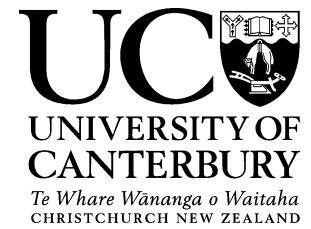


University of Canterbury
Department of Management, Marketing
and Entrepreneurship



Plant-Based Meat Substitutes

UNDERSTANDING CONSUMERS' MOTIVATORS, BARRIERS,
KNOWLEDGE AND CONSUMPTION PRACTICES

A thesis submitted in partial fulfilment of the requirements for the Degree of Doctor of
Philosophy in Marketing.

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Samantha Karen White

ABSTRACT

Consumers are becoming increasingly aware of the plethora of interrelated environmental, social, economic, ethical, and health issues associated with global industrialised food production—particularly concerning animal agriculture. Consequently, demand for more sustainable and ethical food products has increased as consumers seek alternatives to meat and other animal-derived products. Therefore, this research sought to understand the knowledge and consumption practices associated with plant-based meat substitutes to identify how dietary shifts and product adoption could be facilitated. This research utilised semi-structured in-depth interviews conducted in Christchurch, New Zealand, between August 2018 and March 2019. Interview findings from 25 participants were framed both using the attitude-behaviour gap framework, as well as a social practice theory lens. Consequently, several factors centred on individual, social, situational and product influences were identified to account for the gap between consumers' attitudes towards plant-based meat substitutes and their reported behaviour. Moreover, material aspects (products, packaging, and infrastructure) were ascribed many meanings by consumers (values, normalisation, social consumption, transition, and convenience) and transformed through competencies (general and meat-free cooking, product and nutritional knowledge). The research presents several implications for theory and practice.

Keywords: plant-based meat substitutes, alternative proteins, attitude-behaviour gap, social practice theory

This thesis is dedicated to the approximately 80 billion animals that lose their lives to animal agriculture each year.

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AUTHORSHIP AND PUBLICATION

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A handwritten signature in black ink that reads 'S White'. The 'S' is large and loops around the 'W', and the 'White' is written in a cursive style.

Date: *18/6/2021*

I would like to thank the editors, reviewers, track chairs, and conference/symposia attendees for their feedback on my research which was presented at various stages throughout my PhD. Several short abstracts were submitted to various conferences and symposia, many of which were peer-reviewed, and subsequently aided me in writing this thesis. The details of these are presented below.

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1 INTRODUCTION

1.1 INTRODUCTION

We are witnessing a global shift in the way that consumers approach food consumption (de Visser et al., 2021; Halliwell, 2017; Hancox, 2018). Facilitated by the proliferation of information through social media and documentaries such as *Dominion*, *Cowspiracy* and *Game Changers*, consumers are becoming increasingly aware of the ethical, environmental and health issues surrounding our traditional food supply chain (Halliwell, 2017; Hancox, 2018; Kemper & White, 2021). With mounting evidence in support of a movement away from current food-production and purchasing systems, the transformation of current food consumption behaviours and a transition to more sustainable diets—namely, one high in plant-based foods—is imperative for our future and that of our planet (Chicca et al., 2018; Kortetmäki & Oksanen, 2020; Nobari, 2021; Paddock, 2012; Ritchie, 2020). Consequently, a market shift is occurring towards an alternative food agenda characterised by the “rejection of the global, industrial, environmentally degrading conventional food system” (DuPuis & Goodman, 2005; Follett, 2009, p. 33; Kessari et al., 2020). As a result, demand for alternative food products is increasing as more consumers develop concern for the environmental, ethical, social, and health impacts of traditional food supply-chain models (Choudhary, 2020; Hancox, 2018; Huffadine, 2017).

Our meat, dairy and fishing industries use and deplete the largest portion of our resources while directly contributing to the array of interrelated environmental, social, economic and health issues we face (Chicca et al., 2018; FAO, 2016a; Goodland & Anhang, 2009; Gordon, 2017; Leenaert, 2012; Oppenlander, 2012; Pimentel & Pimentel, 2003a, 2003b; United Nations, 2006; World Wildlife Fund, 2020). Pandemics (Dhont et al., 2021; Spiehler & Fischer, 2021), hunger and poverty (Oppenlander, 2012; Pimentel & Pimentel, 2003a), resource depletion (Rifkin, 2002;

