that the individual and rational actor has been taken as a core starting point for the analysis in the aforementioned classical research tradition. It is obvious that such an approach creates very different perspectives on the phenomenon of consumption and the framing and positioning of consumers in the society compared to traditional sociological perspectives that concern the roles of class, power, status, communities, and rituals, to mention a few. Therefore, consumption has typically not been an explicit framework in classical studies because the question of consumption has not been, for a long part of history, relevant in the first place. In other words, a wealthy, individualistic consumer society is a rather recent historical phenomenon, and not only material possibilities for consumption but also its role in building identity, lifestyle, activism, and other political goals have changed vastly (see, e.g., Rey & Ritzer, 2012; Warde, 2017).

However, there were early exceptions, such as Thorsten Veblen (1899) and Georg Simmel (2005), who can be considered scholars with more explicit research interest in consumer culture. In addition, more recent examples are the critical studies of the Frankfurt school as well as the structural anthropological studies of the 1960s and 1970s, which have further enriched the ways consumption can be framed and understood (see, e.g., Gabriel & Lang, 2015; Halkier et al., 2017; Warde, 2017). However, according to Warde (2015, 2017), a greater research stream emerged focusing on consumption emerged in the 1980s in sociology as part of the cultural and linguistic turn in sociology and social sciences, including approaches linked to various cultural images, identities, social networks, and habitual practices, just to mention a few (Belk, 2017).

Despite all these various contributions, or maybe because of them, the core of the sociology of consumption cannot be defined easily (e.g., Halkier et al., 2017). However, the discussion of building such conclusions grew during the 2000s with suggestions of what could be the main cornerstones of the research field. Warde's

(2010) suggestion has been brought up frequently as an important one in this context (e.g., Evans, 2019; Halkier et al., 2017). He stated that the sociology of consumption included three main approaches, referring to the perspectives of which sociocultural circumstances and settings consumption took place (acquisition), how consumed items became part of everyday life (appropriation), and what types of cultural meanings they received in individual and social settings (appreciation; Warde, 2010). Halkier et al. (2017) also added a fourth one to this list, addressing the process of ditching various consumer items (disposal).

Consumption can also be framed in various ways, reflecting the wide theoretical and methodological assumptions and reference points with which this research operates. According to Halkier (2017), these can be roughly divided into four categories: consumption as behavior, identity, cultural dynamics, and part of social configurations. The first typically refers to structured, quantitative modeling of consumer behavior, the second and the third commonly to qualitative research on meanings that are attached to consumption, and the fourth to various material settings that structure consumption in everyday life.

The presented typologies function as some types of general frames in the field. When looking at the differences in their recent emphasis, it is interesting to note that the material "practice" turn that can be seen to have a clear perspective on the social-configurations approach became a major theoretical emphasis in the sociology of consumption during the 2000s, focusing on the invisible and habitual everyday behavior and placing the unit of action in processes (e.g., Shove et al., 2012; Warde, 2017). However, this has recently been criticized as a too narrow-minded focus on studying consumption as a whole because it overemphasizes certain perspectives while leaving others out (e.g., Evans, 2019; Jacobsen & Hansen, 2021). These notions suggest that the emphasis on the material has gone too far at the expense of seeing the importance of issues such as social roles, identities, consumption as communication, and the very idea of having the individual subject as a meaningful actor of the reality, referring strongly to viewpoints that have been lost when the cultural turn has been sidelined (Watson, 2017).

However, this critique can be inversed as well by stating that those following the cultural approach have perhaps been unable to detect the mundane and invisible practices in focusing on symbols, meanings, and active identity work, pointing out that these research traditions could be seen more as complementing than competing approaches (see also Warde, 2017). Indeed, new conceptual formulations seem to have started to emerge in recent discussions, incorporating aspects that have been seen as somewhat sidelined in the practice theory research stream, such as incorporating the concepts including culture, social interaction and structures, and ethical consumption (Gram-Hanssen, 2021; Halkier, 2020; Jacobsen & Hansen, 2021; Welch et al., 2020). However, the material turn has seemingly not had as

strong an influence on the sociology of consumption in the U.S. context as on to the European one, suggesting the research on issues such as various forms of capital and the role of identities and cultural consumer images as well as the consumer as an identifiable research subject have not really fully withered in any period (e.g., Rey & Ritzer, 2012; Warde, 2017).

Additionally, what might be common for all the approaches in the sociology of consumption is the will to understand consumerism not just as a mere individual–rationalistic economic transaction in the marketplace but also utilizing and living with consumed items with all the meanings and sociomaterial factors linked to these processes. Therefore, although the presented sociological approaches have clear differences regarding the importance they place on these various factors, they make a greater distinction in atomistic economic models of rational and individual consumer subjects.

From another perspective, Evans (2019) criticized how the sociology of consumption rarely addresses more profound macrolevel issues of ecological crisis and therefore is unable to question the very meaningfulness and ecological consequences of modern consumer culture. This can relate to the discussions of whether people should be framed and seen as consumers in the first place, potentially excluding discussions of humanity, citizenship and human subjectivity, and value in general (e.g., Gabriel & Lang, 2015; Salonen & Konkka, 2015). However, boundaries are hard to set, and the analysis of consumerism can easily spread to other fields of human existence and roles in (modern) societies, such as citizenship and political activism (Gabriel & Lang, 2015). Therefore, the question becomes not where to draw the limits of the realm of consumption but how consumption is combined with these other aspects. This is particularly relevant in the context of this dissertation, in which discussions of environmental and political perspectives of consumption as well as human–nonhuman animal relations are key perspectives. Moreover, the special approach for understanding consumption comes close to these discussions.

Therefore, considering the sociology of consumption often overlaps with other fields of social sciences that study consumption, one can ask whether there needs to be a common theoretical approach to consumption outside the specific research subfields (Halkier et al., 2017). This also suggests that it would be meaningful to more closly explore some of the contributions from certain subfields of sociology, particularly the sociology of food and eating, the sociology of nonhuman animals, and environmental sociology. Furthermore, studies of sustainable consumption, in which connotations for sociology have often arisen even in a minor role (e.g., Evans, 2019), mark an important discussion point in the context of this doctoral thesis and are discussed in the following sections.

2.1.2 Sociology of food, eating, and nonhuman animals

The sociology of food and eating comprises a rich tradition that combines various perspectives (Halkier, 2020; Holm, 2013; Murcott, 2019; Poulain, 2017; Warde, 1997). Food is a special consumption category in that it not only carries cultural meanings and connotations but is also a bio-physical part of human existence in one way or another. Therefore, even though food consumption can have a multitude of meanings and outcomes in societies, its place cannot be fully erased or questioned, unlike many other consumption categories. However, this is paradoxically something that hindered the early historical formulation of sociology of food consumption as a scientific field in the first place (Poulain, 2017).

Indeed, these studies took off historically relatively late, partly due to the Durkheimian paradigm of focusing studies on social facts and excluding perspectives with bio-physical connotations (Poulain, 2017). Although food was featured in many early 20th-century anthropological studies, it was more likely to be seen as an indicator of other social phenomena than a focus of interest (Holm, 2013; Poulain, 2017). However, later, it grew into a rich research field focusing on understanding food's usage and place in societies. Many have also increasingly stated that reducing food to certain categorical facts, be they bio-physical, cultural, social, or technological, is ill-fitting for incorporating the essence of food choice and eating. In other words, there are always biological, ecological, and technological constraints, and these frame what humans can produce and consume, but no culture has ever considered all that can be eaten as food (Poulain, 2017). Therefore, it comes ultimately to cultures, values, and social understanding of what is edible and inedible as well as what positions and meanings food receives in society.

However, as Fischler (1988) pointed out, food is literally assimilated as one with bodies and bio-physical systems, which means it also penetrates personal psychological spaces and therefore incorporates special values and meanings that often carry cultural connotations and significance. By making these processes visible, the sociology of food and eating can enhance the understanding of issues such as why and how people consume the things they do, which is not always seen from the outside of the socio-psycho-cultural systems that dictate such practices. With these lines of thought, the sociology of food encourages a closer look the origins and determinants of various cultural meanings, rules, norms, and values behind food choices as well as social and cultural stratification concerning them (see also Sections 2.2.2 and 2.2.3) in various political settings (Section 2.2.4).

As aforementioned, consumption can happen in multiple phases (acquisition, appropriation, appreciation, and disposal), and one can find their rough equivalents in the realm of food, in which consumption takes place on multiple occasions: first in people's minds, then on the supermarket shelfs, and then through preparation in

the kitchen, after which it is ready for the act of eating, in addition to which something is usually also left unused and requires disposal.

Another essential perspective on food consumption concerns the macro-level sociotechnical arrangements in food systems and how they help us understand food consumption at the micro level—a perspective that is vital in this dissertation's context as well. This means in practice acknowledging the major transitions that have occurred in the food environment during the historical industrialization process and how it has reconstructed relations to food (Bryant et al., 2013; Lang & Heasman, 2015). In other words, although the bio-physical elements of human evolution have seen no major changes in recent millennia regarding nutrition, the same cannot be said about the sociocultural dynamics (Lieberman, 2013). Indeed, food is a prime example of a consumption category that has transformed through the rise in living standards, which have increased the forms consumption can take. This has meant more spaces and possibilities for individuals and destructuration of existing norms and cohesive structures of food cultures (Fischler, 1988), seen in the many modern food phenomena, such as gastroanomy, McDonaldization, neo-tribes, and the emphasis on local, traditional food (e.g., Poulain, 2017; Warde, 1997).

These discussions that were prevalent during the 1990s and part of the cultural turn in social sciences have been interpreted to mean that food environments have become less homogenized and stable, increasing consumption that can be framed as a part of lifestyle instead of necessity, and having made predicting and understand various consumer consumption choices and cultural mixes more difficult (Warde, 1997, 2015). In contrast, food is a consumption category that is in many cases routinized and structured, in which, for example, cultural meal patterns and eating times still dictate strongly what, where, and when food is eaten (e.g., Holm, 2013; Murcott, 2019; Watson, 2017). Therefore, the perspective that dilutes structures and traditions around food seem somewhat overestimated. Warde (1997) argued that modernism would not make such parts of food cultures disappear but rather enable new ways of acting and living in foodspaces that can exist alongside the old ones.

Food cultures have indeed diversified in this respect during recent decades: the rise of global eating patterns, multiculturalism, the popularity of eating out, food representations in social media, food as a free-time activity, and food as culinary entertainment in the form of celebrity chefs and reality television series and the like have undoubtedly become an everyday cultural staple of current times, so to speak. However, this all does not necessarily mean that certain structures and patterns of eating would disappear, for diversification does not automatically mean that some cultural forms would be eroded. In addition, the lifestyles between and within consumers have diversified, as exemplified in the research on various food practices and their social and cultural connotations (e.g., Holm, 2013; Murcott, 2019) (see also Section 2.2.2). Here, it is sufficient to conclude that understanding food consumption

is often a context-specific task, as is discovering what types of structures and factors are present and how individual subjects perform in them.

The role of food as a research focus was not for long a self-evident issue for sociological studies, and regarding nonhuman animals, the matter is more complicated still because the sociology of nonhuman animals has been established rather recently and is not fully matured in all academic aspects (Carter & Charles, 2018; Peggs, 2012). Traditionally, for example, environmental sociology and its framings of nonhuman realms have not given explicit attention to animals as nonhuman subjects (Koop-Monteiro, 2021). This all is often traced back not only to the Durkheimian frame discussed above but particularly to the Meadian influence concerning symbol interactionism, in which animals have not been acknowledged for their ability to master the symbolic, linguistic dimension, not forgetting the wider argumentation around human exceptionalism; therefore, animals have been considered unsuitable for sociological analysis (e.g., Carter & Charles, 2018). However, one could argue that claiming agency should not be tied to subjects' (mental) capabilities and that the mere importance and influence that nonhuman animals have for human societies can be seen as a fact that makes them a part of sociological analysis (Carter & Charles, 2018; Peggs, 2012).

For the purposes of this doctoral thesis, this discussion is placed into the context of food and eating and therefore focuses on production animals and meat consumption. One can claim that the question of animals in connection to meat-eating practices is self-evident and therefore hardly necessitates much analytical thought; however, the opposite seems true because sociologists have freequently discussed the gradually weakened link between these two concepts in societal practices, which have their roots in the critical theories of the 1960s that connected industrial animal husbandry to exploitative human action toward nonhuman nature (Franklin, 1999; Koop-Monteiro, 2021; Peggs, 2012).

These processes have been traced back to the industrialized meat production chain, expanding the material and symbolic distance between production and consumption because animals are killed and processed outside the consumption realm and increasingly presented as processed commodities in the marketplace with little resemblance to their animal origin (Franklin, 1999; Peggs, 2012). This has taken place simultaneously with the civilization of societal manners (see Elias, 1994) and growing empathy toward various nonhuman animals and more widely in increased universalistic values, in which the circle of actors worthy of ethical concern has widened (Peggs, 2012; Salmen & Dhont, 2023; Schwartz, 1992). Combining these two perspectives, by consuming meat, consumers do not increasingly need to connect the mental image of an animal to the consumed product; therefore, any potential cognitive dissonance that may otherwise occur stays dormant (see also the discussion on the meat paradox in Section 1.3). The growing unease

that consumers have with industrial meat production practices and the growing meat consumption trends exemplify this (e.g., Kwasny et al., 2022; Oleschuk et al., 2019; Thorslund & Lassen, 2017). In the context of this dissertation, this opens up an interesting discussion on addressing animal subjects in consumers' meat consumption choices, which is further elaborated in Section 2.2.4 in the discussion of the politization of consumption.

2.1.3 Environmental sociology and sustainability studies

Another essential disciplinary approach in this dissertation is linked to the topics of environment and sustainability. Growing knowledge of the unsustainability of particularly Western lifestyles has increasingly also meant that the issue somehow needs to find its way into the studies of consumer behavior. Indeed, academia has seen a remarkable rise in studies focusing on sustainable consumption over the past 30 years, reflecting the growing policy interest and practical urge to find solutions and an increased understanding of societal processes considered critical for controlling and solving the ecological crisis that humankind is currently causing and facing (e.g., Evans, 2019; Reisch & Thøgersen, 2015) as well as issues related to social equity and human well-being (e.g., Watson, 2017), not to mention the role and treatment of nonhuman animals, as discussed above (Köllen & Schneeberger, 2023; Peggs, 2012).

Interestingly, and probably expectedly, these approaches include several scientific fields, from economics and marketing, psychology, and studies of sociotechnical systems all the way to cultural studies and semiotics (e.g., Geels et al., 2015; Reisch & Thøgersen, 2015). One of the main contributions of sustainable-consumption studies has been the clarification of consumers' readiness for environmentally sound choices and the various determinants that steer their actions. These have particularly been common research interests in economics and psychologically oriented research, such as marketing, in which the focus has especially been on individuals' cognitive processes and sense-making, including various values, attitudes, knowledge, emotions, habits, and routines, and what types of various financial incentives or other measures might be useful to increase individual resources to become stronger sustainability agents (e.g., Haider et al., 2022). Being valuable as such, these approaches have also been criticized for missing more macro-level and structural factors that could be relevant for a better understanding of how consumption occurs (Bode & Askegaard, 2017; Watson, 2017).

Additionally, the myriad ways sustainability can be conceptualized leave room for various types of thematic and ideological framings, reflecting how studies of sustainable consumption can become a contested field (Lorek & Vergragt, 2015).

However, major and minor research frame flows in this respect are detected and are exemplified by the fact that the marketing approach has long dominated the academic research on consumption in general, which has been heavily criticized for serving mostly the macroeconomic target of growth and therefore unable to take more critical perspectives on environmental crisis (Giesler & Veresiu, 2014; Lorek & Vergragt, 2015). In this context, according to Watson (2017), "Commonly, consumption is considered as 'sustainable' where it involves purchase of a product or services which is somewhat less environmentally damaging that whatever is taken as 'normal'" (p. 344).

Some have also noted that what has been framed as sustainable consumption has traditionally had rather light connotations from sociological perspectives (Evans, 2019) although this has gradually started to change (see, e.g., Welch & Warde, 2015). However, sociology has strongly contributed to discussions of environmental questions in the field of environmental sociology, developed from the 1970s onward as a means to incorporate the realm of the environment into a societal context and to discuss its importance and relationship in this respect (e.g., Catton & Dunlap, 1978; Lockie, 2015; York & Dunlap, 2019). However, this tradition has remained somewhat unattached to consumer studies, focusing more on policy perspectives and macrolevel structures of ecological crisis (e.g., Evans, 2019; Rieger & Schor, 2021). Behind this is an argument according to which focusing on consumption is less important and even harmful for understanding and seeking solutions for environmental problems because it can emphasize a pathway that is neither viable nor relevant for making significant changes to address the current environmental crisis (Huddard Kennedy, 2020). Moreover, individuals have not been seen as powerful agents of change in the ontological sense when macroeconomic structures and policy processes are framed as the ultimate motors of societal changes and stability (e.g., Rieger & Schor, 2021).

However, research on sustainable consumption often does not have a strong postulate for framing consumption as an all-encompassing solution in this respect but more often to show what could be some of the key practical resources and possibilities that consumption as a tool for environmental policy action can present, thereby increasing the understanding of the phenomena, which arguably plays a major role in modern societies. In other words, the many layers of embeddedness, lock-ins, and path dependencies are essential perspectives that could open up discussions on the limits and possibilities of consumption in a wider policy context (e.g., Keller et al., 2017; Reisch & Thøgersen, 2015).

From another perspective, there is a rich tradition in environmental sociology of studying citizens' perceptions of various environmental issues under concepts such as environmental concern, consciousness, and proenvironmental behavior (Dunlap & Jones, 2002), linking here discussions of political responsibility and consumption

(Huddard Kennedy, 2020) as well as social and cultural inequalities in those matters (Rieger & Schor, 2021). These concepts and their empirical applications are discussed in more detail in the following section because they are some of the key perspectives that resonate with this dissertation's empirical objectives.

