



*Special Issue: Towards Less Meat-intensive Diets? Exploring Everyday Practices of Meat Consumption, Reduction and Substitution*

## RESEARCH ARTICLE

# Doing (food) without meat? Accomplishing substitution and qualifying substitutes in household food practices

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Excessive meat consumption is associated with environmental, ethical and public health concerns. Substituting meat with plant-based alternatives has been located as a key strategy for consumers to reduce their meat intake. While a growing body of research seeks to measure consumers' acceptance of substitute foods, less attention has been paid to how meat substitution is organised through everyday practices. Based on 50 interviews with consumers with varying levels of meat consumption in Norway, this paper explores how substitution is accomplished in everyday life, and how substitutes are leveraged in the project of meat reduction. A theoretical framework connecting theories of social practice and food qualification allowed investigating substitution as a contextually contingent process rather than the outcome of a simple product swap. The paper finds that many participants were open to the idea of meat substitution, and meatless meals could be acceptable and often desirable. However, substitution was complicated by a prevalent scepticism towards prefabricated substitute products and lacking competence to provide home-cooked alternatives fulfilling expectations in established food practices. The paper argues that 'qualifying' foods as substitutes depends on a range of factors beyond the material reconstruction of meatiness present in prefabricated products, problematising the idea of substitution as a straightforward strategy for meat reduction so long as consumers are motivated and/or have access to plant-based options. Shifting consumption from meat to plant-based alternatives require fundamental changes in the organisation of food environments and eating practices beyond measures targeting consumer attitudes or increasing the availability of convenient substitute products.

**Key words** alternative proteins • food practices • food qualification • meat substitutes • meat substitution • novel foods • plant-based meat

### Key messages

- Substituting meat is an important strategy for everyday meat reduction among consumers.
- Meat substitution is a contextually contingent process of 'qualifying' food to replace meat.
- Scepticism of prefabricated substitutes and limited skills to substitute 'from scratch' are barriers to replacing meat.

- A shift towards plant-based alternatives requires changes in the organisation of food environments and everyday practices.

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## Introduction

This paper addresses the role of substitution in reducing meat consumption. Given the environmental, ethical and public health concerns associated with excessive meat consumption, it is problematic that meat consumption and production remain high in affluent societies (see [Parlasca and Qaim, 2022](#)). Recently, Norway saw both red meat and overall meat consumption levels rise to an all-time high after some years of slow decline ([Animalia, 2022](#)). The stubborn role of meat in the diet is indicative of consumers' challenge in shifting consumption patterns towards meat reduction (for example, [Varela et al, 2022](#)). Substituting meat with alternatives has been located as one key strategy for consumers to perform meat reduction in everyday life ([Schösler et al, 2012](#); [Twine, 2018](#); [Weinrich, 2019](#); [Daly, 2020](#); [Varela et al, 2022](#)). This is perhaps particularly true for consumers belonging to meat-dominant food cultures ([Morris et al, 2018](#)) – such as Norway ([Hansen and Syse, 2021](#); [Ueland et al, 2022](#)). Thus, granting empirical and analytical attention to the role of substitution in meat reduction is necessary ([Morris et al, 2018](#)).

Lifecycle assessments suggest that most plant-based alternatives produce fewer emissions and use less water and land than conventional meat (see [Smetana et al, 2023](#)). In Norway, the direct consumption of protein-rich plant foods such as legumes and pulses has remained stable in recent decades ([Varela et al, 2022](#)). The market for prefabricated substitutes has 'increased dramatically in the last five years' ([Ueland et al, 2022: 2](#)) but numbers from retailers suggest that demand is flattening out ([NRK, 2023](#)). These products are chilled or frozen and include plant-based meat in the form of burgers, sausages, nuggets, filets, balls, mince and cold cuts ([Tonheim et al, 2022](#)). Protein is typically derived from soy, wheat, beans, chickpeas, cheese, peas or fungi ([Mayer Labba et al, 2022](#)). In 2022, 6 per cent of Norwegians reportedly consumed plant-based sausages and burgers every month, and there were at least 43 types of these particular products in Norwegian grocery stores ([Forbrukerrådet, 2022](#)). Crucially, a new wave of meat replacers broadens the consumer base for substitutes beyond vegans/vegetarians by marketing towards omnivores and a growing group of flexitarians ([Forbrukerrådet, 2022](#); [Tonheim et al, 2022](#)) – and, by implication, diffusing the practice of substitution.

A growing body of research explores the conditions under which substitute products become 'acceptable' for consumers (see [Weinrich, 2019](#)). However, emphasising 'individual decision making' and the properties of 'environmentally-friendly products', much of the existing research into barriers, facilitators and tensions in meat reduction and substitution lacks attention to the social and material context of behaviour change which interest social scientists ([White et al, 2022](#)). [Morris et al \(2018: 43\)](#) argue that 'the process of substitution' itself tends to be glossed over, represented as a taken-for-granted aspect of meat reduction. But, as meat alternatives become embedded in food

and eating practices (Mylan, 2018; Twine, 2018; Fuentes and Fuentes, 2021; Kanerva, 2021), there are many possible ways for new foods to become constructed as edible and potentially desirable, allowing for substitution to occur (Sexton, 2018; House, 2019). While there are blurred lines between ‘reduction’ and ‘substitution’, the latter concept deals directly with the ways in which qualities in different ways of eating become negotiated in the process of dietary change. Substitution also relates more directly to the idea of finding alternative sources of protein,<sup>1</sup> as consumers often worry about protein content in food when cutting meat (for example, Koning et al, 2020). Lacking, then, is research that takes substitution instead of reduction as the point of departure, and which understands substitution as a complex process beyond a simple food replacement.

This paper draws on 50 in-depth interviews with consumers in Norway with different levels of meat consumption to explore what role substitutes and substitution play in households’ food practices, asking how substitution is accomplished and how substitutes are leveraged in meat reduction. I adopt a theoretical framework where ‘meat substitution’ is interpreted as a social practice involving several elements beyond the changing materiality of foodstuffs (see House, 2016; Twine, 2018; Daly, 2020). From this analytical vantage point, ‘acceptance’ of foods is understood as a highly contingent process (House, 2016; Tan and House, 2018) involving ‘ongoing qualification trials’ (Evans, 2020: 348) of different kinds.