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Rosenthal, 2008; Simon, 2013; Steinfeld et al., 2006), climate change (Eisen & Brown, 2021; Errickson et al., 2021; FAO, 2016a; Friedman & Weiser Friedman, 2010; Goodland & Anhang, 2009; Kanter, 2007; United Nations, 2006), deforestation and desertification (United Nations, 2006; Wienhues & Hirth, 2021), biodiversity loss (IUCN Species Survival Commission, 2004; Oksanen & Kortetmäki, 2021; World Wildlife Fund, 2017), destruction of marine ecosystems (Cheung et al., 2007; Dulvy et al., 2003; FAO, 2016b; Hance, 2008; Worm et al., 2006), declining human health (Bonnet et al., 2020; Campbell & Campbell, 2016; Campbell & Jacobson, 2013; Gordon, 2017; McKie, 2017), and food scarcity (Alexandratos & Bruinsma, 2012; Nobari, 2021) are directly attributable to what we choose to eat. Or, more specifically, to a diet high in animal-based foods. Consequently, a dietary transformation away from high consumption of meat and other animal-based products is not only desirable but necessary in establishing an environmentally and socially sustainable food production system that will continue to serve human-kind for future generations without further damage to the planet (Bonnet et al., 2020; Chicca et al., 2018). Such change would have positive externalities in public health and animal welfare with benefits that are endorsed by the likes of the World Health Organisation (World Health Organisation, 2020), United Nations (FAO, 2016a, 2020) and World Wildlife Fund (World Wildlife Fund, 2017, 2020).

However, the means of achieving this are widely debated. Some academic, government and industry bodies—and unsurprisingly the livestock sector—believe that more intensive farming practices are the only solution (Leenaert, 2012). Such an approach would see the development and increased implementation of technological innovations such as factory farming and genetic modification (Seid & Andualem, 2021). Others consider this approach to exacerbate the problem and further contribute to already depleting resources (Errickson et al., 2021;

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McDonald, 2017). Conversely, others propose a global shift in diet and lifestyle preferences, particularly in the West (Leenaert, 2012). Problems with the current food system originate from both the production and consumption sides. Thus, a radical transformation of food systems and significant changes are needed on both supply and demand sides (FAO, 2016a; Nobari, 2021) concerning both “preventative and curative approaches” (Leenaert, 2012, p. 190). Within the extant literature, employment of demand-side reductions has been illustrated to be the most effective means of achieving this (Bajželj et al., 2014; Erb et al., 2009; Smith et al., 2014; Tilman & Clark, 2014; Tukker et al., 2011; van Dooren et al., 2014; Verfuërth et al., 2021). However, a significant impediment to achieving this is that for many consumers, where their food comes from is considered to be one of the most ‘out of sight, out of mind’ processes that exists in our culture today (Oppenlander, 2012). A process that is obscured by countless social, cultural, political, commercial, and educational barriers. Moreover, alternative consumption cannot be deemed an exclusively demand-side phenomenon (Kessari et al., 2020; Sassatelli, 2004). Therefore, the problem needs to be addressed on two fronts. First, efforts need to be made to increase consumer awareness and encourage behavioural change to shift dietary preferences away from animal-sourced foods towards consumption of sustainable, plant-based foods (Bajželj et al., 2014; Eisen & Brown, 2021; FAO, 2016a; Smith et al., 2014; Stehfest et al., 2009). Second, industry and marketers need to be able to understand consumer attitudes, motivations and barriers in order to more effectively facilitate the sale and demand of plant-based foods. Thus, increasing the demand for these products.

1.2 PROBLEM CONTEXT

At the current pace, the global population is expected to reach 9.6 billion by the year 2050 (Alexandratos & Bruinsma, 2012; Bajželj et al., 2014). Even if reproduction was universally restricted to two children per couple, it would be 70 years before the population finally stabilised at 12 billion—twice that of today (Bradshaw & Brook, 2014; Pimentel & Pimentel, 2003b). Rapid urbanisation and population growth around the globe has led to ever-increasing rates of consumption (Pimentel & Pimentel, 2003b; Shove, 2014). In a world where moderate projections indicate that we will need the equivalent of two Earth's to sustain our consumption rates by the mid-2030s—establishing a sustainable food supply for our growing population is paramount (Oppenlander, 2012). However, even at current production levels our natural resources are consumed beyond capacity (Ehrlich et al., 2012; Oppenlander, 2012; Pimentel & Pimentel, 2003b). Our unchecked population growth and declining resource availability has led us to a point where a re-evaluation of the way in which we maintain human life is necessary.