2.2 Positioning the research articles: key conceptual and empirical literature

The key conceptual and empirical literature that is relevant in the context of the research articles in this doctoral thesis are discussed in the following subsections. They relate to the study of public environmental views (Section 2.2.1), meat consumption attributes, barriers to reduction, cognitive embeddedness and sense-making in public views in the context of various social and cultural factors (Section 2.2.2), and the incorporation of the discussion of policy perspectives into personal space though responsibilization and other related concepts (Section 2.2.3).

The function of this discussion is to summarize the wide array of research that has been conducted roughly during the past decade or so on the subject and in this way contextualize and facilitate the empirical research that has been implemented in the articles in this thesis, for which the datasets date back to the beginning of the 2010s. However, because academic literature on the topic concerning various perspectives on understanding meat reduction is currently accumulating and expanding rapidly, this dissertation does not claim to incorporate all the (most recent) discussions in this respect.

This discussion is further reflected in Chapter 5 (Discussion and Conclusions). The detailed theoretical discussions that structured the research frames of this thesis's empirical work can be found in research articles I, II, and III.

2.2.1 Public environmental views on meat

Although environmental sociology has typically not been emphasized at the individual level but in various social and cultural factors of production and consumption, including marketplaces, policy frames, and so on, there are academic discussions that contribute more straightforwardly to the individual-level research approaches that play a major role in this dissertation. One of the most significant relates to the question of individual perceptions of environmental issues, which has been discussed frequently in the fields of psychology, marketing, and other behavioral sciences focusing on individual cognition and action. This is framed most often using terminology that includes concepts of environmental consciousness, concern, or awareness (see, e.g., Franzen & Mader, 2021; Golob & Kronegger, 2019; Preisendörfer & Diekmann, 2021; Sánchez & Lafuente, 2010). One of the links to

sociological discussions arises in understanding individuals as part of a wider societal context; that is, seeing how individuals navigate environmental issues is linked to various societal concepts, such as social movements and networks, politization, responsibilization, forms of knowledge and action, and so forth (see, e.g., Rieger & Schor, 2021; Weeth Feinstein, 2020).

In the field of environmental sociology, individual perspectives have traditionally been believed to consist of three major elements of psychological spheres, cognitive, affective, and conative, representing rational and emotional approaches as well as intention to act, that is, the realm of behavior (e.g., Dunlap & Jones, 2002; Preisendörfer & Diekmann, 2021; Sánchez & Lafuente, 2010). This is based on the assumption that individuals are not mere rational beings even though the rational element that includes knowledge and understanding of environmental questions and problems is essential in the process. Additionally, without the emotional level and the element of concern that it arouses, there would be no incentive to evaluate the rational element as important. Finally, without intention and willingness to act, rational and emotional elements would have little effect the very issues they are addressing in the world.

That said, it is worth acknowledging there is no wide consensus on specific empirical ways of measuring individual environmental perceptions or specifically how they would be best operationalized in particular research contexts. However, there seems to be a rather well-shared understanding that it is essential to incorporate the aforementioned elements in some way because they represent the concept's key perspectives (e.g., Dunlap & Jones, 2002; Franzen & Mader, 2021; Golob & Kronegger, 2019; Preisendörfer & Diekmann, 2021; Sáncehz & Lafuente, 2010). Moreover, there can also be room for additional elements that enrich the aforementioned palette, such as the dispositional dimension, which would cover perceived personal norms of action as well as perceived self-efficacy (e.g., Sánchez & Lafuente, 2010).

From an empirical perspective, as aforementioned, there is great fluctuation in the quality and quantity of public environmental views, depending on themes, contexts, framings, and measurement approaches (see, e.g., Pohjolainen et al., 2021). Another interesting research issue here is the focus on the connections between elements of a wider conceptual approach, in other words, how cognitive, affective, and conative dimensions are relatively positioned. Researchers in social sciences have typically found a significant attitude–behavior gap among individuals in this respect, suggesting that research on this matter may have limited practical implications regarding finding viable solutions to environmental problems (e.g., ElHaffar et al., 2020).

However, considering the aforementioned fluctuation in public views, focusing on a specific context may reveal a more robust connection than some other instances

(e.g., Preisendörfer & Diekmann, 2021). Therefore, it can be even harder to predict the outcomes in this respect, emphasizing the important role of specific empirical research settings; in addition, previous research does not point out that such connections would be fully nonexistent (e.g., Franzen & Mader, 2021).

From a broader policy perspective, studying public views is essential to increase our understanding of public readiness and the ability to address such issues; therefore, it is important regarding policy and can contribute to discussion of such matters as policy responsibilities in societies (Franzen & Mader, 2021; Weeth Feinstein, 2020). In other words, there is hardly a reasonable way to discuss various actors' roles and responsibilities when addressing environmental problems if the various aspirations, mindsets, and states of readiness are unknown.

For the purposes of this doctoral thesis, the following discussion will focus on the role of meat consumption in the context of sustainable food choices based on the existing empirical literature on the subject, incorporating the aforementioned conceptual discussions into this context.

The literature has often focused on contextualizing meat consumption with other consumer behavior concerning (sustainable) food consumption choices, based on, for example, the evidence from the meta-analyses of Hartmann and Siegrist (2017), Sanches-Sabate and Sabaté (2019), and Stoll-Kleeman and Schmidt (2017). Here, the focus has been on the conative element of environmental views, in which the public often considers changing meat consumption habits one of the least favored and significant forms of environmentally friendly action. In comparison, measures such as decreasing food waste, purchasing items with less packaging, and favoring local and organic products are more favored actions (Hartmann & Siegrist, 2017; Sanches-Sabate & Sabaté, 2019; Stoll-Kleeman & Schmidt, 2017). These can also be seen as different strategies in the efficiency-sufficiency -continuum, in which the former strategies can be seen as interfering less with existing ways of consumption whereas the latter would require more drastic changes (e.g., Princen, 2005). Dagevos & Voordouw (2013) discussed similar types of issues in the context of meat consumption with the concepts of weak and strong sustainable consumption.

However, without the other elements of environmental views here (i.e., cognitive, affective, dispositional), these studies give rather limited information on the role of individual views on consumption choices. Regardless, it is interesting to note that measures that are more favored typically tend to be the ones that do not require major changes in one's consumption habits but can be seen as a way to enhance the efficiency in the food system and avoid issues of sufficiency, which would mean more profound changes to the current state of affairs (see, e.g., Lorek & Vergragt, 2015).

Researchers have also specifically explored the cognitive element of consumers' environmental views on meat, focusing on problem awareness. Their studies suggest

that the proportion of the population that considers meat production a major environmental problem vary roughly from one fifth to one third. Therefore, these figures can be interpreted as non-negligible although they represent a minority of the population (Hartmann & Siegrist, 2017; Sanches-Sabate & Sabaté, 2019; Stoll-Kleeman & Schmidt, 2017). However, again, many of these studies do not provide detailed information on how cognitive problem awareness would be connected to affective or dispositional elements, let alone conative elements, even though this could be essential to understanding consumer positions better.

Some studies that have used the segmentation approach (see more detailed discussion on segmentation in Section 3.2.1) reveal that some consumer groups are highly conscious of these issues and some are completely unaware of them, but most of the population might be somewhere in between with more mixed profiles (e.g., Götze & Brunner, 2021; Vanhonacker et al., 2013). Indeed, meat consumption profiles and motives are seemingly divided in this respect as well as in those segmentation studies that have not measured the elements of environmental consciousness on meat but focused on other food consumption motives and meat alternatives (e.g., Dagevos, 2021; Dagevos & Voordouw, 2013; Knaapila et al., 2022; Lemken et al., 2019; Nevalainen et al. 2023; Niva & Vainio, 2021; Silfver et al., 2023; Spiller & Nitzko, 2015). Moreover, there is evidence that interventions aimed at activating the discussed elements separately have been noticed to affect conative elements and the behavior for some individuals, at least in the short term (see, e.g., Harguess et al., 2020; Kwasny et al., 2022).

Overall, it is worth noting that environmental consciousness does not define consumers' meat consumption, not only because its role in this process is somewhat questionable, but also, other elements can be more essential in this respect. These topics are discussed further in the following section.

2.2.2 Meat consumption attributes

Many factors open up perspectives to enhance our understanding of consumption as a phenomenon, and they can focus on issues such as cultural norms and conventions, political structures, interests in food systems, macro-level determinants of consumption, identities and social meanings, and mundane everyday practices. It is also worth acknowledging the definitions consumers make and evaluate. The latter perspective is often regarded as a more individual-level approach to the subject whereas the former can be considered more structural and macro-level perspectives. In practice, these can be understood as a continuum, in which structural factors are always negotiated and formulated in everyday life settings and individuals can frame their choices in various ways, also linked to various social and cultural norms, identities, and roles (see, e.g., Jacobsen & Hansen, 2021). Therefore, when

evaluating the field, one should be cautious of neither atomizing nor oversocializing such phenomena (see, e.g., Granovetter, 1985).

From the consumer perspective, there is growing evidence of attributes that consumers consider essential that define their meat consumption choices. These can also be figured from the studies that have focused on barriers to reducing meat consumption because they are qualities that plant-based foods lack that would make them a viable alternative to meat. These perspectives are typically linked to taste, nutritional value, familiarity, and convenience (e.g., Fehér et al., 2020; Stoll-Kleemann & Schmidt, 2017) and something that can be considered cultural normality (Oleschuk et al., 2019; Paddock, 2017; Wendler, 2023). This latter perspective emphasizes that plant-based foods are seen as marginal because a vegetarian option is not perceived as a default choice in a food environment in which meat eating is easily taken for granted. In this way, individual-level attributes are also typically linked to more structural and cultural factors, or put another way, widening the research perspective makes them more understandable.

Piazza et al. (2015) condensed these various themes into the concept of the "four N's" (natural, normal, necessary, and nice). Moreover, in this context, it is not surprising that merely providing individuals with knowledge of, for example, harmful effects of meat consumption rarely changes consumption without considering other cognitive, social, and structural factors (Harguess et al., 2020; Kwasny et al., 2022).

However, acknowledging these categories and discussions conceptually and practically in more detail is less straightforward because the empirical framings and theoretical approaches are so manifold. For example, there is growing evidence that a notable share of consumers are interested in meat reduction, which could be classified under the frame of flexitarianism. However, defining in detail the magnitude and quality of such transitions is often complicated due to the subjective nature of the term and the various food consumption patterns that it could entail (e.g., Dagevos & Voordouw, 2013; Halkier & Lund, 2023; Schösler et al., 2012).

From another perspective, and as discussed in Section 2.1, consumption choices consist of a multitude of psychological and sociocultural factors, such as emotions, values, routines, social norms and expectations, and sociodemographic factors. Therefore, to understand how meat consumption attributes are perceived and shaped in practical settings, the effect of these underlying concepts should be noted. These issues are discussed further in the following.

Food consumption, to a large extent, is a routinized consumption field that various cultural values, conventions, and norms shield and often do not change easily (e.g., Holm, 2013; Murcott, 2019). This suggests it is important to study factors that create such continuums to understand better the ways consumption occurs in a society.

Focusing on the role of sociodemographics in framing consumption can be seen as a classical sociological approach opening some of the key topical interests, such as the role of class and gender. Recent decades have seen a shift away from quantitative sociology, first by the wave of qualitative cultural studies and later focusing on the material and mundane consumer practices, as previously discussed. However, the quantitative-research stream has never disappeared even though its position and framing in the research field has somewhat changed. According to Warde (2015),

> […] analysis of levels, patterns, and social differentiation continued [in the 2000s] as national and international agencies increased the rate and scope of surveys of expenditure for purposes of monitoring population, industrial production, and standards of living. Sociologists continued to use these surveys to map the structure and change in distribution of material resources between socioeconomic and sociodemographic groups. (p. 124)

This quote also conveys that sociology is not the only discipline that is interested in this research approach. For example, regarding the thematic field of food consumption, there is a certain practical and political interest in structural differences between consumers in various public-health studies (see, e.g., Valsta et al., 2017). Furthermore, inequality has been a common theme within in environmental sociology (e.g., York & Dunlap, 2019), not so much in the consumption context but in a more general societal frame, as discussed in Sections 2.1.3 and 2.2.1.

Moreover, interest has emerged in these type of factors that define practices in sociology (e.g., Gram-Hanssen, 2021; Halkier, 2020). The rationale here is that practices are understood and performed differently based on the social and cultural factors that create differing approaches to what it means, for example, what one does with broken household appliances, how they cook food, or how they consume meat (see, e.g., Paddock, 2017).

It is important to place these perspectives in context because sociodemographic factors can in many cases be associated with sustainability-related consumption and behavior, but as Frederiks et al. (2015) stated concerning residential energy consumption, "[…] these associations are not always substantial, straightforward or consistent, making it difficult (and certainly more difficult than is typically assumed) to draw definitive conclusions across studies" (p. 597). Therefore, these factors do not determine such phenomena but perhaps frame them in ways that can make them more understandable. In other words, their effect should be neither over- nor underestimated, as discussed above.

Regarding sociodemographic differences and having an interest in vegetarian and/or low-meat diets and foods, the strongest effect is often found regarding gender,

where there is a link to females (see, e.g., Hartmann & Siegrist, 2017; Lehto et al., 2022; Ruby et al., 2012; Valsta et al., 2017). Meat consumption has often been linked to masculine ethos and identities. Men are positioned as preferring food that is believed to symbolize strength and virility, which are linked with the social family norm and the male breadwinning role, whereas wives have traditionally been supposed to prepare meat dishes for their husbands (e.g., De Backer et al., 2020; Sobal, 2005). Some authors have also stated that this symbolism can be extended to relations with nature. By eating meat, men have positioned themselves as dominant over other species, dating back to the (often) male-dominated hunting traditions of hunter-gatherer cultures (e.g., Adams, 1990; Fiddes, 1991). However, a more modern ethos has emerged in discussions on how masculinity is not monolithic but contains various cultural images that can contest the more traditional framings of the issue (De Backer et al., 2020; Sobal, 2005).

Plant-based alternatives tend to also be more commonly endorsed by younger people and those with higher education in Finland and other Western countries (see, e.g., Hartmann & Siegrist, 2017; Lehto et al., 2022; Ruby et al., 2012; Valsta et al., 2017). However, the effect of age can seemingly be either positive or negative in this respect (Graça et al., 2019). There is also some indication that living in an urban setting and having a higher socioeconomic status in general (not only the effect of education but also potentially factors such as income and/or occupation) are connected to these themes although their effect is less evident than the previously mentioned factors (Graça et al., 2019; Stoll-Kleeman & Schmidt, 2017). Further, the role of household type is seemingly clearly less studied in this context. Regarding environmental consciousness connected to meat consumption, the effect of gender is similarly evident, but the presence of any other sociodemographic variable is not very clear (e.g., Sanches-Sabate & Sabaté, 2019).

Values can generally be seen "as something directly attached or ascribed to preferred objects and […] as (enduring) beliefs or conceptions that construe something as preferable or desirable" (Thome, 2015). Yet in more detail, the study of values can include a wide variety of conceptual approaches in the sociological field (Thome, 2015); simultaneously, it has been claimed to be, theoretically, even an underdeveloped concept in this context (Hitlin & Piliavin, 2004). A major empirical and theoretical contribution in this respect can be found in (social) psychology (see, e.g., Rokeach, 1973) and perhaps particularly later from the work of Shalom Schwartz, whose approach also suggests that various value dimensions could be considered strongly as universal, structural phenomena that can be found across cultures (see, e.g., Schwartz, 1992). These can be classified as self-trancendence, self-enhancement, openness to change and conservation. In addition, values have also been believed to have linkages with various sociodemographic factors (Hitlin & Piliavin, 2004).

The effect of various values on meat reduction intentions may not be particularly strong, but the literature suggests they could work as important mediators or mindsets that make individuals more open to new information supporting meat reduction (e.g., Graça et al., 2015; Kwasny et al., 2022; Stoll-Kleeman & Schmidt, 2017). In other words, evidence showed that those appreciating more self-transcendent values–such as equality, environmentalism, or animal welfare–and openness to change, might be more open to considering meat reduction and/or vegetarian practices if the food environment allowed for such experimentation. This links the discussion to the discrepancy between consumer and citizen roles and the related cognitive dissonance and meat paradox (see Sections 2.1.3 and 2.2.3). Furthermore, those with stronger values based on self-enhancement, such as status, hierarchy, power, and success, or those with conservative views could be less susceptible to such measures, a trend that has also been found in ecofeminist studies (e.g., Salmen & Dhont, 2023). As discussed, all of these value dimensions are shown to be relatively universalistic (e.g., Schwartz, 1992), yet their connection to various views and behavior is more a matter of an empirical context (Hitlin & Piliavin, 2004).

2.2.3 Political frames in meat consumption

As mentioned in Section 2.1.1, framing people as consumers is a strong methodological and ontological statement for research. It can steer focus one-sidedly into the market environment, which can easily exclude some perspectives of existence that could be essential for understanding the very behavior these studies wish to address. One central aspect here concerns the political dimension, which has classically been thought of as a realm separate from consumption. However, with the (post)modern consumer image, new types of definitions of this concept can emerge. This raises a question about the interplay between the political and economic fields as well as roles and role expectations, which are linked to responsibilization, in which the boundaries between consumer and citizen positions can easily become mixed and blurred in ways that call for a closer empirical analysis (e.g., Evans et al., 2017; Gabriel & Lang, 2015; Johnson & Weiler, 2021; Soneryd & Uggla, 2015).