After laying out the paper’s conceptual framework and the study’s methodology in the following sections, the analysis will draw on empirical insights to illustrate the embeddedness of meat substitution in social practices and the relational meanings of substitutes and substitution in everyday life. Throughout, the general term ‘substitute’ covers different kinds of foodstuffs replacing meat, while ‘prefabricated substitute’ refers to processed plant-based products intended to replace meat. The paper ends by discussing theoretical and practical implications of the findings.

## Conceptual framework

### *Meat substitution as/in practice*

To shift focus from the substitute itself to the context in which it substitutes meat, this paper applies a practice-theoretical perspective on substitution. How substitutes are integrated into food practices might affect ‘acceptance’ among consumers. As Halkier (2022: 58) argues, the ‘concept of acceptable is not a stable convention’ but ‘is often consisting of negotiations over the acceptability of particular ways of performing practices which involve specific consumption activities’. Not only what is considered ‘edible’ (House, 2019) but also what is considered ‘proper’ in terms of food products or meal compositions might vary across practices and consumption contexts (Hansen and Wethal, 2023). From a practice perspective, ‘[u]nderstandings of the “proper” handling and eating of foods may be conditioned by structural conditions and social and cultural identities ... and regulated by conventions, and shared societal ideas or definitions of eating and cooking’ (Ditlevsen et al, 2022: 2). Moreover, variation in food culture and the centrality of meat means that meat reduction and substitution are spatially contingent practices (Morris, 2018). Consumers’ liking for meat substitutes have been found to depend on meal context and evolve over time (see Hoek et al, 2013; Elzerman et al, 2022).

Practice theories have offered a useful ontological framework for considering how ‘moments of consumption’ always occur within practices (Warde, 2005). Social

practices refer to, in broad terms, more or less routinised types of behaviour in which individuals participate (Reckwitz, 2002). Zooming out from ‘single domain’ accounts of food consumption (for example, producing, buying or wasting; see Warde, 2005) to *doing* food helps us consider how foods are integrated in and across practices in everyday life. From this perspective, food consumption has been theorised as a ‘compound’ practice that cannot be analysed on its own but must be seen in relation to the other practices into which it becomes integrated (Warde, 2015). Practice theories have been applied to study foods in general (Warde, 2015) and novel foods such as plant-based meat analogues (Fuentes and Fuentes, 2021). Scholars from different disciplines have used practice theory to understand meat consumption and reduction (Hansen, 2018; Mylan, 2018; Daly, 2020; Neuman et al, 2020; Sundet et al, 2023), dietary transitioning (Twine, 2017; 2018) and meat substitution (Fuentes and Fuentes, 2017; 2021; White et al, 2022). According to Morris et al (2018: 55), the practice approach helps ‘explore the variable ways in which eating practices associated with substitutes arise and evolve over time and space’.

From a practice perspective, agency in food consumption can be thought of as not only residing in consumers’ personal motivations but as something which is co-produced by – or distributed between (Sahakian and Wilhite, 2014) – material, social and bodily capacities in (food) practices. This perspective offers some ‘ontological correctives’ (Twine, 2017: 213) for theoretical approaches situating agency in the individual consuming the food or in material products being consumed. The practice approach thus allows analysing meat substitution as accomplished through individual consumers’ deliberations *in conjunction with* other factors, or ‘agentive powers’ (Kanerva, 2021). I apply practice theory as a framework for playing with the relative weighting of these agencies and considering actors and actions as ‘situated’ in practices (Twine, 2017).

In this paper, the meat *substitute* is conceptualised as the material entity in the practice – that is, the thing that replaces meat (or is understood to do so) – whether a substitute product or otherwise. In other words, a foodstuff can ‘act’ as a substitute whether substitution is deliberately ‘scripted’ (see Fuentes and Fuentes, 2021; Hansen and Wethal, 2023) into its materiality or not. Meat *substitution*, meanwhile, is considered to mean the process of rearranging elements within a practice so that meat is replaced by something else. Importantly, substitution is not seen as distinct from removing or reducing – or, for that matter, consuming – meat in this conceptualisation. To the contrary, all of these processes may entail some aspects of substitution. Substitution is thus understood as a practice extending beyond the reconfiguration of material foodstuffs to also include influences from changing social relations, routine and habits, customs and traditions, food infrastructures, and so on.<sup>2</sup>

### *Qualifying foods as meat substitutes*

There are multiple ways of substituting meat, and meatless meals can be prepared with or without deliberate substitution (de Boer et al, 2014). Literatures on substitution typically distinguish between meals where a meat ingredient is deliberately replaced by something else, whether a processed substitute product or a less processed plant source, and meals that are reconfigured to conform with plant-based cooking (Schösler et al, 2012; Lemken et al, 2019; Fuentes and Fuentes, 2021).

To make sense of the distinction between what is marketed as a substitute and what becomes a substitute in household food practices, we can turn to the concept of food ‘qualification’ (Fuentes and Fuentes, 2017; Evans and Mylan, 2019; Evans, 2020). Qualification refers to the ways in which products and services are designed – inscribed with certain material and semiotic properties – to be understood as appropriate for particular consumers or in particular settings (Callon et al, 2002). Arguably, the qualification concept is useful to analyse the dynamic process of consumer products falling in and out of the realms of acceptability and desirability.

Here, practice theory can inform how qualification is dynamically constituted in different ways depending on socio-material context across practices (see also Evans, 2020). Distribution, provision and marketing undoubtedly play an important role in food qualification materialised in, for instance, packaging design and in-store presentation (Fuentes and Fuentes, 2017; Evans and Mylan, 2019; Fuentes and Fuentes, 2023). But in a practice theoretical reading – where consumption is understood as a set of ‘moments’ beyond, not limited to, the moment of purchase (Warde, 2005) – qualification does not begin or end in the supermarket but is arguably reproduced continuously through consumers’ engagements with food in everyday life. Fuentes and Fuentes (2017: 531) conceive of qualification as a two-fold process whereby products first ‘acquire their qualities through marketing’ and then become re-qualified by consumers. With freshness as an example quality, Evans (2020: 348) notes that consumers ‘evaluate the freshness of food before deciding to buy it ... [and] they may also assess it again when deciding whether to eat it, freeze it, use it for something else, or get rid of it’. Arguably, however, such processes of ‘assessment’ and ‘evaluation’ need not always be deliberate or reflexive but can occur through diverse engagements with foods in everyday life, where products might gain new ‘practical purposes’ (Warde, 2022: 14). They might also be connected to ‘embodied’ skills and competences, relating to how understandings of how to accomplish a task are formed through ongoing interaction between practitioners’ bodies and their socio-material environments (see Wallenborn and Wilhite, 2014). Qualification processes may not be temporally fixed either, as understandings of a product may be formed prior to encountering it through marketing.