Consequently, food security is currently a major concern for the world's leaders (FAO, 2016a, 2020) and strategies to increase agricultural production output is on the agenda of many international bodies, including the United Nations and the World Trade Organisation (Organisation, 2021; United Nations, 2021). The Food and Agriculture Organisation (FAO) of the United Nations has projected that demand for food in 2050 will reach a 60 percent increase on 2006 levels (FAO, 2016a), and the world is currently not on track to achieve Sustainable Development Goal 2 (Zero Hunger) by 2030 (FAO, 2020). Ironically, food production is a resource-intensive process that requires vast amounts of renewable and non-renewable resources (Chicca et al., 2018; FAO, 2016a, 2020; Oppenlander, 2012; Paddock, 2012; Pimentel &

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Pimentel, 2003a, 2003b; Rosenthal, 2008). So while the future of our food is directly dependant on the availability of land, water, and energy to expand agricultural production, it is this very process that is depleting these resources. Specifically, the production of animal-based foods is recognised as being among the most resource-intensive and damaging sectors to our planet (United Nations, 2006).

Thus, significant changes to the existing animal-based food production system are needed if we are to establish a sustainable food supply and mitigate the impact on our planet. Yet, the demand for animal-based foods continues to increase. As a planet, we are consuming more animal products than ever before (Campbell & Campbell, 2016; Rosenthal, 2008; World Wildlife Fund, 2020). The demand for poultry products has increased by 100 percent over the last few decades (World Wildlife Fund, 2017). Pork consumption has now reached an estimated 25 kilograms per person—the approximate recommended yearly intake for *all meat* (emphasis added; World Wildlife Fund, 2017). Red meat consumption increased by 33 percent in China, India and Brazil alone in the decade leading up to 2008 (Kanter, 2007; Rosenthal, 2008), and along with dairy products, it is projected to double by 2050 globally (United Nations, 2006). Fish and seafood demand has doubled in the last 50 years and is also forecast to rise (World Wildlife Fund, 2017). Though population growth is a key driver, the socio-economic transitioning of developing nations plays a critical role (Bajželj et al., 2014; FAO, 2020; Goodland & Anhang, 2009; World Wildlife Fund, 2017).

The expansion of the global middle class brought about by rising incomes in developing nations has seen a significant shift in affluence-related dietary preferences (Alexandratos & Bruinsma, 2012; Bajželj et al., 2014; FAO, 2016a, 2020). The Western diet—specifically, one high in meat, dairy and eggs—is often perceived as a key component of the affluent, aspirational

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lifestyle of the West (Campbell & Campbell, 2016; Goodland & Anhang, 2009; Rosenthal, 2008). The combined effect is what can be described as the ‘Meatification’ of global diets (Batat et al., 2017; Johnston, 2017; Osazuwa-Peters, 2021). Specifically, billions of consumers in the developing world are increasing the consumption of animal-based foods (Kanter, 2007; Rosenthal, 2008; World Wildlife Fund, 2017). Demand for agricultural products has subsequently been pushed to unprecedented levels (FAO, 2016a; United Nations, 2006). With these billions of people adopting Western diets and lifestyles, problems arising from nutritional excess become exponentially urgent with each passing year (Campbell & Campbell, 2016). Furthermore, increasing the production of animal-based foods to meet the demand of a burgeoning global middle class is simply not feasible (McDonald, 2017). As long as consumer demand for these products rises, the agricultural sector will continue to increase production—and the associated costs to our environment, our animals, and ourselves will persist.

While many consumers continue to engage in the consumption of these products, a growing faction of consumers are undertaking a “protein transition” (Palfreyman & van Dijck, 2020; Tziva et al., 2019) and electing to substitute meat for alternative, non-animal proteins or ‘meat substitutes’ (Admassu et al., 2020; Oberst, 2018; Ritchie et al., 2018; Smithers, 2018) and other plant-based proteins. While meat substitutes have historically only been consumed by those adhering to a strictly meat-free diet, such as vegans and vegetarians, the market for these products has broadened over the last few years (Admassu et al., 2020; Grote et al., 2016). In 2020, the global plant-based meat market was valued at USD 4.3 billion and is projected to reach USD 8.3 billion by the year 2025 and presents a significant opportunity for businesses (Markets and Markets, 2020b). Meat substitutes, or alternative proteins, include not only those that are plant-based but include insect (Maloney, 2017), algae (Sherrard & de Jong, 2017) and cell-based meats

(also known as “clean”, “cultivated”, “cultured”, “in-vitro” or “lab-grown” meat) (Admassu et al., 2020; Deavoll, 2017). While insect-, algae- and cell-based products are still largely in developmental and introductory stages, they are expected to constitute over 50 percent of the alternative protein market by 2054 (Fisher, 2015). Significant growth in demand for plant-based products occurred in 2020 due to the rise in alternatives and disruptions to meat processing due to COVID (Kelly, 2020). These products have also been identified as potentially playing a key role in stimulating dietary change (Apostolidis & McLeay, 2016b). Around the globe, the adoption of plant-based and meat-free diets is rising significantly, with over half of consumers reducing their meat intake in most cases (Oberst, 2018). Plant-based meat substitutes have been reported as leading growth for the United States food sector (Admassu et al., 2020). Rising demand and pressure from consumers has led industry to adjust their practices in order to retain the consumer dollar.