The use of animals as meat (and for other purposes) has traditionally become politicized through social movements that have emphasized their (weak) moral status (Gheihman, 2021; Peggs, 2012). However, as issues of consumption and individual choices related to identities and lifestyles have gained more popularity in society and research since the 1990s, some have stated that social movements have increasingly started to incorporate hybrids of consumer subject positions meshed with more traditional views of political activism and citizens' consecutive roles and responsibilities, simultaneously making new, fluid, and rapidly emulating structures

(e.g., Wahlen & Laamanen, 2015; Warde, 2015). In this context, current discussions about vegan foods indicate lifestyle movements in which the importance of consumption, aside from merely political, is strongly present (Gheihman, 2021; Jallinoja et al., 2019; Lundahl, 2017).

This means that lifestyles do not sacrifice issues of status, aesthetics, and pleasure for the sake of politics but use the ethical approach to support and enhance other dimensions, making it hard or even impossible to make clear-cut distinctions between hedonistic behavioral traits and the perspective of political confrontation (e.g., Pecoraro & Uusitalo, 2013; Sassatelli, 2015). On the other hand, Weis and Ellis (2022) see this demarcation as potentially relevant in that this lifestyle approach, and what they call "capitalist veganism" may mask other unsustainable practices in the food system if it is framed as an ultimate solution in this respect. Overall, there might not be silver bullets here, but a more important question could be whether such practices can offer opportunities that could challenge meatification in the first place and catalyze the process that could in turn take on other, theretofore unknown forms once the major consumption trends start to change.

Taking a step back here to look at the matter from a slightly different perspective reveals how discussing sustainable policy measures can go beyond atomized individual and market economy frames and the positions of citizen and consumer. Initiatives have been classically categorized as top-down and bottom-up, referring to policies that either established policy institutions or third-party organizations lead, the latter being based on the actions of active and voluntary individuals. There is no consensus on which policy strategy and formation would be ideal and most effective in this respect because each approach has its pros and cons and should be seen in the very practical context in which it occurs (e.g., Green et al., 2014; Scoones et al., 2015).

There have not been particularly strong policy measures to date aimed at meat reduction (in Finland or in other countries). The existing ones have mainly been structured around national nutritional recommendations, which have rather recently started to address consumption of red and processed meat products. Further, media discussions on the environmental burden that meat production causes have increased over the past decade, yet practical changes have taken place somewhat in the public view, clearly in the market supply but rather sparsely in what would be classified traditionally as policy approaches. In this context, when something has been done, it has taken more of a bottom-up type of approach. For example, some municipalities have been active in increasing vegetarian days in schools and other public catering instances, utilizing the 'nudging' strategy (e.g., Jallinoja et al., 2019; Kaljonen et al., 2019; Lombardini & Lankoski, 2013; see also Section 1.2).

Therefore, being not merely an individual or general cultural (celebrity) trend but utilizing the fluid possibilities that the Internet offers, various social media-based

groups and campaigns have encouraged individuals to experiment with vegetarian and vegan practices, utilizing the playful lifestyle approaches described above (Jallinoja et al., 2019; Laakso et al., 2021; Morris, 2018; Pohjolainen & Jokinen, 2020; Santaoja & Jallinoja, 2021). In this context, bottom-up approaches are linked to the concept of a niche, which can be defined as a typically grassroots-level laboratory that works as a safe space for new practice experimentations (see, e.g., Lorek & Vergragt, 2015). Hajer and Wagenaar (2003) approached this thematic field by discussing the concept of new political spaces. This all also conveys how individualistic and psychological factors in many cases may not be sufficient for behavioral changes but can be overcome by such nudging (e.g., Preisendörfer & Diekmann, 2021).

Despite these new possibilities and openings, it is ultimately an empirical question whether they can successfully build new consumer practices and/or other things relevant to defining consumption. There is evidence of the effectiveness of various sociocultural interventions in consumption in the form of, for example, store and restaurant nudging and health monitoring (Kaljonen et al., 2019; Kwasny et al., 2022) and regarding the context of new political spaces and lifestyle movements (Laakso et al., 2021; Morris, 2018; Pohjolainen & Jokinen, 2020; Santaoja & Jallinoja, 2021). These are further discussed in the context of the third article of this dissertation in Chapter 4 and Section 5.3.

3 Methodology

3.1 Data and measures

The data and measures utilized in this thesis are presented in Section 3.1 and the analytical methods in Section 3.2. Lastly, ethical considerations are considered in Section 3.3. Table 1 summarizes the research articles' conceptual frames and methodological approaches.

The overall epistemological approach of this thesis reflects the aim of making sense of consumers' rationalization of their consumption choices and preferences in everyday life settings. In addition, it is an investigation of the interlinkages among these views and the groupings that consumers form and concerns some of the factors that can be seen as correlating with such phenomena. Therefore, this approach meshes a hermeneutic approach with scientific realism, in which the consumer views are considered social constructions that can be further elaborated through utilized analytical methods.

Table 1. Summary of the research articles' data and methods: conceptual approaches, focus, and methodology

	Article I: Consumer consciousness on meat and the environment—exploring differences	Article II: Consumers' perceived barriers to following a plant-based diet	Article III: Meat reduction practices in the context of a social media grassroots experiment campaign
Key concepts	Environmental consciousness, problem awareness, support to action, efficiency–sufficiency	Determinants for barriers for meat reduction, sociodemographics, values, meat consumption frequency	Political consumption, experimentation, grassroots initiatives, social media, everyday life
Specific research questions	RQ1. What type of problem awareness consumers have on the subject? RQ2. What sustainability strategies are preferred in giving support to actions?	RQ1. What is the prevalence of the different perceived barriers to following a plant-based diet? RQ2. Are the sociodemographic factors, value domains and consumption frequencies associated with consumers' perceived barriers to following a plant-based diet?	RQ1. How are the campaign frame and meanings for new food choices discussed? RQ2. How are these choices constructed in everyday life?
Data	Representative survey sample on Finnish population (n = 1,890)	Representative survey sample on Finnish population (n = 1,890)	Participants' blog narratives
Methods	Descriptives, cluster analysis	Descriptives, principal component analysis, multiple regression	Qualitative content analysis

3.1.1 Survey data and measures

The data for Articles I and II come from a postal survey sent to a representative sample (n = 4,000) of Finns aged 18–75 in Spring 2010. It was conducted as part of the research project on consumer perceptions of farm animal welfare in Finland (see, e.g., Kupsala et al., 2011; Vinnari et al., 2013). The author was an intern in the project

during that time and was able to include in the questionnaire one page of questions covering issues regarding meat consumption and environmental aspects regarding meat production. This part was utilized for this dissertation together with the background variables, which consisted of sociodemographic factors and value dimensions measured in the survey (see also Section 3.2). The author was also responsible for the practicalities of data collection.

A postal survey can be an effective instrument to acquire a general overview of the topic of interest, with its underlying determinants and a statistical representative sample of even larger groups (see, e.g., Lehdonvirta et al. 2021). In this case, because neither barriers to meat redcution nor environmental consciousness regarding meat had been studied extensively, particularly in the Finnish context, a survey is an effective instrument to map the issue at the population level in Finland. A downside of this approach is the structured formulation of research frames that do not enable the respondents to position the research themes freely in their own terms. However, this can be partially overcome by combining the quantitative approach with qualitative research settings (see Section 3.1.2), which can extend and complement the research frame.

The survey was 10 pages long. Two reminders were sent to those not responding in time. There were 15 respondents in the original sample who were not reached for *force majeure* reasons, making the final sample size 3,985. The number of received answers was 1,932. There were 39 responses that had to be excluded from the analysis because they were incomplete. Additionally, three answers were lost in the mail. Therefore, the final number of responses was 1,890 (47.3% response rate), which is relatively good considering a declining trend in survey response rates in the social sciences (e.g., Baruch & Holtom, 2008; Kalton, 2012).

The sample's sociodemographic profile was compared to the national averages acquired through Statistics Finland, showing a slight overrepresentation of females, older respondents, and those with higher education, in addition to which were some minor regional differences. However, all of these differences ranged from 1–6% across the data and therefore created no major skewness. Moreover, a closer analysis of the nonresponses showed there was relatively little missing data concerning individual questions, ranging from 0–5% across the survey. Based on this information, statistical weighting of the data was not used in the analysis.

All the main statements used in in this thesis were measured on a Likert scale ranging from 1 ("strongly agree") to 5 ("strongly disagree"). Measures for the background variables are depicted in detail later in this section.

For Article I, the formulation of statements was loosely based on the previous literature regarding environmental consciousness (see Section 2.2.1), but because there was limited research on the specific subject, the detailed operationalization of problem awareness and solutions was also explorative in nature. This said, the aim

was to cover some of the most essential environmental issues that meat production and consumption can be connected to as well as their perceived severity and to construct a scale from efficiency to sufficiency that would cover various potential solutions to these issues (see Section 2.2.1).

First, three statements on environmental awareness in connection with meat consumption and production were measured. These were also used as clustering variables for the analysis (see Section 3.2.1).

- "Meat production strengthens climate change significantly more than plant production."
- "Meat production causes eutrophication significantly more than plant production."
- "Food production causes significant environmental problems."

Additionally, five statements regarding support to action in the context of environmental consciousness regarding meat production and consumption were utilized to study the variation between the clusters discovered. One of them measured self-efficacy:

- "I can make a difference in environmental issues with my food choices."

The other four focused on solutions for the environmental issues concerning meat, arranged to depict an efficiency–sufficiency scale (see Section 2.2.1).

- "Technical development will solve the environmental problems related to meat."
- "By favoring Finnish meat, one can significantly cut the environmental effects of meat production."
- "Organic meat is a very environment-friendly product."
- "Meat consumption should be lowered for environmental reasons."

Further, a set of sociodemographic statements and classifications was used to analyze the differences between clusters, which were also utilized in Article II (see a more detailed description below).

Survey data were utilized in Article II as well. There was (a limited) opportunity to include statements in the survey regarding meat consumption choices. Four statements on meat consumption were used to study the perceived barriers to following a plant-based diet as dependent variables. These represented the main thematic fields that consumers typically perceive as central for consumption choices involving meat products (see Section 2.2.2). The statements were formulated as follows:

- "Eating meat is very enjoyable."

- "Meat is a nutritionally necessary component for humans."
- "I prefer foods with which I am familiar."
- "It is harder to prepare good vegetarian foods than meat ones."

For the independent variables, questions about sociodemographics, value dimensions, and meat consumption frequencies were utilized in the survey.

The sociodemographic and economic factors in the survey included gender, year of birth, place of residence, marital status, type of household, number of persons living in the household, education, occupation, and household income per month. The scales were collapsed to some extent for analysis purposes (see in detail Articles I and II). Moreover, marital status and number of persons in the household were ultimately excluded because both were theoretically and empirically less central and interesting factors. Household income was not utilized in the analysis because it proved to be an unreliable variable when the data was compared to population averages. Additionally, a question about the presence of a vegetarian family member or a vegetarian friend in one's social surrounding was presented in the survey, and it was treated in the analysis as an independent variable because it closely resembled sociomaterial settings instead of an attitudinal barrier to plant-based diets (measured on a Likert scale from 1 ["strongly agree"] to 5 ["strongly disagree"]: "At least one of my friends or family members is a vegetarian").

The statements concerning values covered thematically the dimensions utilized in other studies on the subject (e.g., Graça et al., 2015; Kwasny et al., 2022; Stoll-Kleeman & Schmidt, 2017). They were measured with the question "How much do you value the following issues?" on a Likert scale, in which the extreme responses were "value very much" and "do not value at all." The questionnaire covered 10 values in total ("gender equality," "Finnish culture," "religion," "achieving high social status," "individual freedom," "social justice," "the rights of sexual minorities," "environmental protection," "home region," and "high income").

Meat consumption frequency was measured using an ordinal variable on a seven-point scale ("How often do you eat meat products [for example: chicken, pork, or beef but no fish; these include meat products, such as cold cuts]?"): "daily," "5–6 days a week," "3–4 days a week," "1–2 days a week," "1–3 times a month," "less than once a month," or "never." The measurement of (meat) consumption in this manner is always a rough estimate of actual consumption levels, and a more accurate study in this respect would require of the use of a food diary or the like. Partially based on this and the low frequencies of the lower meat consumption end of the scale, we collapsed the three categories in the lower meat consumption frequency end of the scale into one category, creating a 4-point ordinal scale.

All the utilized sociodemographic, value, and meat consumption frequency variables and consecutive scales are presented in detail in Articles I and II.

3.1.2 Blog data characteristics

The dataset for Article III came from blogs concerning individuals' participation in a social media meat reduction campaign (Meatless October).

Blogs are a suitable tool for studying people's everyday life experiences that occur without the researcher's intervention, and due to their public nature, they are easily available for research, creating a potential data source to study political consumption in everyday life surroundings (e.g., McKee & Porter, 2008; Sánchez-Villar, 2019). Generally, social media platforms generate much content in this respect, yet they have been criticized as somewhat superficial, particularly regarding policy issues, falling into something called "slack-activism" (e.g., Kaaronen & Pulkka, 2022). In this context, blogs potentially offer deeper, narrative-like content that is not as susceptible to such pitfalls (e.g., Sánchez-Villar, 2019), so they are valuable for depicting everyday life settings in an experimentation context.

The data collection process started with a preliminary document search through Google in 2015, after which the framing was soon set to the available blog content for the reasons discussed above. Through a snowballing technique, more blogs were found after the initial search, based on the textual references and comment sections. The first criteria for choosing blogs for the analysis was the presence of freely formulated descriptions of personal participation in the campaign. Additionally, to study the nature and approaches of the experimentation process, only those participants were included who were relatively regular meat eaters, and they had to have blogged about their experiences during the entire month, including at least the beginning and some in the middle as well as conclusive reflections of the campaign. This narrowed the final number of blogs in the analysis to 10.

The blogs differed in style, length, and frequency of posts. Themes in the blogs included cooking, wellness, and beauty as well as more undefined topics, pointing overall to the realm of lifestyle. All the bloggers provided some initial remarks that clarified their motives, and some included personal background information about participating in the campaign, everyday experiences during the month, and conclusive reflections on it all by the month's end. No valid information on the bloggers' sociodemographic profile was available because the data were based solely on subjective blog descriptions that were also partially anonymous; however, the data show signs of representation of various genders, types of households, and places of residence, among other aspects, for the sake of heterogeneity in the sample.

Three of the bloggers blogged daily whereas the rest posted weekly or slightly more often. Only those posts that concerned the campaign were included in the analysis, resulting in 141 analyzed blog posts. The blog posts' lengths varied from a few sentences to several pages, typically containing personal experiences, recipes, and food pictures. Recipes and pictures were not included in the final analysis.

3.2 Analysis

Articles I and II utilized quantitative data and methods: cluster analysis was conducted in Article I (see Section 3.2.1) and principal component analysis and multiple regression analysis in Article II (see Section 3.2.2). Article III was based on a qualitative approach with qualitative content analysis (see Section 3.2.3).

3.2.1 Segmentation and cluster analysis

To explore the magnitude of as well as connections and differences between the elements of environmental consciousness regarding meat consumption (see Section 2.2.1), the consumer segmentation approach was chosen for the analysis. This perspective has classically been utilized in business studies to structure specific marketing messages, among other (commercial) objectives (e.g., Leisch et al., 2018). However, it can be considered an interesting sociological tool, too, in revealing differences in ways that other methods do not encapsulate similarly (Amine & Smith, 2009; Leisch et al., 2018).

At the same time, it is good to acknowledge that segmentation always creates a simplified version of reality that cannot fully describe the fluidity and complexity of various consumer images (Amine & Smith, 2009) and roles (Gabriel & Lang, 2015). However, it can reveal points of interest that help us understand this variety better from certain perspectives. Therefore, an important task here would not be to take segmentation as an all-encompassing approach but as a window through which some interesting elements become visible while others are left more in the shade. Segmentation has been utilized in studies on meat consumption but to a lesser extent the environmental consciousness aspect in that context (see a more detailed discussion in Section 2.2.1).

In conducting segmentation, cluster analysis was chosen as the main analytical approach for Article I. Although clustering is a widely used method of analyzing differences between consumer groups with quantitative datasets, it differs from other quantitative survey methods in an essential way because it is not a mathematical model but an iterative tool used to explore the differences and similarities between single research units, aiming at maximizing these differences with various assumptions to create groupings in the original data (e.g., Everitt et al., 2011; Tapio, 2003). Basically, it is up to the researcher to choose, first, which variables and methodological approaches are meaningful in creating the iteration process and, second, what is the final number of clusters that is considered useful for interpreting the results.

Even though these matters are always eventually subjective, there are various ways of and criteria for choosing the algorithm for the iteration process and deciding the final number of clusters. For the first, there are many options, but the two most

commonly utilized are hierarchal clustering with its various approaches and K-means clustering.

With K-means, the number of clusters is decided prior to the iteration and the process collects the research units around the cluster centers, with each unit belonging to the center that is closest to it, typically leading to clusters that are rather similar in size (Everitt et al., 2011). Therefore, this approach is strong in focusing on cluster centers but weak in defining cluster borders (e.g., Tan et al., 2006).

The hierarchical approach, in turn, groups the research units based on their distances from each other and creates a hierarchical dendrogram, showing the connections between found clusters either by proceeding from a single starting point as a top-down or bottom-up approach, where each unit is treated as a potential cluster center. The latter approaches are collectively called the agglomerative hierarchical methods, in which the algorithm merges the found connections between units until there are no further steps left for iteration (Everitt et al., 2011). These approaches include various algorithms to define the units' closeness, of which furthest neighbor and Ward's method are discussed in the following.