Offering a practice-theoretical reading of qualification, Evans (2020: 348) points out that food products ‘are subject to ongoing qualification trials’ from production to consumption. ‘Qualification trials’ was originally conceptualised to describe how the ‘characteristics’ of products on the market are influenced through varying agents’ impact on the products’ materiality and marketing (Callon et al, 2002). With inspiration from Evans, I use a practice-theoretical compatible variation of the ‘qualification trials’ concept as a starting point for considering the ways in which plant foods of different kinds go through relational processes of qualification as meat substitutes in everyday life. To connect food qualification to meat substitution specifically, the concept of ‘skilling’ is further useful. According to Twine (2018: 172), the use of processing technologies to replicate the material and functional properties of meat can be conceptualised as a form of ‘skilling the material’, turning them into a vehicle for essentially dealing with plant matter in ways developed in relation to meat, easing their incorporation into meat-based practices. Arguably, consumers also engage in skilling when substituting meat from scratch. Meat substitution constitutes a useful case for considering the connections between qualification processes and

consumption in social practices. By drawing on this conceptual framework to analyse the data described in the next section, this paper contributes towards further opening the ‘black-box’ of meat substitution (Morris et al, 2018).

## Methodology

The dataset used in this study comes from a broader project<sup>3</sup> and consists of in-depth, semi-structured interviews with members from 50 households in Norway. Interviews were conducted between 2019 and 2021, by a team of five researchers including the author. Two urban (Oslo, Trondheim) and two rural (Ottadalen, Sunnmøre) regions were selected to reflect geographical diversity in food consumption. The sample contains a wide range of household types and can be grouped into segments based on their dietary patterns and attitudes to meat (see Table 1). The vast majority had a regular or low level of meat consumption, but the sample also included some meat avoiders and some heavy meat eaters. The interviews focused on food practices in the household, and the role that meat consumption and reduction played within these. Questions were clustered around themes like everyday routines; food acquisition; food in and outside of the home; meat reduction; and broader reflections on food, meat and sustainability. The topic of meat *substitution* appeared organically throughout the data material but was discussed to a greater extent in some interviews than others.<sup>4</sup>

A conceptual framework revolving around practice theories was adopted prior to data collection. While there are many ways to ‘close in’ on practices methodologically, qualitative interviews were considered the most fruitful way to gain insight into household food practices for this project. Long-form interviews enabled teasing out intangible aspects of practices through conversing and asking follow-up questions. The interview guide was formulated in a way that encouraged participants to reflect on practice aspects of food in everyday life, while at the same time remaining flexible enough to allow relatively free expression – in line with the idea that people are able to talk about the practices they engage in (Hitchings, 2012). Participants were encouraged to share photos of food and eating practices, which were used as prompts for reflection during interviews (see also Daly, 2020; Fuentes and Fuentes, 2021).

Households were recruited via personal and institutional (social) networks and snowballing, including outreach in media channels such as a local radio broadcast and newspaper. Consumers with different levels of meat consumption and from different types of households were encouraged to take part, with the goal of ensuring a diverse sample. Most participants filled out an online form with contextual information about their household composition, meat consumption levels, and attitudes towards meat reduction and environmental concerns, prior to being recruited. Interviews lasted up to 90 minutes; the majority being conducted virtually due to the COVID-19 pandemic. Context on gender, geography, household composition and so on of participants are added in the body of the text if relevant for analytical purposes; otherwise, such info is found in Table 1. Participants are given pseudonyms, and quotes have been translated from Norwegian.<sup>5</sup>

Transcribed interviews were organised and coded using software. The research team collaborated on the initial coding process. A mix of inductive and deductive coding was used to identify cross-cutting themes and generate relevant insights across the dataset. A selection of codes relating to meat substitution (included material from most but not all interviews) was used as the starting point and main data material for the analysis

**Table 1:** Overview of the sample\*

Participant	Age	Gender	Household composition	Household status meat reduction	Meat consumption level	Location
Leander	40s	Male	Partner and children	Trying to reduce	High	Ottadalen
Katarina	40s	Female	Living alone	Don't want to reduce	High	Oslo
Raymond	50s	Male	Partner and children	Don't want to reduce	High	Oslo
Teodor	30s	Male	Partner	Trying to reduce	High	Oslo
Gry	30s	Female	Partner and children	Trying to reduce	Regular	Trondheim
Petter	30s	Male	Partner	Trying to reduce	Regular	Trondheim
Sunniva	50s	Female	Partner and children	Trying to reduce	Regular	Trondheim
Børge	40s	Male	Partner and children	No opinion/don't know	Regular	Sunnmøre
Elida	60s	Female	Partner	Trying to reduce	Regular	Sunnmøre
Rigmor	50s	Female	Living alone	Want to reduce	Regular	Sunnmøre
Sofie	50s	Female	Partner	Want to reduce	Regular	Sunnmøre
Vigdis	50s	Female	Partner and children	Trying to reduce	Regular	Sunnmøre
Åshild	60s	Female	Partner	Don't want to reduce	Regular	Sunnmøre
Kjellaug	70s	Female	Living alone	Don't want to reduce	Regular	Ottadalen
Vibeke	30s	Female	Partner	Unassigned	Regular	Ottadalen
Sigve	Unassigned	Male	Partner and children	Unassigned	Regular	Ottadalen
Arnstein	30s	Male	Partner	Trying to reduce	Regular	Oslo
Aurora	30s	Female	Partner and children	Trying to reduce	Regular	Oslo
Benedicte	30s	Female	Partner and children	Want to reduce	Regular	Oslo
Egil	60s	Male	Partner	Trying to reduce	Regular	Oslo
Hedvig	50s	Female	Partner and children	Trying to reduce	Regular	Oslo
Hulda	60s	Female	Partner	Trying to reduce	Regular	Oslo
Maud	50s	Female	Living alone	Don't want to reduce	Regular	Oslo