1.3 INDUSTRY SIGNIFICANCE

Industry players are developing emerging technologies to meet a growing market of conscious consumers (Castles, 2018), who are rejecting an animal-based diet. Plant-based foods have been named one of the leading trends disrupting the food industry in 2018 (Domanska, 2018) and are expected to disrupt the agricultural and conventional meat industry (Gerhardt et al., 2019). Europe is projected to account for the largest market share of plant-based meats (Markets and Markets, 2020b). In the UK alone, over half of adults are adopting plant-based buying behaviour (Oberst, 2018; Smithers, 2018). The United States has seen a 600 percent increase in plant-based eating in the three years from 2014 to 2017 (Chiorando, 2017; Webber, 2018b), and benefits from its position as a significant hub for the plant-based meat markets

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backed by many start-ups in the space (Markets and Markets, 2020b). In Germany, 44 percent of consumers now follow a ‘low meat’ diet (Chiorando, 2017; Williams, 2018), and Australia is the third fastest-growing market for plant-based foods in the world after the United Arab Emirates and China (Cormack, 2016). China—the world’s largest consumer of beef, pork and poultry—is becoming increasingly meat-free (Varma, 2018; Webber, 2018a) since the government released a plan to reduce the nation’s meat consumption by 50 percent (Milman & Leavenworth, 2016). Closer to home, a third of consumers in New Zealand have indicated that they are actively trying to reduce their animal-product consumption (Grace, 2017), largely due to growing environmental concerns over the impact of animal agriculture (King, 2018). This is particularly evident among young adults (Kemper & White, 2021)

Consequently, there has been a drastic increase in the production of and investment in alternative food innovations (Admassu et al., 2020; Maloney, 2017; Watson, 2017). Cargill Inc.—one of the world’s largest agricultural companies—has joined Richard Branson and Bill Gates in investing in lab-grown or ‘clean meat’ startup Memphis Meats (Singh, 2017), following the footsteps of Google founder, Sergi Brin, who financed the world’s first lab-grown burger from Mosa Meat (Rennie, 2017). Plant-based proteins represent a USD 10.3 billion market in 2020 and are expected to reach USD 15.6 billion by the year 2026 (Markets and Markets, 2020c). In a similar vein, the plant-based beverages market is expected to reach USD 19.67 billion by 2023 (Markets., 2020), the global non-dairy cheese market is projected to grow USD 1.27 billion during 2020 to 2024 (Report Linker, 2020), and dairy-free ice cream is predicted to reach USD 2.45 billion by 2027 (Starostinetskaya, 2018). Companies big and small are investing in alternative food technologies, both directly and indirectly. Two of the largest meat producers in the world, Tyson Foods and Wisenhof (Germany), have joined the likes of foodstuffs suppliers

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Nestlé, Kellogg Co., and General Mills in the investment and acquisition of alternative-protein start-ups such as Beyond Meat (US) and SuperMeat (Israel; Danone, 2017; Kapalschinski & Coester, 2018; Maloney, 2017; Markets and Markets, 2020b). Other companies like Sunfed Meats (New Zealand) have achieved market success without outsider investment (Huffadine, 2017; Knight, 2015).

On the distribution side, more large-scale food retailers are offering plant-based products (Admassu et al., 2020). Supermarket chains are becoming more engaged with this trend. Walmart (Oberst, 2018), Aldi (Prater, 2018; Rose, 2018a), Tesco (Smithers, 2018), Marks and Spencer's (Grace, 2017), Kroger (Garfield, 2017) and Sainsbury's (Moss, 2017) have all recognised the opportunity in stocking plant-based alternatives, not only by adding branded products lines to their shelves but additionally launching in-house brands (Halliwell, 2017). Closer to home, Foodstuffs brand Pams released a line of plant-based options (Pams, 2021). Fast-food chains are also embracing the changing market trends with brands such as KFC (Ettinger, 2018), Pizza Hut (Rowland, 2017), Dominoes (Romero, 2018), McDonald's (Hosie, 2017), Taco Bell (Shah, 2016), and Starbucks (Rose, 2018b) adding plant-based options to their menus.