Furthest neighbor sets the distance based on the furthest pair of observations in two clusters. This method separates clusters well, potentially creating better cluster hierarchies than other approaches, and it is considered less susceptible to noise and outliers (Everitt et al., 2011; Tan et al., 2006). Ward's method belongs to the group average approach, in which all the pairs of points and their computed similarities are calculated as an average and used to define the distances. In Ward's method, this is achieved by calculating the sum of squares for these averages. It has some of the same advantages that the furthest neighbor approach has in creating clusters, and it tends not to be as sensitive in breaking larger clusters as other approaches (Everitt et al., 2011; Tan et al., 2006).

For Article I, all the above discussed methods were tested (K-means, furthest neighbor, and Ward's method) to find a fit-clustering solution for the data. Due to the explanatory nature of the research setting, there was no interest to define the number of clusters prior to the analysis, in addition to which a graphical illustration of the connections between different clusters was found useful in this context. These proxies steered the analysis toward using the agglomerative hierarchical methods discussed above, particularly Ward's method, which was believed to produce the most clearly interpretable and robust dendrogram for detecting clusters. However, testing also the furthest neighbor and the K-means options helped to acquire a wider perspective for the clustering process, including determining the meaningful number of clusters, which is discussed further below.

Three variables measuring the problem awareness element of environmental consciousness were used as the basis for the cluster analysis, and the group differences regarding the support to action elements were explored afterward to

collect information about the consistency of consumer environmental consciousness in general. Additionally, sociodemographic factors (gender, age, place of residence, type of household, education, and occupation) were checked in relation to the data population averages.

The statistical differences for all the non-clustering variables were examined using the chi-square (χ^2) test. In addition, because the chi-square test only conveys the statistical differences for each variable in general, post hoc tests were conducted to study the statistical differences between each cluster and the data population averages separately, based on the adjusted standardized residuals for each cell (e.g., Sharpe, 2015).

There are not strict rules for choosing the number of clusters in the analysis. This can be done via various approaches, typically classified as empirical, theoretical, statistical, and heuristic strategies (e.g., Everitt et al., 2011). Because there was no strong theoretical base for what to expect from the analysis, the dendrogram was mainly used to evaluate the meaningful number of clusters, which pointed to the possibility of up to 11 or 13 segments. However, such a high number of clusters is easily too many for heuristic sense-making (see, e.g., Tapio, 2003). With all this in mind, and seeing how various clustering algorithms performed during the analysis, it seemed reasonable to end up with a 6-to-10-cluster solution. Based on all this, a six-cluster approach was ultimately chosen as the most meaningful for this study's purposes.

3.2.2 PCA and multiple regression

For Article II, the statistical analysis began with testing various factoring approaches and rotation methods to study the interlinkages between the measured value dimensions. The aim was to reduce the number of variables by finding the potential underlying determinants for them. PCA with PROMAX rotation was ultimately chosen because it presented the most statistically fit and robust results. PCA and PROMAX are widely used approaches in this type of research setting because in many cases, they create clearly interpretable results (e.g., Tabachnick & Fidell, 2014).

The analysis covered 10 variables on values (see in detail Section 3.1.1). The PCA reveaked a three-component solution, which were the domains of Social justice (high loadings on equality between sexes, social justice, rights of sexual minorities, individual freedom, and environmental protection), Traditional (high loadings on religion, home region, and Finnish culture and a high negative loading on rights of sexual minorities), and Wealth (high loadings on high income and achieving high social status; see also Section 4.2). Together, these components explained 59.3% of the variance in variables. Statistically, the components were each clearly

distinguishable with eigenvalues > 1 (Social justice 3.118, Traditional 1.567, Wealth 1.248), and each variable was considered relevant in the analysis, for found communalities were between 0.492 and 0.730.

When we studied the perceived barriers to following a plant-based diet, there was an interest in seeing whether the barriers differed statistically from each other; therefore, a PCA was conducted to examine these four variables more closely. The analysis revealed only one component with each variable loading between 0.581 to 0.785 and showing a statistically robust result (eigenvalue 1.899, cumulative variance 47.46%, communalities between 0.338 and 0.586). Therefore, this factor was used as a dependent variable in investigating the determinants of barriers to following a plant-based diet.

Multiple regression analysis is a common statistical tool when there is a need to see how various variables are simultaneously connected to some chosen variable of interest in parametric data (Tabachnick & Fidell, 2014). The aim was to study how the discovered barrier to following a plant-based diet factor worked as a dependent variable in a regression model in which sociodemographic factors, value factors, and frequency of meat consumption were added as independent variables.

Further, to see specifically how the sociodemographics behaved on their own in the analysis and whether controlling values or meat consumption frequency would change these effects, three models were created: the first included the sociodemographics as independent variables (Model I), the second added the value factors (Model II), and the third added meat consumption frequency to the analysis (Model III). The dependent variable was treated as continuous whereas the independent sociodemographic variables and meat consumption frequency were considered ordinal, and they were added to the model as dummies with chosen reference categories. Value factors, based on the PCA presented above, were considered continuous variables in the analysis (see the detailed setting in Article II).

There are several statistical proxies that determine whether data can be considered valid for multiple regression analysis. Of these, the following three were considered the most essential in this context.

- First, the dataset should be large enough for conducting the analysis. Tabachnick and Fidell (2014) suggested a formula for calculating this, $N > 50 + 8m$, where m is the number of independent variables.

  Because the dataset for this study is $n = 1{,}890$, it can be considered particularly robust for conducting a regression analysis even though each conducted model had some missing cases.

- Second, there should not be major correlations between the independent variables, which create the situation called multicollinearity. This can be investigated by looking at the correlations between the independent

variables, which should be lower than 0.7 across the data. In addition, statistical programs provide collinearity diagnostics of tolerance in the form of a variance inflation factor (VIF), which is a commonly used predictor (e.g., Thompson et al., 2017). The VIF measures the share of variance other variables in the model explain, calculated as 1 / (1−R squared), and values greater than 10 commonly indicate an issue of multicollinearity, but these limits can depend on the context and other parameters (Thompson et al., 2017).

All the conducted models showed relatively low correlations between independent variables, under 0.7. The maximum VIF values were 2,872 (Model I), 2,884 (Model II), and 5,855 (Model III), suggesting that all the models were within the acceptable range. The somewhat higher level of multicollinearity in Model III was anticipated based on the correlations between meat consumption frequencies and the other variables in the model, which were somewhat higher than those detected in Models I and II. However, these were still modest distortions and were not believed to skew Model III disproportionately. Overall, all the models were within the acceptable range concerning the discussed statistical indicators.

- Third, the dataset should not contain outliers. These can be studied along with the residuals of the regression models that show the difference between the obtained and predicted dependent variable scores, and they should follow the assumptions of normality, linearity, and homoscedasticity. Assumptions of normality are typically investigated by looking at normal probability plots as well as the distribution of regression standardized residuals in the scatterplots (Tabachnick & Fidell, 2014). Outliers can be detected, for example, from the scatterplots, or they can be studied by looking at the casewise diagnostics that list the cases that have standardized residual values above 3.0 or under −3.0. These cases should be under 1% of the total sample to uphold the normality assumption of residuals. Another measure for defining the acceptable share of outliers is to use Cook's distance, which should give no higher value than 1 for statistically fit models (Tabachnick & Fidell, 2014).

  The models showed relatively stable PP-plots and rather equally distributed scatterplots, except for Model III, in which some scatterplot skewness was detected, yet it was still considered moderate. Casewise diagnostics revealed the number or outlier cases was 3 (Model I), 3 (Model II), and 2 (Model III), with Cook's distance values of 0.09, 0.012, and 0.012, respectively.

Overall, based on these evaluations, the statistical fit of the analytical models can be considered adequate.

3.2.3 Qualitative content analysis

Because there was a research goal to better understand consumer framings and sense-making related to experimentation through the blog narratives in Article III, a qualitative content analysis was seen as a particularly suitable methodological approach for the study.

When evaluating the methodological quality of the qualitative research approaches, there are no straightforward tools available in the same manner as with the quantitative ones because there are no widely shared exact measures or goodness-of-fit tools for such evaluation (e.g., Devi Prasad, 2019; Golafshani, 2003; Mayring, 2000). Furthermore, because the aim is not to produce numerical and statistical data, setting the frame for this type of discussion has to be different as well.

However, this does not mean there would be no need or opportunity to assess critically the quality of qualitative studies, but it should be performed as tailored by considering the context and research approach (Golafshani, 2003; Miles & Huberman, 2002). For example, the researcher should produce trustworthy and credible information in a research frame in which theoretical and empirical approaches are appropriate and consistent and can be implemented and generalized according to the initial study's premises. The latter part of that sentence may need extra attention because qualitative studies can often be case-study-like, and any form of generalization should receive extra caution. Moreover, because the aim of qualitative studies is typically to increase the understanding of a certain subject, a study that produces such information fulfills the purpose of the set research frame.

In Article III, an initial approach in the analysis was to find political framings of sustainability and the campaign to grasp better the empirical embodiment of political consumption. However, the preliminary reading of the data made it clear that the participants' approach was heavily framed by everyday life, particularly positioned at home and including cooking. Therefore, the initial research frame was extended to analyze these aspects because they were clearly something that defined, to a large extent, the campaign's essence instead of a more general policy frame.

What followed was that the data was coded from theoretical and empirical standpoints. The theoretical approach focused on, first, various sustainability and policy framings of consumer positions and action, including the campaign context in which the experimentation took place and, second, how these aspirations were fulfilled in everyday life. In turn, the empirical approach was followed more often in considering the narratives' nature and the temporal evolution of the storylines through the month, when the campaign was presented as a journey in the context of

everyday life with various challenges and positive experiences. This steered the analysis toward looking at the data in three phases of the month, the beginning, middle, and end, each with its unique contributions to the discussions.

Overall, this points to a mixed application and utilization of various analysis techniques (see also Hsieh & Shannon, 2005). Therefore, the interplay and adaptability between empirical and theoretical research frames strengthened the research's methodological quality in considering the consumers' lifeworlds as a factor that defined the implications of political consumption to the participants.

3.3 Ethical considerations

When conducting research on human subjects, it is necessary to ensure that research participants are treated with respect and anonymity and that the issues of informing subjects and asking permission to conduct research have been considered in the research process (see Finnish National Board of Research Integrity [TENK], 2023).

For Articles I and II, survey data responses were treated as anonymous research units that were analyzed statistically; therefore, there was no real danger of identifying individual research subjects. The data collection process was conducted along the lines of TENK, including a cover letter that discussed the purpose, context, and usage of the data. Personal data needed for sending the surveys and coding the responses was deleted once this phase of the research process was complete.

For Article III, blogs are public data that exist independent of research intervention. However, this does not mean there are no potential ethical restrictions and considerations at play regarding utilizing such data. Indeed, ethical issues are always present when data from human subjects are used (TENK, 2023). Despite the public nature of blogs, their content can include matters considered personal, sensitive, and something that is culturally seen as private, and they may have a targeted audience or group that is much smaller than the entire Internet. Therefore, ethical aspects are strongly present in discussions about how to utilize social media data without causing harm to subjects (e.g., Franzke et al., 2020; Laaksonen, 2021; Laaksonen et al., 2013).

According to McKee and Porter (2008), (these types of) data can be ethically evaluated by looking at the continuums of public–private and sensitive–nonsensitive simultaneously, presented as a heuristic four-field (see also Eastham, 2011). They suggest that the more the data is on the public and nonsensitive ends of the spectra, the less need there is to have consent to use the data from the subjects. They regard blog posts in many cases as more on the public side of this public–private continuum, and although food choices are not discussed in everyday life, they can very likely be considered not a particularly sensitive issue compared to, for example, issues of personal mental health and sexual preferences (McKee & Porter, 2008).

Therefore, a decision was made not to ask for consent to use the blogs because they were considered public data that did not concern particularly sensitive issues. Furthermore, considering some of the bloggers were anonymous, this might not have even been possible for every case. Moreover, the intention was not to focus on the individual participants in the analysis but on their various experiences in general. Blogs were also not referred to by their names in the research, and all the references to any other specific names and places were omitted from the quotes to avoid focusing on personal information, which was also not relevant concerning the purpose of the analysis.

4 Results

The framings and main findings of the three research articles are presented in the following subsections. All of the articles utilized different sociological fields as theoretical research frames, as presented in Section 2.1, alongside more specific research interests and conceptual frames discussed in Section 2.2. Table 2 presents a summary of all these issues.

Table 2. Summary of the research articles' contribution to research tasks and key findings

	Article I: Consumer consciousness on meat and the environment—exploring differences	Article II: Consumers' perceived barriers to following a plant-based diet	Article III: Meat reduction practices in the context of a social media grassroots experiment campaign
Environmental perspectives on meat consumption and production from a public perspective	X		X
Socio-demographic factors and values and their connection to public views on meat	X	X	
Construction and politization of meat reduction in an everyday life context		X	X
Key findings	*Public environmental consciousness regarding meat was low to moderate regarding problem awareness, with a large share of neutral responses. *Local and organic meat were the most strongy favored solutions, followed by meat reduction and techno-optimism. *There were notable variations between consumer groups, formulating various combinations between problem awareness and support to action.	*The studied barriers to adopting a plant-based diet were widely endorsed and interlinked. *Of sociodemographic factors, being male, being younger, living in a rural area, having lower education, and living in a household with children increased the perception of barriers. *Having no vegetarian friends, endorsing the value domains of Wealth and Traditional and not endorsing Social justice, and eating meat more frequently increased the perception of barriers.	*The campaign raised interest in participating with various motivational backgrounds and strategies and worked as a nudging tool for individual and social experiments. *Participants' narratives focused largely on everyday life, focusing on cooking and eating out instead of more classical political debates and action. *Doubts and fears were commonly expressed concerning ones' skills and abilities to have a pleasant experiment. Outcomes were typically perceived as successful and positive surprises with an empowering tone.

4.1 Article I: Consumer consciousness on meat and the environment — exploring differences

The first article concerned consumers' environmental consciousness on meat production and consumption in Finland. The purpose was to discover to what extent consumers recognize and frame the environmental issues regarding meat and thereby deepen our understanding of the population-level interest in and readiness to address the environmental policy challenges that the high meat consumption is causing.

The aim was to examine in more detail how consumers perceive various elements of environmental consciousness, which were framed here as problem awareness and support to action. Problem awareness consisted of questions about two major environmental problems that meat production contributes to, namely climate change and eutrophication, as well as a more general-level issue of the significance of food production for environmental issues. The support to action category consisted of questions on the perceived individual role as consumer, known also as self-efficacy, as well as various solutions to the issue based on the conceptual categorization of the efficiency–sufficiency continuum, those being techno-optimism, supporting local meat production, favoring organic meat products, and meat reduction. Further, to acquire more detailed information on the heterogeneity of consumers, in addition to looking at the data averages, consumer segmentation and cluster analysis were selected as methodological approaches in addition to descriptive population-level data.

Consumers' environmental consciousness has been widely studied but with varying conceptualizations, thematic frames, and methodological approaches. Therefore, this study followed an explorative approach to examine the meat production and consumption issue with a cluster analysis and nationally representative data, a combination that had not been used, to the authors' knowledge, elsewhere.

The results generally show that most of the Finns are unsure of the problems that meat and food production cause. However, less than one fifth of the population deny the issue whereas approximately one third of consumers are aware of it. In the support to action dimension, self-efficacy was perceived as rather strong, with over 55% of answers indicating agreement. Of the presented solutions, techno-optimism was least favored (16.1% agreeable answers), followed by meat reduction (25.5%), organic meat (35.1%), and local meat (53.2%). The share of neutral answers was notably high in these support to action dimension statements, consisting of over one third of all the responses.

Regarding the differences between consumer groups, six clusters were ultimately formulated. These included two rather small groups, clearly representing different approaches to the subject (Highly conscious [8%], and Resistant [8%]), and the large, unsure middle ground, named Highly unsure (40%). In addition, the analysis

revealed groups that were close to Highly conscious but did not share as strong a problem awareness profile (Rather conscious [20%]) as well as a small group that was concerned about the environmental impact of food production but did not connect this to the meat issue (Rather unsure [9%]). Interestingly, an opposite viewpoint was also detected, in which a higher level of problem awareness did not connect to concern for the environmental impact of food production (Careless conscious [14%]). These six clusters depict the complexity of the approaches to the issue.

The second purpose of clustering was to see how problem awareness could be linked to the elements of support to action. Highly conscious and Resistant were opposites in this respect; the former had the highest level of self-efficacy and support for meat reduction and the lowest level of support for techno-optimism, local meat, and organic meat solutions; the latter group had an exact opposite profile. Rather conscious came close to Highly conscious whereas for Highly unsure, the neutral answers were particularly common, excluding only the rather strong disagreement with meat reduction. Careless conscious and Rather unsure did not have statistically significant differences in the data averages except for the large number of neutral answers regarding supporting meat reduction. Overall, the connections between problem awareness and support for action differed rather greatly between the groups.

Regarding the sociodemographic differences across the consumer groups, the largest differences in the population averages occurred among the three conscious groups (Highly conscious, Rather conscious and Careless conscious) and Resistant. Females, younger age, and higher education were features of Highly conscious. Rather conscious consisted more often of younger, educated, and urban participants whereas Careless conscious more often represented males, older cohorts, and families with children. The Resistant were more often rural males with lower education and entrepreneurs. Rather uncertain and Highly uncertain were close to the population averages concerning sociodemographics, and the former had no statistically significant differences in this respect. In the latter group, although they were statistically significant, there were rather minor differences across the studied categories, being slightly more often male, younger, rural, less educated, and having more blue-collar workers and fewer entrepreneurs.

4.2 Article II: Consumers' perceived barriers to following a plant-based diet

The second research article focused on consumers' perceived barriers to following a plant-based diet, widening the focus of Article I to more consumer choice attributes than environmental aspects. The idea was to see what the prevalence of some of the potentially most relevant barriers in this respect was among Finnish consumers,

based on the previous literature. Additionally, Article II focused on what sociodemographic factors and values were potentially considered connected to this barrier perception to understand better the formation of the barrier experience.