(Continued)

Table 1: Continued

Participant	Age	Gender	Household composition	Household status meat reduction	Meat consumption level	Location
Sigrid	30s	Female	Partner and children	Trying to reduce	Regular	Oslo
Ylva	30s	Female	Partner and children	Trying to reduce	Regular	Oslo
Josefine	20s	Female	Partner	Want to reduce	Low	Trondheim
Lene	30s	Female	Partner and children	No opinion/don't know	Low	Trondheim
Martine	30s	Female	Partner	Don't want to reduce	Low	Trondheim
Målfrid	50s	Female	Living alone	Trying to reduce	Low	Trondheim
Selma	20s	Female	Partner	Want to reduce	Low	Trondheim
Yvonne	30s	Female	Living alone	Trying to reduce	Low	Trondheim
Solfrid	40s	Female	Partner and children	Want to reduce	Low	Sunnmøre
Sylvi	40s	Female	Partner and children	Trying to reduce	Low	Sunnmøre
Edel	60s	Female	Family members	Trying to reduce	Low	Ottadalen
Maiken	50s	Female	Partner	Trying to reduce	Low	Ottadalen
Vivi	40s	Female	Children	Don't want to reduce	Low	Ottadalen
Anna	20s	Female	Partner and children	Trying to reduce	Low	Oslo
Elisa	30s	Female	Partner and children	Trying to reduce	Low	Oslo
Emma	20s	Female	Living alone	Trying to reduce	Low	Oslo
Mathea	30s	Female	Living alone	Don't want to reduce	Low	Oslo
Mikkel	20s	Male	Other cohabitants	Trying to reduce	Low	Oslo
Nina	70s	Female	Partner	Trying to reduce	Low	Oslo
Sverre	40s	Male	Partner	Trying to reduce	Low	Oslo
Tina	30s	Female	Partner	Trying to reduce	Low	Oslo
Agne	30s	Other	Partner	Trying to reduce	None	Trondheim
Amalie	30s	Female	Partner and children	Don't want to reduce	None	Trondheim

(Continued)



**Table 1:** Continued

Participant	Age	Gender	Household composition	Household status meat reduction	Meat consumption level	Location
Elvira	60s	Female	Living alone	No opinion/don't know	None	Summmøre
Torhild	60s	Female	Partner	Want to reduce	None	Oslo
Johanne	Unassigned	Female	Partner and children	Unassigned	Unassigned	Ottadalen
Gudrun	Unassigned	Female	Partner	Unassigned	Unassigned	Ottadalen

*Note:* \* Sorted by meat consumption levels. Note that the categorisations for meat consumption levels and household meat reduction status are primarily based on self-reports with some modifications by the researchers where necessary. While not entirely accurate, it gives a general impression of the meat consumption levels and attitudes to meat in the sample, as well as the intentions of participants to reduce meat consumption or not.

in the present paper. Through a combination of re-reading and performing keyword searches/queries across the transcriptions, more codes on this topic were added by the author. The data were analysed thematically, whereby the author interpreted the data and generated themes through critically reviewing codes and transcripts.

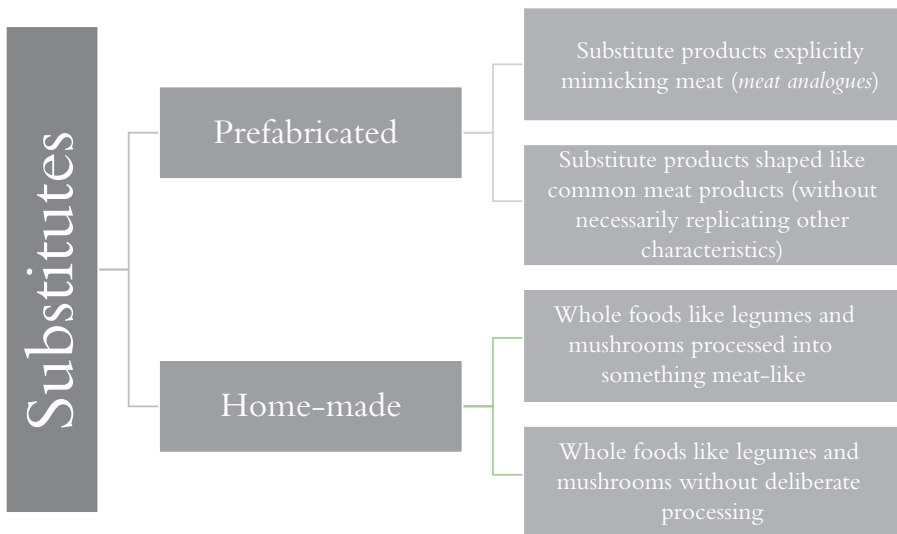
The following analysis begins with a focus on participants' understandings tied to substitutes, before zooming in on the practicalities of substitution in everyday life and the embodied experience of eating.

### Understandings of meat substitutes and their (in)appropriate uses

The majority of the sample had some experience with substitute products and used them regularly (at different frequencies) or more sporadically (once in a while). Finding ways to substitute – rather than simply removing – meat, was often seen as necessary to maintain the sense of a complete meal. There were, however, diverging attitudes towards prefabricated and home-made substitutes – the former being quite unpopular (something to avoid if possible) whereas the latter was quite popular (something to aspire to accomplish). For illustrative purposes, four kinds of substitutes ‘appearing’ in the data are identified in [Figure 1](#).

Prefabricated substitutes could offer convenience as they allowed for ‘instant’ substitution ([Schösler et al, 2012](#)). Many tended to buy them when on sale, often stocking up in the freezer for quick dinners. Nevertheless, the general impression of such products was lukewarm, and many reported never or seldomly buying them. Key reasons were, in addition to poor flavour, worries over the health and environmental implication of ‘unnaturalness’ and heavy processing (see also [Varela et al, 2022](#)). With more options available,<sup>6</sup> many participants had the impression that products were improving. Still, meat substitutes were framed as an unreliable food category for which quality, flavour and texture diverged greatly between brands and products.