Based on the literature, the barrier effect included the measures of meat enjoyment, perception of meat's nutritional necessity in human diets, willingness to focus on old routines in food choices, and perceived hardships in preparing plant-based foods. Of sociodemographic factors, the effect of gender, age, place of residence, type of household, education, and occupation were investigated as well as the effect of presence of vegetarian friends. For values, various dimensions were considered that would loosely cover various value domains that have been found to be universal among human communities around the globe linked to self-enhancement, self-transcendence, conservation, and openness to change (see, e.g., Schawartz, 1992). However, this study did not extensively cover the mentioned Schwartz questionnaire, yet during the analysis, similar value domains were found for all the other domains except openness to change, which was believed to have merged with the self-enhancement domain in the analysis due to the limited number of questions. However, partly due to these differences, it was decided these domains should have their own names in the context of this study (these being Social justice, Traditional, and Wealth; see also Section 3.1.2). Finally, meat consumption frequencies were added to see whether they would make a difference to the level of perceived barriers.

First, the results suggest that consumers agreed with three of the barriers more often than they disagreed with them (meat enjoyment, 61.2%; nutritional necessity, 47.7%; familiarity, 58.4%) whereas the last barrier prompted a fair share of agreeable answers (preparation hardships, 33.5%). Based on the PCA, all these barriers were strongly interlinked; therefore, it was decided to study the connection of sociodemographics and values with this sum variable.

Multiple regression models were created to investigate the aforementioned connections, first adding the sociodemographic factors to the model (Model I), then the three found value domains (Model II), and finally, a four-step meat consumption frequency measurement (Model III). In this way, it was possible to see whether these social and cultural factors affected the barrier perception on their own and how controlling the actual consumption patterns would change the situation.

The results showed that being male, having a family with children, and having no vegetarian friends were positively associated with the barrier perception. In turn, being an older person, having a tertiary education, and living in a large city had a negative effect (Model I). Of the value domains, Traditional and Wealth were positively correlated with barrier perception whereas Social justice had a negative correlation (Model II). Meat consumption frequency was strongly positively correlated with perceived barriers (Model III). Interestingly, adding new variables to

the regression in Models II and III did not notably change the statistical correlations among the models except for place of residence and type of household, which became statistically nonsignificant in Models II and III.

4.3 Meat reduction practices in the context of a social media grassroots experiment campaign

The third article of this dissertation concerned experiments conducted with plant-based foods in the context of a Finnish meat reduction campaign called Meatless October. In general, there is a growing interest in plant-based foods as well as barriers to implementing associated aspirations from the political and personal perspectives, as the other articles of this dissertation also show. The third article focused on one practical and interesting case that was seen as a potential way to restructure and solve these tensions.

Meatless October is a social media-based grassroots initiative campaign, initiated in 2013, that offered a venue for consumer-citizens to experiment with vegetarian diets for one month, based on discussions of environmental, health, and animal welfare discourses of sustainability. Initiated by famous media personalities in Finland, this campaign was also a showcase for the fluidity of modern social movements, in which politization can occur with the example of opinion leaders and informal social networks. The hypothesis was that such a context could structure a practical frame for rethinking the politization and everyday expertise of food practices, blurring and restructuring the realms of consumerism and citizenship. A particular research interest here was the ways this politization occurred among participants and how the experiment was perceived as positively and challenging in an everyday life context.

For the analysis, participants' blog content was analyzed from the campaign's inaugural year, 2013. The blogs created a rich narrative of the experimentation process and therefore constituted a suitable dataset for a study such as this. The analysis concerned discussions on various policy themes, such as the importance of the campaign frame and sustainability issues, and their meanings for personal action and dietary transitions. The focus was also on everyday experiences of cooking and eating during the month, including perceived emotional responses, hardships, and support, and reflections on the effect of experimenting with one's relation to vegetarian food practices.

The blogs revealed a strong motivating effect for participation that stemmed from the campaign's environmental, health, and animal welfare issue frame. The campaign context made these issues more approachable. There was interest in supporting and facilitating the process for other participants and family members as well as pure curiosity and willingness to test one's boundaries. Aside from this,

politization did not feature explicitly strongly in the blog narratives. However, it was reflected in the personal, everyday experiences, which concerned how the experiment changed perspectives and allowed the writers to see the food environment from a vegetarian's perspective. Additionally, the social nature of the campaign was praised through enthusiastic recipe sharing, being a source of inspiration and a performance through which one's experiments were shared with the world. Therefore, it pushed people beyond the mundane act of "just recipe-sharing," linking individual lifeworlds to a larger set of social meanings and transitions.

Because the participation experience was perceived as a personal endeavor, including positivity and challenges, it provided rich data for the second research interest. Indeed, the blog posts portrayed much positivity, linked especially to living though the month in a more pleasurable way than expected. Of the places and themes, the main focus was the home kitchen, in which people experimented with new recipes as well as serving and receiving food with family members. During the month, these created a circle of good in which improving skills regarding and knowledge of vegetarian practices started to create stronger identities in this respect, and thoughts of more deeper and longer-term transitions than just a month-long experiment started to emerge.

However, there were obvious challenges, as well, particularly in the beginning of the month, linked to (dis)beliefs in one's everyday vegetarian cooking skills. This was emphasized in reflections on the personal targets of making tasty and often healthy and affordable meatless food during the entire month. These concerns tended to wane as the month progressed, yet participants were somewhat surprised by the challenges of eating outside the home, where the food environment was seen as more restrictive and less controllable. Although including eating out was not framed as a part of the campaign targets for everyone, it seemed to be perceived as an ill fit for the experiment. This, together with some moments of craving meat-based foods and the hardships with food preparation, which were typically surmounted, surprised some of the participants regarding how strongly they perceived the experiment and how it started to change their perspectives. Therefore, these experiments' overall tone was conclusively positive, and they created a sense of a personal journey that made meat and plant-based foods look and feel different, something that was unforeseen at the beginning of the month.

5 Discussion and Conclusions

This dissertation has discussed the contextual nature of sustainable food consumption, where these conceptualizations are a value-added combination of the definitions of different actors. What expectations and roles are set for consumers in this case regarding sustainable choices relate to the context in which the activity takes place (Bell et al., 2017; Evans et al., 2017). Food systems are networks of interaction between the actors involved in the production, distribution, and consumption of food and their power relations, which extend from the level of international politics and markets to individual actors' everyday choices (Kuokkanen et al., 2018). It is essential to consider how these processes interact and what opportunities they offer for determining and changing consumption (Manners et al., 2020).

The focus of this work has been on studying factors that widen perspectives for consumers' perception on meat consumption and the potential for meat reduction in Finland in the beginning of the 2010s. The major changes that have taken place during the last decade or so in the food environment regarding consumption of meat and other animal-based foods are highly relevant from different sustainability perspectives (Dasgupta et al., 2021; de Boer & Aiking, 2018; EAT-Lancet, 2019; FAO, 2018). However, the actual consumption volumes of these products have not witnessed an equivalent change (e.g., Luke, 2022). Indeed, from a consumer perspective, despite the discussed new framings and even hype around plant-based foods, actual consumption changes may be difficult to come by if consumers lack individual, collective, and structural possibilities for such transitions. This leads to the question on how one could better understand consumer positions and thus find approaches that would be beneficial in achieving such sustainability goals and enhancing theoretical understandings of dynamics in consumer behavior. Hence, on the one hand, this thesis has clarified what barriers, possibilities, and pathways consumers acknowledge in meat reduction and, on the other hand, how different social and cultural factors help to understand such approaches.

Together, the research articles present a rough narrative where the storyline begins with an investigation of consumers' readiness and ability to detect sustainability challenges in meat consumption, following an approach where

different determinants and constraints for such meat reduction transitions are explored in more detail, ending with a practical-level pathway to structure consumption anew. Each article also contributes to more than one specific research task of this thesis, as exemplified in Table 2.

Overall, this dissertation widens different perspectives on the subject that are useful in increasing the understanding of the phenomenon from both theoretical and conceptual as well as pragmatic, policy implication-orientated perspectives. These contributions are discussed in more detail in the following thematic subsections.

5.1 Meat and the environmental issues

The first research question for this dissertation asked how environmental perspectives on meat production and consumption are reflected in public views. Previous literature has suggested that consumers' problem awareness is typically moderate to low and that meat reduction is often one of the least-favored practical solutions for taking action among various sustainability matters (e.g., Hartmann & Siegrist, 2017; Sanches-Sabate & Sabaté, 2019). Hence, it seems that the public tends to heavily downplay the sustainability importance related to meat consumption.

However, as complex as the matter is, it is hardly surprising that a straightforward road to meat reduction does not exist, which can be traced back to multiple issues. To begin with, the concept requires a multilevel approach: consumers need to be aware of the various environmental consequences that meat production causes. Second, there should be certain affective concern and willingness to act based as a consumer, which again requires both perceived personal responsibility and certain effectiveness to act. Third, finding a proper solution is not straightforward either because there can be green and ecological promises for various options at the market, such as organic and local (meat) products.

The results from Article I from the beginning of the 2010s in Finland convey that problem awareness is in line with other research on the subject, as around a third of respondents acknowledged and seriously considered the problems that meat production caused. However, interestingly, even though over half of the respondents perceived themselves as able to act regarding food consumption and environmental issues, this was translated much more likely to support for local and/or organic meats instead of meat reduction. Moreover, the most common response to these themes was neutral, perhaps further underlining the challenge related to the subject.

Nevertheless, food choices are often polarized and fragmented between various consumer groups (e.g., Knaapila et al., 2022; Niva & Vainio, 2021). Hence, a more detailed analysis of segmentation, based on a cluster analysis approach, was conducted. It revealed a more nuanced picture of the subject, where rather marginal

extreme opposite groups were detected, supplemented with a large middle ground where neutral responses were a predominant factor. However, with a robust six-cluster approach, it was possible to see how this middle ground showed interesting differences in how, for some, problem awareness was only weakly connected to the support for action. Still, unsure respondents strongly dominated this middle ground considering that they constituted almost half of the data and showed not only a large share of neutral responses but also much higher support for local and organic meat products instead of meat reduction. Hence, the connection between various elements of environmental consciousness can be a group-specific matter because this effect can be strong, somewhat prevailing, or almost nonexistent.

From a more practical policy perspective approach, Article I highlights how there might not only be a lack of information but also misinformation regarding the effectiveness of the numerous solutions, which can also be supported simultaneously. Therefore, even though the limitations providing information as a policy tool are well known, it might be one practical pathway, which could increase the general discussion on these diverse effects and solutions—particularly on the food environment where, for example, advertisements focus on issues such as "Finnishness" and locality as positive attributes related to meat production and consumption (Häkli & Hakokõngäs, 2022).

Further, as Article I depicts the situation in Finland in the beginning of the 2010s, it only presents a snapshot of time, meaning that no strong policy implication can be concluded as such for the current Finnish food environment. However, it is interesting to note how more recent studies have essentially not detected higher-level problem awareness either. This might mean that even though there were many types of transitions in the food environment during the 2010s, it may have involved those consumers who were already interested in and aware of these matters.

One interesting perspective here is to evaluate the potential role of public grassroots campaigns such as Meatless October, which Article III investigates in detail. As the very campaign context was to introduce a challenge, which would frame high meat consumption as a problematic issue both from public health and environmental perspectives, it was not that surprising that this was also reflected on the participants' storylines in the analyzed blog data. However, interestingly, only some of the bloggers raised the environmental perspectives and discussions and only at the beginning of the challenge.

However, as environmental aspects defined the very approach that the campaign initially took, it became almost a self-evident approach, without which the entire process may not have occurred. Moreover, there was evidence that the campaign worked as a nudging tool for some of the participants—who discussed how they had uneasy feelings with meat consumption due to various sustainability-related reasons—and that public support and push from the campaign frame were both

needed to tackle these issues in the context of one's everyday life. In contrast, because the campaign represented, for some, more of a personal challenge and a playful way to try new diets, it may have also functioned as something that increased awareness of the subject and consecutively structured the elements of environmental consciousness (see also Laakso et al., 2021).

From another policy perspective, it is worth highlighting that even though this dissertation's articles have focused on the beginning of the 2010s in Finland, some of the policy possibilities that there would be in increasing consumers' environmental consciousness on the subject have seemingly not been utilized in Finland even to date. For example, product labeling or other marketing messages have not taken place widely, even though consumers might benefit from more information on the subject. Moreover, there has not been a public policy initiative regarding taxation or other pricing mechanisms either; hence, this does not signal that environmental aspects would be something related to these products. Here, a relevant question would then be to whom policy measures should be targeted and how meat reduction is to be promoted further in Finland (see also, e.g., Vainio, 2019; Vainio et al., 2018; Vinnari & Tapio, 2012).

It is essential to end this section by noting how merely focusing on environmental aspects and individual consumers in this context can be a major blind spot when trying to understand consumer behavior in general (as discussed in Chapter 2). Hence, this dissertation has also looked at various motives and barriers behind food consumption choices as well as social and cultural factors and potential pathways to structure consumption anew, which are discussed in more detail in the following Sections 5.2 and 5.3.

5.2 Sociodemographic factors and values behind public views on meat consumption

The second research question for this dissertation sets the discussion frame to explore how various sociodemographic factors and values are potentially connected to public views on meat. Here, the interest was not only to see how sociodemographic factors or values would structure environmental consciousness on meat (Article I) but also to what extent different consumer groups would experience perceived barriers for adopting a plant-based diet and consecutive lowering of meat consumption in general (Article II).

The rationalization for such an approach is not difficult to find in the sociological literature, where multiple social and cultural factors connected to consumption have been studied previously from various angles (see Chapter 2). In this dissertation, the perspective has been quantitative in this respect, which not only gives a good picture of the population level but also sets some discursive dynamics that should be

understood while interpreting the results. In other words, even though the articles have discussed issues such as determinants and explanatory variables (which, of course, is common in the quantitative approach), these are ultimately characteristics coexisting simultaneously in a given time and place with often limited explanatory power as such. However, these remarks need not be taken as limitations but as a way to set a proper analytical level for interpretations.

Indeed, sociodemographic factors typically have limited ability to work as explanatory variables in quantitative research. However, at the same time, statistically significant connections are often found, indicating that consumption to a certain extent is also constructed in this respect (e.g., Warde, 2015). The same can be said about the values, which are often represented as underlying factors that can have either a direct effect for consumption or some consumption-related views, or they can work as facilitators between other factors, which has been the case regarding the consumption of meat and plant-based foods (e.g., Graça et al., 2015; Kwasny et al., 2022; Stoll-Kleeman & Schmidt, 2017).

Article II detected similar effects that have been found in other studies regarding more favorable views on plant-based foods and diets: of these, in particular, the effect of gender (female) was present, but education (tertiary) was also featured, as well as a less strong effect of place of residence (urban). Of the value domains, results were in line with these, as valuing Social justice had a positive connection with the favorable views, whereas domains of Traditional and Wealth had an opposite effect. In other words, these results also resemble the classical cultural categorizations of meat and plant-based foods (e.g., Fiddes, 1991; Peggs, 2012). Moreover, controlling meat consumption frequency in the analysis further validated the found barrier effect but also revealed how lowering meat consumption does not necessarily abolish the barrier perception, highlighting how the food environment may not be seen as particularly favorable for plant-based practices.

The effect of age is an interesting one because even though it is more typically the younger age groups that are more favorable toward plant-based choices (e.g., Hartmann & Siegrist, 2017), the effect can also go in another way (e.g., Graça et al., 2019). In Article II, the latter was the case. There may be several reasons for this particular finding: for example, there is evidence that meat consumption levels decrease with age (e.g., Valsta et al., 2017; Zeng et al., 2019), which may make older age groups' perspectives more favorable toward plant-based practices. Moreover, younger age groups may also perceive meat eating more favorably; for example, young males have in different instances been found to hold the highest meat-consumption levels of the population (Valsta et al., 2017; Zeng et al., 2019). Hence, age is most likely a less straightforward variable in this respect, and, depending on the context and emphasis, different types of results may emerge.

Further, household type has not often been featured in studies on this subject, and any evidence of its effect tends to be sparse. Here, the household type of family with children showed a significant or moderate connection to the higher perception of barriers for adopting a plant-based diet. This may suggest that children can pose an extra challenge in this respect, considering one is not merely responsible for one's own dietary choices but also those of others. In a meat-centered food culture, alternative solutions can create a burden that poses challenges if everyday life is already loaded with time constraints and the like (see also Paddock, 2017).

Regarding environmental consciousness and sociodemographic factors within the segmentation approach, the results from Article I suggest that similar types of effect of gender, education, and place of residence were detected particularly for the extreme segments as for the barrier perception in Article II. Even though environmental consciousness on meat consumption has been studied less from this perspective in the literature, results here seem to show certain consistency in creating consumer profiles in line with each other.

One obvious policy implication from all this might be to state that those groups with lower barrier perception to plant-based approaches might be more susceptible to receive various types of support for establishing such methods of consumption. However, public health studies and policies in particular have approached the subject by stating that those who belong to the highest risk groups should be particularly addressed because the target should not only be changed consumption at the population level but also to see that the policies would not leave any groups out in this respect. Hence, there might be a need to develop different approaches to each group because the motives and barriers may also differ (see also Pohjolainen et al., 2023).

Other than that, and as already pointed out in Section 5.1, although the data set is from 2010, policy support for meat reduction practices in Finland during the latest decade has been rather sparse. However, as the food environment, and perhaps the market in particular, has seen many new methods for increasing the supply of plant-based alternatives, public discussion and awareness of such issues seem to have increased if not been largely channeled to consumption practices. Indeed, some of the more recent research has suggested how consumer intentions for lowering their meat consumption may be increasing, as well as from environmental grounds in Finland (see Knaapila et al., 2022; Niva & Vainio, 2021). This can widen the possibilities for conducting various policy tools for establishing meat reduction further. This dissertation has also explored the perceived barriers of change and how to overcome them in more detail in everyday life settings, which is discussed in the following Section 5.3.

5.3 Consumer pathways and politization in meat reduction

Although the first two articles of this dissertation focused on the population-level consciousness and readiness for adopting meat reduction practices within different consumer groups, the third article turned its focus to the question of what could ultimately be some of the essential factors constructing meat reduction in an everyday life context. For this question, there is evidence available not only from Article III, which focused on experiments within a grassroots-level meat reduction campaign on social media in Finland, but also from the survey in Article II, where the prevalence of some of the central barriers for dietary changes was measured.

Meat consumption is known to be particularly linked in consumer views to the issues of taste, nutritional value, familiarity, and convenience (e.g., Fehér et al., 2020; Stoll-Kleemann & Schmidt, 2017), which also structure factors that could be interpreted as cultural normality. In practice, this means, for example, what types of consumption choices the food environment is typically perceived to support and what the default choices are (e.g., Oleschuk et al., 2019; Paddock, 2017).

Results from Article II suggest that all of the measured barriers were widely prevalent in the data and that only the hardships for preparing vegetarian foods showed somewhat lower levels than the other ones. However, it might be that if a large part of population has had neither strong intention nor consecutive experience of trying plant-based foods, the practical-level hardships may not be particularly relevant in that context. The data analysis also showed how all of the measured barriers were clearly interlinked, which makes the picture less straightforward, as conveyed in the literature (e.g., Hopwood et al., 2021; Piazza et al., 2015).

Following this understanding of consumer positions, the storyline continues in this dissertation's context to the issue of what some of the potential practical pathways are for overcoming such barrier experiences. As discussed in Section 5.1, politization of meat consumption has taken place in a rather limited manner in the Finnish society (or other Western countries for that matter), particularly from the so-called top-down approaches. Indeed, consumption of meat and other animal-based products has more typically been treated as a problematic issue by animal rights organizations and only rather recently by various environmental and public health actors. This has also traditionally taken a form of rather confrontational activism, including illegal actions on the farms and overall burgeoning perspectives that have tried to show to the public the often-hidden elements of animal farming (Franklin, 1999; Gheihman, 2021). Such radical approaches have perhaps expectedly encountered challenges in growing out of their niche positions to affect the mainstream consumer culture, considering also the various barriers that consumers perceive along the way to meat reduction.

However, this all may have, for its part, created ways for new types of political actions to establish themselves, where rather different types of attributes are featured and highlighted. Here, political consumption includes hedonistic playfulness and light experimentation, highlighting the positive experiences and benefits that the new ways of consumption can bring instead of focusing on the problems that the existing ones carry (Pecoraro & Uusitalo, 2013; Soneryd & Uggla, 2015). One might also say this type of framing attempts to take seriously the consumers' barrier perception.

This can also be said to be better enabled by the rise of social media and the various new political spaces and network possibilities that it offers, linking the discussion to the fluidity of postmodernistic new social movements (Hajer & Wagenaar, 2003; Wahlen & Laamanen, 2015). Based on this, the social media–based meat reduction campaign Meatless October, which local media celebrities initiated, is an exemplary case to better understand the concurrent forms of political consumption in junction with meat reduction aims.

Overall, and perhaps reflecting rather well the mentioned approach, Article III shows how the bloggers in particular did not emphasize the political aspect of their experiments but placed them in the context of making everyday experiments and spreading the message of such experiences in their social surroundings both on- and offline. This might even be seen as a type of charity work, where the participants tried to do their part for common public health and environmental good in their unique ways, adjusting their actions to their available resources and expertise, hence creating adaptive fluidity that is often seen within new social movements (e.g., Wahlen & Laamanen, 2015).

Descriptions of the everyday life and food formed data rich in details, which discussed meanings, feelings, practical skills, social surroundings, and identity work, adequately reflecting the multitude that food can carry (see also Laakso et al., 2021; Poulain, 2017). In particular, breaking old habits and practices and structuring them anew can make all this more visible.

Moreover, of the four approaches discussed within the sociology of consumption (acquisition, appropriation, appreciation, and disposal; Halkier et al., 2017; Warde, 2010), much focus was seemingly placed on the second and third ones, as the new foods needed to fit into one's dietary preferences. Hence, these processes went through various mental, social, and material dimensions. Practically, participants encountered issues such as what these new foods mean personally, how they can be prepared so that they become proper foods (often meaning tasty, healthy, and familiar), and how to navigate the social and material worlds so that these choices can become normal and convenient options. These attributes were clearly most commonly linked to cooking and eating out, revealing perhaps the most critical points of these particular practices. Moreover, even though both of these were considered challenging contexts in their own right, the latter included much less

control over the situation and evoked stronger feelings of unease, perhaps connected to that in these situations the experiments were more socially visible. This has also been recognized in the more recent research on the subject (see Autio et al., 2023; Laakso et al., 2021; Salmivaara et al., 2022; Wendler, 2023).

Another defining feature in the data was the temporal, narrative learning process with its hardships and positive outcomes that the campaign context facilitated for the participants. This also seemingly made the experiment an emotional journey with deeper commitment and endeavor than just merely the light, hedonistic, and entertaining traits discussed above. However, these remarks were also somewhat expected because many participants emphasized the challenge aspect in the beginning of the campaign. However, such positions and overcoming them were relatively successful at increasing the value of the learning process because many of the participants felt increasingly empowered, happy, and proud of their achievements at the end of the month. This suggests that a campaign such as Meatless October may be a useful tool for nudging certain consumer groups toward meat reduction practices.

This notion also leads to discussions on more detailed policy implications for this case and the reasons behind its success. As already mentioned, the campaign's loose structure gave room for various approaches and mindsets and was structured in a way wherein consumers could act as self-governing agents. Moreover, because a Finnish media celebrity, who was also known to be a meat eater during that time, led the campaign, the opinion-leader effect meshed with a relatable character, a point also explicitly reflected in the data that showed the stronger possibilities for the campaign to succeed. Indeed, there is some evidence that messages about meat reduction are more likely to be received when omnivores make them instead of vegetarians or vegans (e.g., Kwasny et al., 2022).

Despite being a collective endeavor, ultimately, the campaign's spirit and structure incorporated many elements of new social movements where individuals received not only many possibilities and spaces for creative ways of building new practices (e.g., Santaoja & Jallinoja, 2021) but were also positioned strongly as responsible agents for performing such actions (e.g., Evans et al., 2017). This perspective was also shared on many occasions among this study's participants when discussing things that structure moments of success and failure in everyday life situations, pointing toward something previously discussed as a hero–consumer position (see Autio et al., 2009; Gabriel & Lang, 2015). This all links grassroots-level policy approaches to the neoliberal discussion frame, where consumers are increasingly seen as self-governing actors responsible for sustainability and well-being that have traditionally been seen as belonging to various established policy institutions (e.g., Cederström & Spicer, 2015; Huddard Kennedy, 2020; Morris, 2018).

However, the problem might not regard the grassroots activism as such but how meat reduction intentions are politicized and tackled in the food system in general. In other words, if, for example, the market and policy realms are not supportive of such practices, individual consumers may have to carry a burden that is difficult to cope with (see, e.g., Bendz et al., 2023; Dagevos & Voordouw, 2013). When Meatless October was first launched in 2013, many of the new framings of plant-based foods that had taken place during the 2010s (and described in Chapter 1) were nonexistent; thus, it was no wonder that the month-long experiment included various hardships. These participants were also most likely particularly motivated to experience these aspects because they were committed to report their journey via the blogosphere. In other words, for many others, the challenge may have become perceived as insurmountable. However, whether the world is in this respect tilted essentially to different positions today remains a speculative discussion point based on the study of this dissertation and would require new research pathways that could also tackle some of this study's shortfalls and point to a need for further research. These aspects are discussed in Section 5.4.

5.4 Limitations and further studies

There are always some limitations and shortfalls that should be acknowledged and highlighted to position the conclusions accordingly.

This dissertation is methodologically and empirically varied in taking a mixed-method approach, which can be seen as a strength in enabling to look at the phenomenon for multiple perspectives that can complement each other. However, this type of approach can also include pitfalls if the coherence and common ground of the work are not established properly. As this thesis has in many ways been explorative and pioneering work in its field, this type of an approach tends to create challenges for aforementioned aspects. As shown previously in Sections 5.1, 5.2, and 5.3, the research articles have clearly been able to detect meaningful theoretical and empirical viewpoints to the subject, also linking the concepts and approaches of the articles with each other, as well as contributing significantly to the academic discussions on their field.

In more detail, concerning the survey data, single-item variables were used as measures for the key thematic fields in Articles I and II. This was partly due to research economic reasons and because of the lack of established research approaches on the subject. Even though this in itself does not dilute the results' value, creating more comprehensive survey question sets would increase the methodological robustness of future research. However, a similar methodological approach has previously been utilized successfully (e.g., Ang & Eisend, 2018). Moreover, the survey data are of good quality in that they are a representative sample

of the Finnish population, making Articles I and II, to the authors' knowledge, the first studies on the subject worldwide utilizing a representative population-level data set.

Some of the more specific limitations concerning different thematic fields are, for example, the scope of environmental problems that were included in the concept of problem awareness of meat production. Here, the role of biodiversity loss was missing, even though it is often considered one of the key environmental effects in this context. However, during the time of conducting the survey (2010), biodiversity was not discussed neither in the academic nor the public realm to the same extent than nowadays (particularly linked to meat production and consumption); hence, it was not considered to be such an essential part of the survey back then. Additionally, the survey included other major environmental effects of meat production, namely climate change and a central local effect of eutrophication, which is particularly relevant in the Finnish context.

Moreover, interpreting the middle response of the Likert scale as neutral in Article I can be criticized on the grounds of its many-sidedness because respondents choosing this option may be unaware of the subject, unwilling to answer, or simply unable to decide, among other reasons. The role of this option is also enhanced by the fact that there was not an "I don't know" response option in the questionnaire. In contrast, in the postal survey format, there is always a possibility to leave some of the questions unanswered. However, there were not many missing cases in the data, highlighting that respondents were actively willing to use the Likert scale and express their opinions. In the analysis, the middle responses were ultimately framed as neutral to allow for different interpretations.

For Article II, one of the major methodological limitations (in addition to the mentioned single-item measure approach) was the limited number of barriers. Moreover, they were not framed as barriers in the questionnaire but attitudinal statements. Hence, the decision was made to utilize these as a general-level barrier approach to the subject with a sum variable, focusing on different determinants instead of the barrier variables. However, as the barrier variable was evidently connected to the meat consumption frequency variable in the analysis, it also shows how it seemingly had relevance in depicting the barrier effect in this respect. Additionally, the list of values in the questionnaire was rather experimental and not based on any standardized value theory questionnaire, even though similarities to, for example, the Schwartz value theory were evidently detected, further validating the results. Moreover, the meat consumption frequency variable was not continuous but more likely represented an ordinal scale and was only a rough estimate for meat consumption. Therefore, it was treated as a dummy variable in the analysis.

Article III presented qualitative blog data from the participants of the Meatless October campaign. However, there were great differences in the blogs' style and

scope, which can be seen as both a methodological weakness and strength. Indeed, because the research frame did not structure the data in a particular way but the data existed on the Internet already, detailed comparisons and conclusions regarding specific themes of interest were partial and scattered and would have required more in-depth approaches such as interviews. However, this variety in itself depicted the heterogeneity and fluidity of positions and practices that the campaign awakened among the public, and they offered a window to multiple discussion themes and everyday life. This was actually so detailed that some more specific and interesting themes, such as the role of gender in this context, were left understudied when the focus was on depicting the general storylines and learning processes. Further research could continue to focus on these discrepancies for similar types of grassroots experiment campaign frames (see, e.g., Morris 2018; Santaoja & Jallinoja 2021).

Regarding all the articles, because they are cross-sectional snapshots of consumer perspectives on meat consumption and meat reduction from the beginning of the 2010s, it is not possible to draw any conclusions based on how the consumer approach on these matters evolved over time in Finland during the last decade, which has seen various changes in the food environment, as described in Section 1.2. It would be interesting to know what types of long-term effects grassroots public campaigns can potentially have on consumer practices. There is already some evidence that, with a longitudinal approach, the consumer perception of barriers for plant-based diets may evolve over time (e.g., Halkier & Lund, 2023).

Overall, there is a need to know more about not only how consumer environmental consciousness or the perception of different barriers to meat reduction has evolved but also, in more general, how consumers position themselves as sustainability agents in the food system, as well as what their thoughts and expectations of the other actors are in the system (see also Pohjolainen et al., 2023). Moreover, to better understand consumers' capacity and needs in this context, views on various policy tools and their relevance might be useful when negotiating what could work and how it could persuade consumers in structuring new ways of consumption (e.g., Vainio et al., 2018). Here, it might also be useful to extend such concepts to other food system actors, for example, by asking about the level of environmental consciousness of policy or commercial institutions, as well as widening the scope of discussion on policy responsibilities and actions in the food system.

References

Adams, C. (1990). The sexual politics of meat: A feminist-vegetarian critical theory. Bloomsbury: London.

Amine, L. S., & Smith, A. (2009). Challenges to modern consumer segmentation in a changing world: The need for a second step. Multinational Business Review, 17(3): 71–99.

Ang, L., & Eisend, M. (2018). Single versus multiple measurement of attitudes. A meta-analysis of advertising studies validates the single-item measure approach. Journal of Advertising Research, June 2018: 218–227. https://doi.org/10.2501/JAR-2017-001

Anttonen, T., & Vornanen, J. (2016). Lihansyöjien maa. Miksi suomalaisten ruokavalion on muututtava. Into Kustannus: Helsinki.

Autio, M., Heiskanen, E., & Heinonen V. (2009). Narratives of 'green' consumers – the antihero, the environmental hero and the anarchist. Journal of Consumer Behaviour, 8: 40–53.

Autio, M., Sekki, S., Autio, J., Peltonen, K., & Niva, M. (2023). Towards de-dairyfication of the diet?—Consumers downshifting milk, yet justifying their dairy pleasures. Front. Sustain., 4: Article 975679. https://doi.org/10.3389/frsus.2023.975679

Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. Human Relations, 61(8): 1139–1160.

Bell, D., Hollows, J., & Jones, S. (2017). Campaigning culinary documentaries and the responsibilization of food crises. Geoforum, 84: 179–187.

Belk, R. (2017). Consumer culture theory. In M. Keller, B. Halkier, T.-A., Wilska & M. Truninger (Eds.) Routledge handbook on consumption (pp. 13–24). Routledge: London.

Bendz, A., Bäckstedt, F., Harring, N., & Persson, M. U. (2023). Why do people accept or reject climate policies targeting food consumption? Unpacking justifications in the public debate in online social forums. Food Policy, 121: 102544.

Blomhoff et al. (2023). Nordic nutrition recommendations 2023. Copenhagen: Nordic Council of Ministers, 2023.

Bode, S., & Askegaard, S. (2017). Marketing and consumer research. In M. Keller, B. Halkier, T.-A. Wilska & M. Truninger (Eds.) The Routledge Handbook of Consumption (pp. 61–71). Routledge: London.

de Boer, J., & Aiking, H. (2018). Prospects for pro-environmental protein consumption in Europe: Cultural, culinary, economic and psychological factors. Appetite, 121: 29–40.

de Boer, J., & Aiking, H. (2017). Pursuing a low meat diet to improve both health and sustainability: How can we use the frames that shape our meals? Ecological Economics, 142: 238–248.

Braudel, F. (1992). Civilization and capitalism, 15th-18th century, Vol. I: The structure of everyday life (S. Reynold, Trans.). University of California Press. (Original work published in 1967)

Bryant, A., Bush, L., & Wilk, R. (2013). The history of globalization and the food supply. In A. Murcott, W. Belasco, & P. Jackson (Eds.) The Handbook of Food Research (pp. 34–49). Bloomsbury: London.

Campbell, C. (2008). Easternization of the west: A thematic account of cultural change in the modern era. Routledge: London.

Carter, B., & Charles, N. (2018). The animal challenge to sociology. European Journal of Social Theory, 21(1): 79–97.

Catton, W. R., & Dunlap, R. E. (1978). Environmental sociology: A new paradigm. The American Sociologist, 13(1): 41–49.

Cederström, C., & Spicer, A. (2015). The Wellness syndrome. Polity Press: NY.

Dagevos, H. (2021). Finding flexitarians: Current studies on meat eaters and meat reducers. Trends in Food Science & Technology, 114: 530–539.

Dagevos, H., & Voordouw, J. (2013). Sustainability and meat consumption: is reduction realistic? Sustainability: Science, Practice and Policy, 9(2): 60–69.

Dasgupta, P. (2021). The Economics of biodiversity: The Dasgupta review. HM Treasury: London.

De Backer, C., Erreygers, S., De Cort, C., Vandermoere, F., Dhoest, A., Vrinten, J., & Van Bauwel, S. (2020). Meat and masculinities. Can differences in masculinity predict meat consumption, intentions to reduce meat and attitudes towards vegetarians? Appetite, 147: 104559.

Devi Prasad, B. (2019). Qualitative content analysis: Why is it still a path less taken? [41 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 20(3): Article 36. https://dx.doi.org/10.17169/fqs-20.3.3392.

Dunlap, R. E., & Jones, R. (2002). Environmental concern: conceptual and measurement issues. In R. E. Dunlap, & W. Michelson (Eds.) Handbook of environmental sociology (pp. 482–524). Greenwood Press: Westport.

Eastham, L. A. (2011). Research using blogs for data: Public documents or private musings? Research in Nursing & Health, 34: 353–361.