**Figure 1:** Types of plant-based meat substitutes identified in the data



Prefabricated substitutes tended to challenge normative ideals for health and sustainability. Echoing a general sentiment in the sample, Ylva noted that there is a ‘jungle’ of factors to consider when seeking out (sustainable) food. While enabling meat reduction, equally important ideals for many participants were tied to food being local, in season, sensibly packaged or minimally processed. Participants living in rural areas were generally more concerned with the role of local and seasonal food in sustainability, hinting at a certain geographical influence on food norms and cultures. When picking a substitute, Edel evaluated products depending on where and how far away they were produced. Prefabricated substitutes did not necessarily speak to such ideals, as they were often understood to be (ultra-)processed with many indiscernible ingredients and questionable nutritional value:

‘And the worst of all, that’s those vegan burgers and stuff, I can’t think of anything more meaningless. And they’re even supposed to taste like meat, for me that’s totally incomprehensible ... Then I think it’s better to cook a steak and get done with it ... with lots of weird stuff in them ... soy flour and, ugh. Corn stuff and this and that and I don’t know what they even put in these things.’ (Maud)

Substitutes with “very long ingredients lists” were compared to “clean chicken, when it’s, like, just chicken” (Gry). Referring to “burger thingies” (Sylvi), “meat-like” foods (Anna), “things that play meat” (Målfrid) and “something that, like, pretends to be meat” (Leander), the majority of participants took issue with products challenging and destabilising the ‘seemingly stable categories’ of animal and plant protein (Sexton et al, 2022: 11) by mimicking meat too closely. This concern cut across the consumer segments in the sample, indicating a general scepticism.<sup>7</sup> Such personal afflictions are, arguably, central aspects of food practice given the ‘strong relationships between food and identity’ (Twine, 2018: 170). Prefabricated substitutes were thus, on the whole, understood as a sub-par compromise compared to ‘real meat’ and/or home-cooked plant-based meals using vegetables and legumes.

Relatedly, the understanding of prefabricated substitutes as processed convenience foods imbued with moral messaging, led to them being largely incompatible with practices of serving guests, also among those otherwise consuming them. Doing so could be seen as – in Anna’s words – “a *statement*, like, ‘we think that meat is wrong’ ... and then maybe people had been uncomfortable”. Sigrid recalled having once attracted unwanted attention when bringing a substitute burger to a barbecue. She said: “[I]n a setting like that ... I’m probably worried ... that people will feel that I’m moralising.” The substitute could thus challenge social norms even when not imposed on others. Compared to a home-cooked meatless dish, the explicit meatlessness of the prefabricated substitute could thus construe it as a social signifier directing attention to the *lack* of meat.

However, meat-eating participants sometimes bought such products for individuals requiring meat-free food in a social setting such as barbecuing. Prefabricated substitutes thus allowed accommodating food preferences for those less flexible with their meat consumption. Elida said: “It happens that [my granddaughter] gets those vegetarian burgers or vegetarian sausages when she’s visiting ... nuggets and things like that ... But we never buy it for ourselves.” Convenient substitution via prefabricated products could thus, in some cases, allow meat avoidance to be treated as a dietary preference akin to food intolerances rather than a collective project of

dietary transition. These examples show that preparing food for others – attuned to their needs as a display of care – might further complicate what is considered proper food (Koskinen and Jauho, forthcoming).

The majority of the sample – including the heavy meat eaters – were more open to substituting from scratch, relying to a greater extent on ‘whole’ foods and vegetables. Such foods were at times referred to as more ‘natural’ replacers (Mikkel). A harsh critic of prefabricated substitutes, Maud’s understanding of good vegetarian food was connected to the use of whole and identifiable as opposed to processed plant ingredients. She explained that the chef at her workplace canteen cooked “vegetarian food so well that no one raises a brow [*rynke på nesal*]” – “grilled cauliflower with avocado ... roasted chickpeas and fermented beets. That’s a proper [*bra*] vegetarian dish, even I understand that”. Josefine had made a dish she referred to as *squashkaker* (‘courgette cakes’). Although the name of the dish here alludes to *kjøttkaker* (‘meat cakes’) – a Norwegian twist on meatballs – she explained that “it doesn’t resemble *kjøttkaker* at all ... I just consider it a ‘veggie patty’ [*grønnsakskake*] without it trying to be some meat”. The typical criteria for an acceptable or successful substitute could thus circumnavigate explicit meatiness. Qualification trials might relate instead to the food’s flavour, or to preparation and overall quality of ingredients. The preference for reconfiguring rather than replicating meals challenges the idea that meat – or something which imitates meat – is a necessary element in food and cooking. By implication, the material properties designed into prefabricated substitutes might not necessarily lead to increased consumption of such products due to the equally important social and embodied aspects of food consumption.

Arguably, substitutes must qualify as a ‘proper’ and ‘appropriate’ food in a given setting to meaningfully substitute meat (Koponen et al, 2023). The different understandings of proper food explored in this section hint at some ways in which food qualification is a relational process anchored to everyday food practices. Different understandings of what is proper food affect the extent to which a foodstuff qualifies as meat replacer in practice, illustrating the role of consumers in food qualification. This might be complicated by different ontologies of food being mobilised in different contexts (Yates-Doerr and Mol, 2012). What is considered proper food might change across practices and situations, and so a food product – for example, meat or a substitute – might be considered proper in some cases but not in others. The next section switches focus to how substitution was accomplished in practice.

## Substituting meat in the context of everyday life

Participants’ accounts reveal that substituting meat tended to require learning new cooking skills and widening established food repertoires, involving some level of reconfiguring food practices. The routinised and habitual character of cooking (Warde, 2015) is encapsulated in Sigrid’s remark that “we have a repertoire that’s ‘steady state’ [*som ‘durer og går’*] ... the kids like it, it’s easy and quick”. The concept of the ‘repertoire’, commonly mentioned in the interviews, reflects the contextual and embodied integration of learned recipes in everyday life. Whether tied to provisioning, cooking or eating, embodied competences could be attached to preparing meat if meat had long been central in habitual repertoires. On the prospect of bringing stuffed peppers instead of burgers or sausages to a barbeque, Sigrid said, “it feels

like another step on the ‘effort ladder’ ... it’s not as worked in [*innarbeidet*], then I’d googled, what do you put in it, what would be tasty, there’s ‘stuff’ [to consider]”. The notion of cooking procedures becoming ‘worked in’ brings attention to the role of embodied competence in food practices. As Wallenborn and Wilhite (2014: 60) argue, habits ‘are “locked into” bodies through the learning of gestures in interaction with a cultural history and a material environment’.