EAT-Lancet (2019). Food in the anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. Lancet, 393: 447–492.

Elias, N. (1994). The civilizing process (B. Blackwell, Trans. in 1978 and 1982). Basil Blackwell: Oxford. (Original works published between 1939 and 1978)

ElHaffar, G., Durif, F., & Dubé, L. (2020). Towards closing the attitude-intention-behavior gap in green consumption: A narrative review of the literature and an overview of future research directions. Journal of Cleaner Production, 275(1): Article 122556. https://doi.org/10.1016/j.jclepro.2020.122556

Erkkola, M., Kinnunen, S. M., Vepsäläinen, H. R., Meinilä, J. M., Uusitalo, L., Konttinen, H., Saarijärvi, H., Fogelholm, M., & Nevalainen, J. (2022). A slow road from meat dominance to more sustainable diets: An analysis of purchase preferences among Finnish loyalty-card holders. PLOS Sustainability and Transformation. https://doi.org/10.1371/journal.pstr.0000015

EUR-Lex (2021). Regulation (EU) 2015/2283 of the European Parliament and of the Council of 25 November 2015 on novel foods, amending Regulation (EU) No 1169/2011 of the European Parliament and of the Council and repealing Regulation (EC) No 258/97 of the European Parliament and of the Council and Commission Regulation (EC) No 1852/2001. EUR-Lex Document 32015R2283. European Union. https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A32015R2283

Evans, D. M. (2019). What is consumption, where has it been going, and does it still matter? The Sociological Review, 67(3): 499–517.

Evans, D., Welch, D., & Swaffield, J. (2017). Constructing and mobilizing 'the consumer': Responsibility, consumption and the politics of sustainability. Environment and Planning, 49: 1396–1412.

Everitt, B. S., Landau, S., Leese, M., & Stahl, D. (2011). Cluster analysis. John Wiley & Sons: London.

FAO (2018). The future of food and agriculture – Alternative pathways to 2050. FAO: Rome.

FAO (2013). Edible insects. Future prospects for food and feed security. FAO Forestry Paper 171. FAO: Rome.

FAOSTAT (2023). Crops and livestock products. FAOSTAT data. Food and Agriculture Organization of the United Nations. https://www.fao.org/faostat/en/#data/QCL

Featherstone, M. (1991). Consumer culture and postmodernism. Sage: London.

Fehér, A., Gazdecki, M., Véha, M., Szakály, M., & Szakály, Z. (2020). A comprehensive review of the benefits of and the barriers to the switch to a plant-based diet. Sustainability, 12: Article 4136.
Fiddes, N. (1991). Meat – A natural symbol. Routledge: London.
Fischler, C. (1988). Food, self, and identity. Social Science Information, 27(2): 275–292.
Fligstein, N., & Dioun, C. (2015). Economic sociology. International Encyclopedia of the Social & Behavioral Sciences (Second Edition), 7: 67–72.
Franklin, A. (1999). Animals and modern cultures: A sociology of human–animal relations in modernity. Sage: London.
Franzen, A., & Mader. S. (2021). Testing the measurement of environmental concern: How do single items perform in comparison to multi-item scales? In A. Franzen, & S. Mader (Eds.) Handbook of environmental sociology (pp. 63–78). Edward Elgar: Chatenham.
Franzke, A. S., Bechmann, A., Zimmer, M., Ess, C., & Association of Internet researchers (2020). Internet research: Ethical guidelines 3.0. The AoIR IRE 3.0 Ethics Working Group. https://aoir.org/reports/ethics3.pdf
Frederiks, E. R., Stenner, E., & Hobman, E. V. (2015). The socio-demographic and psychological predictors of residential energy consumption: A comprehensive review. Energies, 8(1): 573–609.
Gabriel, Y., & Lang, T. (2015). The Unmanageable consumer. 20th Edition. Sage: London.
Geels, F., McMeekin, A., Mylan, J., & Southerton, D. (2015). A critical appraisal of sustainable consumption and production research: The reformist, revolutionary and reconfiguration positions. Global Environmental Change, 34: 1–12.
Gerber, P. J., Steinfeld, H., Henderson, B., Mottet, A., Opio, C., Dijkman, J., Falcucci, A., & Tempio, G. (2013). Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities. Food and Agriculture Organization of the United Nations (FAO): Rome.
GFI (2023). Plant-based meat, seafood, eggs, and dairy. 2022 State of the Industry Report. Good Food Institute. https://gfi.org/resource/plant-based-meat-eggs-and-dairy-state-of-the-industry-report/
Gheihman, N. (2021). Veganism as a lifestyle movement. Sociology Compass, 15: Article e12877.
Giesler, M., & Veresiu, E. (2014). Creating the responsible consumer: Moralistic governance regimes and consumer subjectivity. Journal of Consumer Research, 41: 840–857.
Godfray, H. C. J. et al. (2018). Meat consumption, health, and the environment. Science, 361(6399): Article eaam5324.
Golafshani, N. (2003). Understanding reliability and validity in qualitative research. The Qualitative Report, 8(4): 597–606. https://doi.org/10.46743/2160-3715/2003.1870
Golob, U., & Kronegger, L. (2019). Environmental consciousness of European consumers: A segmentation-based study. Journal of Cleaner Production, 221: 1–9.
Granovetter, M. (1985). Economic Action and Social Structure: The Problem of Embeddedness. American Journal of Sociology, 91: 481–510.
Green, J. F., Sterner, T., & Wagner, G. (2014). A balance of bottom-up and top-down in linking climate policies. Nature Climate Change, 4: 1064–1067.
Graça, J., Godinho, C. A., & Truninger, M. (2019).Reducing meat consumption and following plant-based diets: Current evidence and future directions to inform integrated transitions. Trends In Food Science and Technology, 91: 380–390.
Graça, J., Oliveira, A., & Calheiros, M. M. (2015). Meat, beyond the plate. Data-driven hypotheses for understanding consumer willingness to adopt a more plant-based diet. Appetite, 90: 80–90.
Graça, J., Roque, L., Guedes, D., Campos, L., Truninger, M., Godinho, C., & Vinnari, M. (2022). Enabling sustainable food transitions in schools: a systemic approach. British Food Journal, 124(13): 322–339.
Gram-Hanssen, K. (2021). Conceptualising ethical consumption within theories of practice. Journal of Consumer Culture, 21(3): 432–449.
Neslen, A. (2023, October 20). 'The anti-livestock people are a pest': how UN food body played down role of farming in climate change. The Guardian.

https://www.theguardian.com/environment/2023/oct/20/the-anti-livestock-people-are-a-pest-how-un-fao-played-down-role-of-farming-in-climate-change

Götze, F., & Brunner, T. A. (2021). A consumer segmentation study for meat and meat alternatives in Switzerland. Foods, 10: Article 1273.

Haas, J. K. (2020). Economic sociology. An introduction. Second edition. Routledge: London.

Hajer, M., & Wagenaar, H. (Eds.) (2003). Deliberative policy analysis: Understanding governance in the network society. Cambridge University Press: Cambridge.

Haider, M., Shannon, R., & Moschis, G. P. (2022). Sustainable consumption research and the role of marketing: A review of the literature (1976–2021). Sustainability, 14(7): Article 3999. https://doi.org/10.3390/su14073999

Halkier, B. (2020). Social interaction as key to understanding the intertwining of routinized and culturally contested consumption. Cultural Sociology, 14(4): 399–416.

Halkier, B. (2017). Methods and methods' debates within consumption research. In M. Keller, B. Halkier, T.-A. Wilska, & M. Truninger (Eds.) Routledge handbook on consumption (pp. 36–46). Routledge: London.

Halkier, B., Keller, M., Truninger, M., & Wilska, T.-A. (2017). Consumption research revisited: Charting of the territory and introducing the handbook. In M. Keller, B. Halkier, T.-A. Wilska, & M. Truninger (Eds.) Routledge handbook on consumption (pp. 1–10). Routledge: London.

Halkier, B., & Lund, T. B. (2023). Exploring everyday life dynamics in meat reduction - A cluster analysis of flexitarians in Denmark. Appetite, 183: Article 106487.

Harguess, J. M., Crespo, N. C., & Mee Yong Hong, M. Y. (2020). Strategies to reduce meat consumption: A systematic literature review of experimental studies. Appetite, 144: 104478.

Hitlin, S., & Piliavin, J. A. (2004). Values: Reviving a dormant concept. Annual Review of Sociology, 30: 359–393.

Holm, L. (2013). Sociology of food consumption. In A. Murcott, W. Belasco, & P. Jackson (Eds.) The handbook of food research (pp. 324–337). Bloomsbury: London.

Hopwood, C. J., Piazza, J., Chen, S., & Bleidorn, W. (2021). Development and validation of the motivations to Eat Meat Inventory. Appetite, 163: Article 105210.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. Qualitative Health Analysis, 15(9): 1147–1288. https://doi.org/10.1177/1049732305276687

Huberman, A. M., & Miles, M. B. (2002). The qualitative researcher's companion. Sage: London.

Huddard Kennedy, E. (2020). Sustainable consumption. In K. Legun, J. C. Keller, M. Carolan, & M. M. Bell (Eds.) The Cambridge Handbook of environmental sociology (pp. 221–235). Cambridge University Press: Cambridge.

Häkkinen, A. (2012). Suomen 1860-luvun nälkäkatastrofi - syitä ja seurauksia. Duodecim, 27(23): 2425–30.

Häkli, T., & Hakokõngäs, E. (2022). Natural, enjoyable, and Finnish: Social representations of eating meat in Finnish meat product advertisements. Journal of Social and Political Psychology, 10(1): 306–322. https://doi.org/10.5964/jspp.7407

Jacobsen, M. H., & Hansen, A. R. (2021). (Re)introducing embodied practical understanding to the sociology of sustainable consumption. Journal of Consumer Culture, 21(4): 747–763.

Jallinoja, P., Vinnari, M., & Niva, M. (2019). Veganism and plant-based eating: Analysis of interplay between discursive strategies and lifestyle political consumerism. In M. Boström, M. Micheletti, & P. Oosterveer (Eds.) The Oxford handbook of political consumerism (pp. 157–179). Oxford University Press: Oxford.

Johnson, J., & Weiler, A. M. (2021). Eating our way to a sustainable future? In K. Legun, J. C. Keller, M. Carolan, & M. M. Bell (Eds.) The Cambridge Handbook of Environmental Sociology (pp. 390–410). Cambridge University Press: Cambridge.

Kaaronen, R., & Pulkka, A. (2022). Ilmastolakoista ilmastovaaleihin – ympäristökansalaisuuden uudet muodot. In S. Laakso, & R. Aro (Eds.) Planeetan kokoinen arki. askelia kestävämpään politiikkaan (pp. 195–214). Gaudeamus: Helsinki.

Kaljonen, M., Karttunen, K., & Kortetmäki, T. (Eds.) (2022). Reilu ruokamurros. Polkuja kestävään ja oikeudenmukaiseen ruokajärjestelmään. Finnish Environmental Institute report 38/2022. Finnish Environmental Institute: Helsinki.

Kaljonen, M., Peltola, T., Salo, M., & Furman, E. (2019). Attentive, speculative experimental research for sustainability transitions: An exploration in sustainable eating. Journal of Cleaner Production, 206: 365–373.

Kalton, G. (2012). Developments in survey research over the past 60 years: A personal perspective. International Statistical Review, 87(S1): S10–S30.

Keller, M., Halkier, B., Wilska, T.-A., & Truninger, M. (Eds.) (2017). Routledge handbook on consumption. Routledge: London.

Kemper, J. A., Benson-Rea, M., Young, J., & Seifert, M. (2023). Cutting down or eating up: Examining meat consumption, reduction, and sustainable food beliefs, attitudes, and behaviors. Food Quality and Preference, 104: Article 104718.

Klein, N. (2014). This changes everything: Capitalism vs. the climate. Simon & Schuster: NY.

Knaapila, A., Michel, F., Jouppila, K., Sontag-Strohm, T., & Piironen, V. (2022). Millennials' consumption of and attitudes toward meat and plant-based meat alternatives by consumer segment in Finland. Foods, 11: Article 456.

Konttinen, H., Halmesvaara, O., Fogelholm, M., et al. (2021). Sociodemographic differences in motives for food selection: Results from the LoCard cross-sectional survey. Int J Behav Nutr Phys Act, 18(71). https://doi.org/10.1186/s12966-021-01139-2

Koop-Monteiro, J. (2021). Including animals in sociology. Current Sociology. https://doi.org/10.1177/00113921211065492

Koskinen, O. (2024). Everyday food consumption practices involving meat as multiple relatings of care. Doctoral dissertation. University of Helsinki: Helsinki.

Kuokkanen, A., Nurmi, A., Mikkilä, M., Kuisma, M., Kahiluoto, H., & Linnanen, L. (2018). Agency in regime destabilization through the selection environment: The Finnish food system's sustainability transition. Research Policy, 47: 1513–1522.

Kupsala, S., Jokinen, P., Vinnari, M., & Pohjolainen, P. (2011). Suomalaisten näkemykset tuotantoeläinten hyvinvoinnista. Maaseudun Uusi Aika 3/2011: 20–35.

Kwasny, T., Dobernig, K., & Riefler, P. (2022). Towards reduced meat consumption: A systematic literature review of intervention effectiveness, 2001–2019. Appetite, 168: Article 105739.

Kylli, R. (2021). Suomen ruokahistoria – Suolalihasta sushiin. Helsinki: Gaudeamus.

Köllen, T., & Schneeberger, D. (2023). Avoiding unnecessary suffering: Towards a moral minimum standard for humans' responsibility for animal welfare. Business Ethics, Env & Resp. 2023(32): 1139–1149.

Laakso, S., Niva, M., Eranti, V., & Aapiod, F. (2021). Reconfiguring everyday eating: Vegan Challenge discussions in social media. Food, Culture & Society, 25(2): 268–289.

Laaksonen, S.-M. (2021). Sosiaalinen media tutkimusaineistona. In J. Vuori (Ed.) Laadullisen tutkimuksen verkkokäsikirja. Yhteiskuntatieteellinen tietoarkisto: Tampere. https://www.fsd.tuni.fi/fi/palvelut/menetelmaopetus/kvali/laadullisen-tutkimuksen-aineistot/sosiaalinen-media-tutkimusaineistona/

Laaksonen, S.-M., Matikainen, J., & Tikka, M. (2013). Otteita verkosta — verkon ja sosiaalisen median tutkimusmenetelmät. Vastapaino: Tampere.

Lang, T., & Rayner, G. (2012). Ecological public health: the 21st century's big idea? An essay by Tim Lang and Geof Rayner. BMJ, 345: Article e5466. https://doi.org/10.1136/bmj.e5466

Lang, T., & Heasman, M. (2015). Food wars - The global battle for mouths, minds and markets. 2nd Edition. Routledge: London.

Leggett, S., & Lambert, T. (2022). Food and Power in Early Medieval England: a Lack of (Isotopic) Enrichment. Anglo-Saxon England, 49: 155–196.

Lehto, E., Kaartinen, N. E., Sääksjärvi, K., Männistö, S., & Jallinoja, P. (2022). Vegetarians and different types of meat eaters among the Finnish adult population from 2007 to 2017. British Journal of Nutrition, 127: 1060–1072.

Lehdonvirta, V., Oksanen, A., Räsänen, P., & Blank, G. (2021). Social media, web, and panel surveys: using non-probability samples in social and policy research. Policy & internet, 13(1): 134–155.

Lehikoinen, E., & Salonen, A. (2019). Food preferences in Finland: Sustainable diets and their differences between groups. Sustainability, 11: 1259.

Lemken, D., Spiller, A., & Schulze-Ehlers, B. (2019). More room for legume – Consumer acceptance of meat substitution with classic, processed and meat-resembling legume products. Appetite, 143: Article 104412.

Leisch, F. Dolnicar, S., & Grün, B. (2018). Market segmentation analysis: Understanding it, doing it, and making it useful. Springer Nature. https://doi.org/10.1007/978-981-10-8818-6

Leung, A. K.-y., Chong, M., Fernandez, T. M., & Ng, S. T. (2023). Higher well-being individuals are more receptive to cultivated meat: An investigation of their reasoning for consuming cultivated meat. Appetite, 184: Article 106496.

Lieberman, D. (2013). The story of the human body: Evolution, health and disease. Pantheon Press: NY.

Lockie, S. (2015). What is environmental sociology? Environmental Sociology, 1(3): 139–142.

Lombardini, C., & Lankoski, L. (2013). Forced choice restriction in promoting sustainable food consumption: Intended and unintended effects of the mandatory vegetarian day in Helsinki schools. Journal of Consumer Policy. https://doi.org/10.1007/s10603-013-9221-5

Lonkila, A., & Kaljonen, M. (2021). Promises of meat and milk alternatives: an integrative literature review on emergent research themes. Agriculture and Human Values. https://doi.org/10.1007/s10460-020-10184-9

Lorek, S., & Vergragt, P. J. (2015). Sustainable consumption as a systemic challenge: inter- and transdisciplinary research and research questions. In L. Reisch, & J. Thøgersen (Eds.) Handbook of Research on Sustainable Consumption (pp. 19–32). Edward Elgar: Cheltenham.

Loughnan, S., Haslam, N., & Bastian, B. (2010). The role of meat consumption in the denial of moral status and mind to meat animals. Appetite, 55: 156–159.

Luke (2022). Balance sheet for food commodities 2021, preliminary and 2020 final figures. Published 22.6.2022. Natural Resources Institute Finland. https://www.luke.fi/en/statistics/balance-sheet-for-food-commodities/balance-sheet-for-food-commodities-2021-preliminary-and-2020-final-figures

Lundahl, O. (2017). From a moral consumption ethos to an apolitical consumption trend. The role of media and celebrities in structuring the rise of veganism. Doctoral dissertation. University of Vaasa: Vaasa.

MacDonald, G. K., Brauman, K. A., Sun, S., Carlson, K. M., Cassidy, E. S., Gerber, J. S., & West, P. C. (2015). Rethinking agricultural trade relationships in an era of globalization. BioScience, 65(3): 275–289.

Manners, R., Blanco-Gutiérrez, I., Varela-Ortega, C., & Tarquis, A. M. (2020). Transitioning European protein-rich food consumption and production towards more sustainable patterns—strategies and policy suggestions. Sustainability, 12: Article 1962.

Marletto, G., & Sillig, C. (2019). Lost in mainstreaming? Agrifood and urban mobility grassroots innovations with multiple pathways and outcomes. Ecological Economics, 158: 88–100.

Mata, J., Kadel, P., Frank, R., & Schüz, B. (2023). Education- and income-related differences in processed meat consumption across Europe: The role of food-related attitudes. Appetite, 182: Article 106417.

Mayring, P. (2000). Qualitative content analysis [28 paragraphs]. Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, 1(2): Article 20. http://nbn-resolving.de/urn:nbn:de:0114-fqs0002204

McKee, H., & Porter, J. (2008). The ethics of digital writing research: A rhetorical approach. College Composition and Communication, 59(4): 711–749.
Milford, A. B., Le Mouël, C., Leon, B., Bodirsky, B. L., & Rolinski, S. (2019). Drivers of meat consumption. Appetite, 141: Article 104313.
Morris, C. (2018). 'Taking the politics out of broccoli': Debating (de)meatification in UK national and regional newspaper coverage of the Meat Free Mondays campaign. Sociologia Ruralis, 58: 433–452.
Murcott, A. (2019). Introducing the Sociology of Food and Eating. Bloomsbury: London.
Mäkelä, J., & Niva, M. (2016). Liha suomalaisessa ruokakulttuurissa. In H. Mattila (Ed.) Vähemmän lihaa – kohti kestävää ruokakulttuuria (pp. 16–35). Gaudeamus: Helsinki
Neslen, A. (2023, October 20). 'The anti-livestock people are a pest': how UN food body played down role of farming in climate change. The Guardian. https://www.theguardian.com/environment/2023/oct/20/the-anti-livestock-people-are-a-pest-how-un-fao-played-down-role-of-farming-in-climate-change
Nevalainen, E., Niva, M., & Vainio, A. (2023). A transition towards plant-based diets on its way? Consumers' substitutions of meat in their diets in Finland. Food Quality and Preference, 104: 104754.
Niva, M., & Vainio, A. (2021). Towards more environmentally sustainable diets? Changes in the consumption of beef and plant- and insect-based protein products in consumer groups in Finland. Meat Science, 182: Article 108635.
Nordic nutrition recommendations 2012 (2012). Nordic nutrition recommendations 2012. Copenhagen: Nordic Council of Ministers, 2012.
Oleschuk, M., Johnston, J., & Baumann, S. (2019). Maintaining meat: Cultural repertoires and the meat paradox. Sociological Forum, 34: 337–360.
Paddock, J. (2017). Household consumption and environmental change: Rethinking the policy problem through narratives of food practice. Journal of Consumer Culture, 17(1): 122–139.
Pecoraro, M. G., & Uusitalo, O. (2013). Conflicting values of ethical consumption in diverse worlds—A cultural approach. Journal of Consumer Culture, 14: 45–65.
Peggs, K. (2012). Animals and sociology. Palgrave Macmillan: London.
Piazza, J., Ruby, M. B., Loughnan, S., Luong, M., Kulik, J., Watkins, H. M., & Seigerman, M. (2015). Rationalizing meat consumption. The 4Ns. Appetite, 91: 114–128.
Pohjolainen, P., Vinnari, M., Roitto, M., Ala-Harja, V., Järviö, N., & Tuomisto, H. (2023). Kasvipohjaiset ja solumaatalouden tuotteet Suomen ruokajärjestelmän murroksessa. Kohti vuotta 2050. Sitra studies 232. Sitra. 87s. ISBN: 978-952-347-328-7 (PDF). ISSN: 1796-7112 (PDF).
Pohjolainen, P., Kukkonen, I., Jokinen, P., Poortinga, W., Adedayo Ogunbode, C., Böhm, G., Fisher, S., & Umit, R. (2021). The role of national affluence, carbon emissions, and democracy in Europeans' climate perceptions. Innovation: The European Journal of Social Science Research. https://doi.org/10.1080/13511610.2021.1909465
Pohjolainen, P., & Jokinen, P., (2020). Meat reduction practices in the context of a social media grassroots experiment campaign. Sustainability, 12(9): 3822.
Pohjolainen, P., & Tapio, P. (2016). Ovatko kuluttajat valmiita muutokseen? In H. Mattila (Ed.) Vähemmän lihaa – kohti kestävää ruokakulttuuria (pp. 128–148). Gaudeamus: Helsinki.
Pohjolainen, P., Tapio, P., Vinnari, M., Jokinen, P., & Räsänen, P. (2016). Consumer consciousness on meat and the environment – exploring group differences. Appetite, 101: 37–45.
Pohjolainen, P., Vinnari, M., & Jokinen, P. (2015). Consumers' perceived barriers to following a plant-based diet. British Food Journal, 117(3): 1150–1167.
Poore, J., & Nemecek, T. (2018). Reducing food's environmental impacts through producers and consumers. Science, 360(6392): 987–992.
Poulain, J.-P. (2017). The sociology of food - Eating and the place of food in society (A. Dörr, Trans.). Bloomsbury: London. (Original work published in 2002)

Preisendörfer, P., & Diekmann, A. (2021). Environmental behavior: Measurement approaches and determining factors. In A. Franzen, & S. Mader (Eds.) Handbook of environmental sociology (pp. 140–156). Edward Elgar: Chatenham.

Princen, T. (2005). The logic of sufficiency. MIT Press: Cambridge.

Randers, L., & Thøgersen, J. (2023). Meat, myself, and I: The role of multiple identities in meat consumption. Appetite, 180: Article 106319.

Raworth, K. (2012). A safe and just space for humanity. Can we live within the doughnut? Oxfam Discussion Papers, February 2012. Oxfam.

Reisch, L., & Thøgersen, J. (Eds.) (2015). Handbook of research on sustainable consumption. Edward Elgar: Cheltenham.

Rey, P. J., & Ritzer, G. (2012). Sociology of consumption. In G. Ritzer (Ed.) The Wiley-Blackwell companion to sociology (pp. 444–469). Wiley-Blackwell: NJ.

Rieger, A., & Schor, J. B. (2021). Consumption. In B. S. Caniglia, A. Jorgenson, S. A. Malin, L. Peek, D. N. Pellow & X. Huang (Eds.) Handbook of environmental sociology (pp. 71–87). Springer: New York. https://doi.org/10.1007/978-3-030-77712-8

Rockström, J., et al. (2009). A safe operating space for humanity. Nature, 461: 472–475.

Rokeach, M. (1973). The nature of human values. Free Press: New York.

Ruuskanen, E., Schönach, P., & Väyrynen, K. (2022). Suomen ympäristöhistoria 1700-luvulta nykyaikaan. Vastapaino: Tampere.

Ruby, M. (2012). Vegetarianism. A blossoming field of study. Appetite, 58: 141–150.

Salmen, A., & Dhont, K. (2023). Animalizing women and feminizing (vegan) men: The psychological intersections of sexism, speciesism, meat, and masculinity. Soc Personal Psychol Compass, 2023 17: Article e12717.

Salmivaara, L., Niva, M., Silfver, M., & Vainio, A. (2022). How vegans and vegetarians negotiate eating-related social norm conflicts in their social networks. Appetite, 175: Article 106081.

Salonen, A. O., & Konkka, J. (2015). An ecosocial approach to well-being: A solution to the wicked problems in the era of anthropocene. Foro de Educación, 13(19): 19–34.

Sánchez, M. J., & Lafuente, R. (2010). Defining and measuring environmental consciousness. Revista Internacional de Sociología, 68(3): 731–755.

Sanches-Sabate, R., & Sabaté, J. (2019). Consumer attitudes towards environmental concerns of meat consumption: A systematic review. International Journal of Environmental Research and Public Health, 16(7): 1220.

Sánchez-Villar, J. M. (2019). The use of blogs as social media tools of political communication: Citizen journalism and public opinion 2.0. Commun. Soc., 32: 39–55.

Sanders, L. M., Wilcox, M. L., & Maki, K. C. (2023). Red meat consumption and risk factors for type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials. European Journal of Clinical Nutrition, 77: 156–165.

Santaoja, M., & Jallinoja, P. (2021). Food out of its usual rut. Carnivalesque online veganism as political consumerism. Geoforum, 126: 59–67.

Sassatelli, R. (2015). Consumer culture, sustainability and a new vision of consumer sovereignty. Sociologia Ruralis, 55(4): 483–496.

Schwartz, S. (1992). Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. In Zanna, M. (Ed.) Advances in Experimental Social Psychology (pp. 1–65). Academic Press: San Diego, CA.

Schösler, H., de Boer, J., & Boersema, J. J. (2012). Can we cut out the meat of the dish? Constructing consumer-oriented pathways towards meat substitution. Appetite 58(1): 39–47.

Scoones, I., Leach, M., & Newell, P. (Eds.) (2015). The politics of green transformations. Routledge: London.

Sengers, F., Wieczorek, A., & Raven, R. (2016). Experimenting for sustainability transitions: a systematic literature review. Technological Forecasting & Social Change, 145: 153–164.

Sharpe, D. (2015) Chi-square test is statistically significant: Now what? Practical Assessment, Research, and Evaluation, 20: 8. https://doi.org/10.7275/tbfa-x148
Shove, E., Pantzar, M., & Watson, M. (2012). The dynamics of social practice. Everyday life and how it changes. Sage: London.
Silfver, M., Niva, M. Salmivaara, L., & Vainio, A. (2023). Moral foundations and future pro-environmental lifestyles choices in the Finnish population. Journal of Community & Applied Social Psychology. https://doi.org/10.1002/casp.2687
Sillanpää, M. (1999). Happamasta makeaan: Suomalaisen ruoka- ja tapakulttuurin kehitys. Hyvää Suomesta: Vantaa.
Simmel, G. (2005). Suurkaupunki ja moderni elämä: Kirjoituksia vuosilta 1895–1917 (T. Huuhtanen, Trans.). Gaudeamus: Helsinki. (Original works published between 1895 and 1917)
Smelser, N. J., & Swedberg, R. (Eds.) (2005). The handbook of economic sociology. Second Edition. Princeton University Press: NJ.
Sobal, J. (2005). Men, meat, and marriage. Models of masculinity. Food and Foodways 13(1-2): 135–158.
Soneryd, L., & Uggla, Y. (2015). Green governmentality and responsibilization: new forms of governance and responses to 'consumer responsibility'. Environmental Politics, 24: 913–931.
Spencer, C. (1993). A heretic's feast - History of vegetarianism. Fourth Estate Limited: London
Spiller, A., & Nitzko, S. (2015). Peak meat: the role of meat in sustainable consumption. In L. Reisch, & J. Thøgersen (Eds.) Handbook of research on sustainable consumption (pp. 192–208). Edward Elgar: Cheltenham.
Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., & de Haan, C. (2006). Livestock's long shadow. Rome: FAO. ISBN 978-92-5-105571-7.
Stoll-Kleemann, S., & Schmidt, J. U. (2017). Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: a review of influence factors. Regional Environmental Change, 17: 1261–1277.
Swatland, H. J. (2010). Meat products and consumption culture in the West. Meat Science, 86: 80–85.
Tabachnick, B. G., & Fidell, L S. (2014). Using multivariate statistics. Sixth Edition. Pearson: Harlow.
Tan P.-N., Steinbach, M., & Kumar, V. (2006). Introduction to data mining. Boston: Pearson Addison Wesley.
Tapio, P. (2003). Disaggregative policy Delphi: using cluster analysis as a tool for systematic scenario formation. Technological Forecasting and Social Change, 70: Article 83e101.
TENK (2023). Advice and materials. Finnish national board on research integrity TENK. https://tenk.fi/en/advice-and-materials
Thome, H. (2015). Values, Sociology of. In J. D. Wright (ed.) International encyclopedia of the social & behavioral sciences, 2nd edition, Vol 25 (pp. 47–53). Elsevier: Oxford.
Thompson, C. G., Kim, R. S., Aloe, A. M., & Becker, B. J. (2017). Extracting the variance inflation factor and other multicollinearity diagnostics from typical regression results. Basic and Applied Social Psychology, 39(2): 81–90.
Thorslund, C. A. H., & Lassen, J. (2017). Context, orders of worth, and the justification of meat consumption practices. Sociologia Ruralis, 57(S1): 836–858.
Twine, R. (2021). Emissions from animal agriculture—16.5% is the new minimum figure. Sustainability, 13: Article 6276. https://doi.org/10.3390/su13116276
Tziva, M., Negro, S. O., Kalfagianni, A., & Hekkert, M. P. (2020). Understanding the protein transition: The rise of plant-based meat substitutes. Environmental Innovation and Societal Transitions, 35: 217–231.
Vainio, A. (2019). How consumers of meat-based and plant-based diets attend to scientific and commercial information sources: Eating motives, the need for cognition and ability to evaluate information. Appetite, 138(1): 72–79.

Vainio, A., Irz, X., & Hartikainen, H. (2018). How effective are messages and their characteristics in changing behavioural intentions to substitute plant-based foods for red meat? The mediating role of prior beliefs. Appetite, 125(1): 217–224.

Vainio, A., Niva, M., Jallinoja, P., & Latvala, T. (2016). From beef to beans: Eating motives and the replacement of animal proteins with plant proteins among Finnish consumers. Appetite, 106: 92–100.

Valsta, L., Kaartinen, N., Tapanainen, H., Männistö, S., & Sääksjärvi, K. (Eds.) (2017). Ravitsemus Suomessa – FinRavinto 2017 –tutkimus. THL Report 12/2018. Helsinki.

Vanhonacker, F., Van Loo, E. J., Gellynck, X., & Verbeke, W. (2013). Flemish consumers' attitudes towards sustainable food choices. Appetite, 62: 7–16.

Vaskelainen, T., Siltaoja, M., & Hoskonen, H. (2022). Hypes and the birth of new sustainable market categories – a socio-cultural perspective on the emergence of the meat substitute category in Finland. Technology Analysis & Strategic Management. https://doi.org/10.1080/09537325.2022.2070467

Veblen, T. (1899). The theory of the leisure class. Reissue. Oxford University Press: Oxford.

Wahlen, S., & Laamanen, M. (2015). Consumption, lifestyle and social movements. International Journal of Consumer Studies, 39: 397–403.

Warde, A. (2017). Consumption. A Sociological Analysis. Palgrave Macmillan: London.

Warde, A. (2015). The sociology of consumption: Its recent development. The Annual Review of Sociology, 41: 117–134.

Warde, A. (2010). Consumption. Sage: London.

Warde, A. (1997). Consumption, food, and taste. Sage: London.

Watson, M. (2017). Sustainable consumption and changing practices. In M. Keller, B. Halkier, T.-A. Wilska, & M. Truninger (Eds.) Routledge handbook on consumption (pp. 343–352). Routledge: London.

Weeth Feinstein, N. (2020). The paradox of public knowledge in environmental sociology. In K. Legun, J. C. Keller, M. Carolan, & M. M. Bell (Eds.) The Cambridge handbook of environmental sociology (pp. 362–378). Cambridge University Press: Cambridge.

Weis, T., & Ellis, R. A. (2022). The de-meatification imperative. To what end? Canadian Food Studies/La Revue canadienne des études sur l'alimentation, 9(1): 196–216.

Welch, D., Halkier, B., & Keller, M. (2020). Introduction to the special issue: Renewing theories of practice and reappraising the cultural. Cultural Sociology, 14(4): 325–339.

Welch, D., & Warde, A. (2015). Theories of practice and sustainable consumption. In A. Franzen, & S. Mader (Eds.) Handbook of environmental sociology (pp. 84–100). Edward Elgar: Chatenham.

Wendler, M. (2023). The social challenges of not eating meat: how social interactions shape the role of meat in everyday food practices. Consumption and Society, 2(1): 24–41.

Vinnari, M., & Tapio, P. (2012). Sustainability of diets: From concepts to governance. Ecological Economics, 74: 46–54.

Vinnari, M., Räsänen, P., & Jokinen, P. (2013). Attitudes towards farm animals as a part of belief systems. Anthrozoos, 26(1): 110–123.

Xu, X., Sharma, P., Shu, S., Lin, T.-S., Ciais, P., Tubiello, F. N., Smith, P., Campbell, N., & Jain, A. K. (2021). Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods. Nature Food, 2: 724–732.

Yip, C. S. C., Lam, W., & Fielding, R. (2018). A summary of meat intakes and health burdens. European Journal of Clinical Nutrition, 72: 18–29.

York, R., & Dunlap, R. E. (2019). Environmental sociology. In G. Ritzer, & W. W. Murphy (Eds.) The Wiley-Blackwell companion to sociology (Second Edition, pp. 283–300). Wiley-Blackwell: NJ.

Zeng, L., Ruan, M., Liu, J., Wilde, P., Naumova, E. P., Mozaffarian, D., & Zhang, F. F. (2019). Trends in processed meat, unprocessed red meat, poultry, and fish consumption in the United States, 1999-2016. J Acad Nutr Diet, 119(7): 1085–1098. https://doi.org/10.1016/j.jand.2019.04.004.

TURUN
YLIOPISTO
UNIVERSITY
OF TURKU

Painosalama, Turku, Finland 2024

ISBN 978-951-29-9707-7 (PRINT)
ISBN 978-951-29-9708-4 (PDF)
ISSN 0082-6987 (Print)
ISSN 2343-3191 (Online)