But repertoires could also be challenged, or widened, via improvising and experimenting. This is illustrated by Tina’s account of turning a spare vegetable from the fridge into a meat replacer:

‘We often try to make use of what’s in the fridge ... like, “OK, an aubergine, what could we use that for” [And I recall] some recipe book from a long time ago where there was some vegetarian [content] ... cut it in thin slices and add soy sauce, high heat in the oven. Could work as substitute [for bacon].’ (Tina)

This example illustrates the role of embodied competence and memory (Wallenborn and Wilhite, 2014) in qualifying foods as substitutes: ‘skilling’ the material properties (Twine, 2018) of the aubergine to mimic those of bacon required knowledge of how to slice it, what to add, and how to cook it, as well as an intuitive understanding of what kind of meaty qualities that particular vegetable would be compatible with – all of which, arguably, contribute towards its qualification as substitute.

Central to the negotiations around meat and meat-free food was the experience of fullness and satiation. The bodily sensations produced by a meal could come into conflict with established understandings of how food ought to ‘feel’ in the body. This was expressed through comments along the lines of “that feeling of being full is experienced differently” (Torhild). The general sentiment was that, in Yvonne’s words, meat-based meals gave a “heavy feeling” compared to the “less heavy” feeling of meat-free meals. Connected to the idea of a ‘complete’ dinner, removing without deliberately substituting meat could lead to a sense of nutritional imbalance, particularly tied to a lack of satiating protein. Gry explained that, “to just make dinner and then cook exactly the same ... only without meat ... wouldn’t be quite right ... there is something that’s missing ... you’re supposed to feel that you’ve eaten a dinner ... [containing] carbohydrates and fat and protein ... that equation should be the same”. Even though a vegetarian schnitzel (depicted in a photo she had taken) did not *feel* like meat to her, it replicated the filling *qualities* of meat:

‘No, it doesn’t feel like a regular schnitzel ... you, like, see the vegetables in it ... it has a completely different texture and everything ... but it’s a bit more, like, rich [*kraftig*] than if you just have beans ... a bit more to chew ... you don’t feel like you’re eating meat, but it’s just ... a bit richer.’ (Gry)

The relative heaviness of a meal could be framed in a positive or negative light, depending on personal preference and eating context. Among the participants, becoming attuned to new bodily sensations allowed for an appreciation of meat-free food. Solfrid and Mikkel had come to appreciate the feeling of having more energy after meat-free meals. Moreover, hinting at the gendered dimension of meat

consumption, several female participants reported that sceptical male partners had learned to appreciate qualities of meat-free dishes: “He’s become positively surprised that it’s actually possible to eat vegetarian food *and* feel full” (Maiken). As Wallenborn and Wilhite (2014: 59) argue, “[t]ransforming practices requires the creation of new perceptions and memories within bodies’.

Substitution required exploring new ways of cooking familiar dishes, adapting them to work without meat. In some cases, a deliberate ingredient swap was sufficient. Mikkel had some ‘go-to dishes’ where he simply exchanged meat for other, preferably protein-rich, ingredients. When asked how he usually substitutes meat, he explained that he used “beans or chickpeas or lentils and things like that, I’m thinking that becomes the meat in a way”. Other dishes might require more thorough reconfiguration. Not a fan of the flavour and texture of many prefabricated substitutes, Elisa sometimes made her own. She had spent lots of time experimenting to overcome a “crumbly” texture when cooking plant-burgers, eventually finding success with a particular configuration “with walnuts, beetroot, and mushrooms”: “the texture is insanely good ... that one’s ‘the best’”. The composition of ingredients in a dish could also be adapted. Sylvi often made meat-free versions of dishes she had previously cooked with meat:

Interviewer: Do you feel that you’ve succeeded in that, or found a way to ... stop missing the meat in those kinds of meals, or is the experience then that something is missing?

Sylvi: No, it actually feels more like a different dish, I think. Like it’s not being compared, as with spaghetti, then we’ve used lots of spinach and feta, for instance, so that it becomes ... you get full, right ... many say that “Oh, vegetarian food doesn’t fill me up”, but ... then you’ve just thought that vegetarian food is vegetables, *done*. But there are ... beans and those things that make you properly, incredibly full, or sweet potato, that really makes you completely *bouf* [‘stuffed’ sound], right. ... We haven’t missed meat in it.

Here, Sylvi adjusted the quantity of filling ingredients to make up for the lack of meat rather than explicitly *replacing* meat. Nevertheless, when substitution is understood as a process of replacing certain meaty *qualities* rather than meat itself, ‘spinach and feta’ still qualified as a substitute in the sense that they accommodated for meat’s satiating qualities.

Some participants further described having developed new styles and preferences for food over time, where meat was less central. It has previously been established that meal *format* can affect the extent to which the inclusion of meat is up for negotiation (Daly, 2020; Neuman et al, 2020). According to Ueland et al (2022: 2), the typical Norwegian dinner menu revolves ‘around the protein part of the meal’. Many participants reported protein taking a “steering role” (Mathea) and dishes were often constructed around a “protein base” (Ylva). Solfrid explained that her partner had become enthusiastic about meat-free food over time, as he gained experience with different (vegetarian) dishes and familiarised himself with (vegetarian) cuisines from other parts of the world. In Solfrid’s words, “that Norwegian thing with meat and potato and vegetables – then you might need to include meat, for it to feel like there’s enough [food and flavour]”. However, she noted, “if meat isn’t that separate

component in the meal, then it's perhaps not as natural to think that it should be replaced". In some cases, 'de-centring meat from the plate' (Neuman et al, 2020: 31) – literally and figuratively – was accomplished by mixing and combining ingredients in new ways and making active use of spices and herbs. Solfrid reflected on how composition affected meat's function in a meal:

'[T]he secret to [for example] a good chili con carne, that's that cinnamon stick which should be boiled in, and the dark chocolate that you add in at the very end, and it's the fresh coriander on top. And then it doesn't matter whether you just dump in [*pøser oppi*] another can of beans and some carrots, or if it's meat.' (Solfrid)

Solfrid's excerpts demonstrate that the integration and combination of ingredients in the dish can impact the expectation of meat's presence, opening for considering substitution as occurring through the *interplay* between multiple elements of a meal. In this way, the format and composition of dishes could affect what qualities (of the meals) need attention when substituting meat. The extent to which foodstuffs could qualify as meat substitutes therefore also depended on the competence to use them in combination with other ingredients to produce an adequate end result. With attention to practical requirements attached to particular meals, dishes could thus be 'skilled' (Twine, 2018) to accommodate for particular replacers. Developing embodied competence to achieve this arguably reflects a skilling of the *body*, too. By fine-tuning dishes over time participants gained better control over the ingredients and end result, enabling more frequent and successful use and integration into the repertoire. Providing a successful meat-free meal conforming to expectations without meat effectively constitutes a 'qualification trial' in practice.

Compared to the meat 'scripted' prefabricated substitutes (Fuentes and Fuentes, 2021), whole vegetables or legumes could be used in a range of ways affecting their qualification as meat replacers. When cooking meat-free food for her "classic meat man" father, Elisa adapted her cooking to conform with his expectations of an enjoyable meal, spending extra time and effort to "spice it right" and make it "taste like Saturday". Meat-free cooking thus required not only replacing meat itself but being attuned to the different qualities that meat offered the dish and finding ways of replicating these qualities without meat, that is, 'learning' via 'mutual adjustment' between the body and the food 'material arrangement' (Jacobsen and Hansen, 2021: 750). Substitution might thus require a skilling of (foods') materialities as well as (eaters') bodies, implying the development of capabilities and sensibilities towards plant-based foods of different kinds.

However, widening repertoires and developing new relationships to food and cooking demanded goal-oriented efforts. With reference to the 'skilling' of prefabricated substitutes, Twine (2018: 172) notes, 'competences ... [are] built into the materiality of practice affording a temporal saving'. Substituting meat without these could be expensive, time-consuming and laborious. While Sylvi's family frequently ate vegetarian meals, she found that these required more planning: "vegetarian food is often a little, like, 'busy', because you need lots of different seasoning, all kinds of things to be chopped and peeled taking a hundred years". Meat was by some thought to "practically cook itself" and make it "easy to cook food with lots of flavour" (Hulda). Meat was therefore a convenient base for a dish when serving guests, and

replacing it with something else might require, again in Hulda's words, "to put in a real effort for it to get a lot of flavour ... to make it a little, like, extraordinary". Those who had more hectic daily lives and the needs of others to consider – the typical example being households with young children – found less time, energy and motivation to engage in the experimentation necessary to accomplish substitution; especially in a way that was accepted by everyone and understood to fulfil nutritional requirements. Many of the 'ongoing qualification trials' (Evans, 2020) through which foodstuffs are deemed appropriate for particular uses depend as much as everyday practices as on products themselves.

The more or less targeted efforts going into substitution further extended to food provisioning. Sylvi explained that, to cook really nice vegetarian food, "you need a good amount of veggies, right, and on Mondays, the veggies at [name of grocery store] aren't good". In this quote, Sylvi implies that creating successful meals without meat requires adapting routines for grocery shopping. Finding new or unfamiliar ingredients scattered between different stores and supermarkets was further described as a hassle, especially in more rural areas with smaller selection. Benedicte had felt that prefabricated substitutes were "hidden" in her local grocery store, and described being confused by substitute products being stocked in different sections between supermarkets. Occasionally, Gry had by mistake purchased a softer variety of tofu (*silken*), which she lacked the knowledge to utilise. These examples demonstrate that the practice of substituting meat extends beyond cooking. Substituting meat might demand broader changes to established food provisioning routines, in turn affecting related practices in everyday life.

Having elaborated on the practical challenges tied to meat substitution, it is interesting to note that many participants understood eating out as an opportunity to eat meat-free food they might not be able to accomplish at home. While Sofie tended to find meat-free food "a little bland", it could be "fun and inspiring" when prepared by a chef. Sigrid did not find it challenging to consistently opt for meat-free lunches at work, as the canteen always had good meat substitutes. As many of the practicalities associated with the organisation of food practices in the household were effectively bypassed, restaurants and canteens could provide environments with the necessary 'conditions for the formation of new habits' (Wallenborn and Wilhite, 2014: 62) around meat substitution.

This section has demonstrated the 'skilling' (Twine, 2018) required for substitute foods – particularly those cooked 'from scratch' – to be considered desirable in the context of a meal or food practice. Learning to substitute (different qualities of) meat could lead to new understandings of food and cooking which left 'meat' less relevant as a reference point altogether. However, the amount of deliberate effort and habituation required still made substituting meat challenging.

## Concluding discussion

This paper has investigated the role of substitutes and substitution in everyday meat reduction among consumers with different levels of meat consumption in Norway. This discussion develops some key arguments from the findings and considers their implications.

Arguably, substitution is a distinctive feature of meat consumption and reduction. When approaching meat substitution as a practice, there are blurred lines between removing meat *from*, and substituting meat *in*, a dish. This perspective shifts empirical



attention from identifying (un)successful substitutes to investigating the (not always obvious) ways in which removing and reducing meat also entail substitution. Recognising the ‘practical’ aspects of substitution demands attention to how foodstuffs become qualified as appropriate meat substitutes in everyday life; further highlighting that substitutes are, like meat, ‘multiple’ (Yates-Doerr and Mol, 2012).

The analysis shows that the extent to which foodstuffs can substitute meat depends, in part, on socio-material context of their consumption. A practice-theoretical framework infused with insights from qualification theory helped illuminate how different qualities are drawn out to render foodstuffs more or less successful in substituting meat in specific practices and situational contexts. Attitudes and practical concerns both come into play, and become entwined, in the process of qualification. Participants’ perceptions of substitute foods – based on knowledge generated through cultural understandings of health and sustainability, and past experiences with food – made for subjective understandings of quality affecting further engagement with substitution. If perceived as inadequate, certain foods could be ‘disqualified’ by default (for example, vegetables due to lacking protein or prefabricated substitutes due to processing).

If meat is thought of as a baseline for protein consumption, competing normative ideals and socialised expectations complicate substitution and the qualification of substitutes. The data indicate, for instance, that prefabricated substitutes are more likely to qualify as meat replacers in the setting of a quick mid-week dinner (where convenience and meal composition might be valued), than in certain festive or social occasions (where authenticity and quality might be valued).

These socially and normatively conditioned understandings thus do not necessarily reflect stable attitudes but might vary depending on what is understood as ‘acceptable’ and ‘expectable’ in different settings (Halkier, 2022). Indeed, social norms and cultural values play a role in qualifying foods as substitutes and reproducing substitution as practice. A foodstuff might not be fully ‘accepted’ as a meat substitute until it is understood to ‘qualify’ socially (for example, fit with norms and expectations), materially (for example, have an adequate sensorial profile and ingredients list) and bodily (for example, conform with familiar embodied sensations). By showing how acceptability is contextually contingent (Tan and House, 2018), connected to everyday food practices and broader understandings of adequate food, the findings further add nuance to existing accounts of ‘consumer acceptance’ of substitutes (see Collier et al, 2021).

Shifting analytic perspective from substitution ‘barriers’ to ‘trials’ helps emphasise how substitution is not necessarily accepted or dismissed but rather *negotiated* in light of situated food practices. Via ‘ongoing qualification trials’ (Evans, 2020: 348), different substitutes and modes of substitution are tested and adjusted through their use across everyday practices, whereby consumers gain experience, developing new (embodied) understandings and competences along the way. The notion of qualification trials being ‘ongoing’ further directs attention to temporality in food qualification: if consumers’ cultural values and everyday experiences contribute to qualify products prior to encountering them through marketing, qualification must be understood as a dynamic and relational rather than a linear process. Among participants, the qualification of substitute foods – whether prefabricated or home-made – depended on perceptions of foods’ properness (developed through pre-conceived notions as well as experiences), available skills and competences to turn ingredients into

acceptable meat replacers, social negotiations across everyday (food) practices, and bodily attunement to (new) food. Making sense of foods' qualities and how they fit with practices, requires some form of 'practical intelligibility' – relating to 'the way a subject makes sense of the world through being embedded within it and on the basis of its practical knowledge of the social contexts it is negotiating' (Farrugia, 2013: 293).

Another core insight relates to the 'skilling' (Twine, 2018) consumers engage with *in order to* qualify foodstuffs as meat substitutes. Arguably, these 'skilling' efforts relate not only to the *material* food, but to the practical elements of a meal, and to the body itself. Compared to making use of prefabricated substitutes, cooking from scratch required a more thorough reorganisation of food practices, from planning and acquiring food to cooking and eating. Meat substitution can thus be understood as embodied in different ways through practices: deeply internalised food knowledge, cooking repertoires, and feelings of food act as primarily barriers, but also potentially motivators, for 'learning' to substitute. Here, experience and learning further helped participants to become bodily 'attuned' to new ways of cooking and eating, appreciating new flavours, textures and embodied sensations. That said, it is important to recognise that participants had different 'capacity for experimentation with food practices' (Hoolohan et al, 2022: 20). 'Learning' to substitute requires, in short, material/social/bodily skilling.

Importantly, the findings suggest that food practices can be up for negotiation and evolve over time to accommodate new foods. The qualification of (foods as) meat substitutes relies not only on the material constitution of a food or how it is marketed, but also on elements in a given practice to be re-arranged over time to accommodate for those properties. For many participants, eating out and using food delivery schemes enabled more successful meat substitution by reducing deliberate efforts associated with procedures like coordinating, provisioning, preparing and cooking. This finding further highlights the role of practice arrangements in qualifying substitutes.

These insights construe prefabricated substitutes as a double-edged sword. On the one hand, they can enable convenient meat reduction because their material qualities allow them to be incorporated into established meat-based practices. But on the other hand, as often 'highly processed foods' (Twine, 2018: 173), they do not conform with expectations of healthier and more nutritious alternatives.

In closing, the paper points to meat substitution as a key hurdle – or 'trial' – for consumers' success in meat reduction. The claim that flexible eating patterns can complicate meat reduction because meat eating continues to be a 'discursively open' practice (Kanerva, 2021) is further substantiated by acknowledging the material and embodied skilling required to successfully substitute meat. Therefore, if replacing meat is a societal goal, it must not only be seen as an avenue for marketing new products to consumers – an approach some might see as a form of 'palatable disruption' (see Clay et al, 2020). Rather, substitution must be facilitated by policies and socio-material arrangements. Policies can be put in place to facilitate less meat-intensive food environments where consumers get exposure to new food (products) and gain experience in how to substitute meat. Recognising this opens for considering avenues for making substitution viable and attractive across a wider range of food practices. Finally, given the strong scepticism towards heavily processed foods, ensuring greater availability of healthier and less processed store-bought substitute products might help gaining consumers' interest (Elzerman et al, 2022; Mayer Labba et al, 2022). By investigating everyday practices of meat substitution across different contexts, future

research may contribute towards charting out tensions in, and pathways for, lowering meat consumption to more sustainable levels.

## Notes

- <sup>1</sup> An increasingly central reference point in contemporary debates around animal- and plant-based food, ‘protein’ might be thought of as not only a macronutrient but also a socio-cultural construct influenced by broader trends of nutritionism (for example, [Blaxter and Garnett, 2022](#)).
- <sup>2</sup> If meat consumption is understood as an ‘entrenched’/‘sticky’ practice, meat substitution could possibly be conceptualised as an ‘emergent’/‘vulnerable’ *proto*-practice (see [Keller et al, 2022: 24](#)). However, as this paper adopts a wide understanding of what substitution entails, including but not limited to novel foods, it will consider substitution in relation to established food practices.
- <sup>3</sup> The research was part of the ‘MEATigation’ project (<https://meatigation.no/>).
- <sup>4</sup> Lacking systematic inquiry into substitution specifically is a limitation. This paper presents trends in the data but cannot attribute findings to, for example, broader demographic groups represented in the sample.
- <sup>5</sup> Two interviews were conducted in English due to participants’ preference. Most participants had, to the author’s knowledge, grown up in Norway, although a few had moved to Norway in recent years.
- <sup>6</sup> While most participants remarked on the growing availability of substitute products, those who lived in more remote areas did not necessarily have the same level of access.
- <sup>7</sup> From the data, it was not possible to discern any obvious difference between how meat eaters, flexitarians and vegetarians thought about substitute products. The lack of a clear pattern might indicate that substitutes are ‘ambiguous’ products still, but might also be caused by the study’s limitations.

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## Conflict of interest

The author declares that there is no conflict of interest.

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