Although the alternative protein and meat substitute sector are still considered to be in its infancy (Huffadine, 2017), it represents several opportunities and competitive advantages for companies as consumers continue to demand healthy, nutritious and sustainable food products (Palfreyman & van Dijck, 2020). Regardless, the cumulative effect of industry's response to this consumer trend is that adoption of non-animal-based meat alternatives is encouraged. Consumers no longer need to compromise on taste and quality to make food purchases that are socially, ethically and environmentally beneficial. Conscious food consumption is becoming increasingly accessible and easy (Halliwell, 2017). The growth of the alternative protein sector has been

labelled a wake-up call for the animal protein sector (Sherrard & de Jong, 2017) and is expected to claim a third of the market by metric tons and over a third of the total protein consumption by 2054 (Fisher, 2015). Though consumers' are likely to continue to demand animal-based proteins, consumer preferences do indicate a growing demand for a wider variety of protein sources, including those from plants and alternative sources (Admassu et al., 2020). What's more, several authors have drawn parallels between the downfall of tobacco and the future of the meat industry (Carrington, 2017; Gordon, 2017; Leenaert, 2012). Ultimately, the changing market is recognised as presenting several opportunities and companies are urged to invest in this growing sector.

1.4 PERSONAL CONTEXT

My motivation for undertaking this research was both a personal and professional one. I have always had a deep concern for animal welfare, and since my teenage years, I have been interested in how this intersects with food and lifestyle choices, as well as environmental degradation and human health. In 2009, this passion and interest led me to make the transition to a vegan diet. However, adhering to a plant-based diet at this time was difficult. Such a lifestyle was grossly divergent from the norm, and I often struggled with social stigma and exclusion. Living in New Zealand especially, so much of our culture is centred on animal agriculture and our national identity is deeply rooted in meat and dairy production and consumption. What's more, access to alternatives to animal-based foods was scarce and expensive at this time, often having to be imported from around the globe. Perhaps unsurprisingly then, my initial journey into a vegan lifestyle only lasted three years until 2012. I decided to bury my concern for the environment, my health, and the welfare of non-human animals in order to live what I perceived to be an easier life.

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However, just five years later, my interest in a vegan lifestyle was re-awoken after stumbling across documentaries such as *Cowspiracy*, *Forks Over Knives*, and *What the Health* on Netflix. So in 2017, I once again made the transition to a diet free of animal products, which this time happened to coincide with the beginning of my candidature in a PhD programme. So much had changed in just five years. I was overwhelmed and deeply interested in how much progress had been made both in terms of the increasing social acceptance of veganism but also the increase in environmental and animal advocacy around the world. Yet, what I found the most interesting, was the overwhelming response from brands and the emergence of a new age of animal-free food products. Meat, dairy and egg alternatives were nothing like they had been less than half a decade ago. What was once perceived as obscure, tasteless, hippy food was suddenly in vogue, helped along by big-wig investors from all corners of the world, from tech start-ups in Silicon Valley to future food labs in the Netherlands and Israel. With my background in marketing and consumer behaviour, combined with my own interest in getting people to reduce their animal-product consumption, this presented two interesting questions: (1) what was driving consumers to change their food consumption behaviour, and (2) how can this be leveraged to encourage more people to reduce or eliminate their intake of animal products?

From my own transition to a plant-based diet and the popular media I had examined in my own journey (including documentaries, press releases, books and marketing materials), I assumed that others—like myself—were becoming increasingly aware of the impact of their food choices on the planet, their health, and the animals. However, upon delving into the academic literature, it became clear that it was a lot more complicated than just a sudden evolution of global consumers' conscientiousness. While this was certainly a large piece of the puzzle, the process

of consumer behaviour change in this context was a lot more nuanced than I had naïvely anticipated, and thus the foundation for my doctoral research began to materialise.

1.5 RESEARCH BACKGROUND

‘Meat substitutes’ (also known as meat analogues, mock meat, faux meat, alternative proteins, and imitation meat) are defined here as products produced commercially (as opposed to in-home) to replace conventionally sourced ‘slaughtered’ meat in consumers’ diets (Admassu et al., 2020). These products include those that are plant-, insect-, fungi- and algae-based as well as cultivated or cell-based meats. These products are produced to purposefully approximate the aesthetic, functional and chemical qualities (e.g. taste, texture, appearance, and use) of certain meat products (Joshi & Kumar, 2015; Ritchie et al., 2018).

Not only have meat substitutes been identified as playing an increasingly critical role in global sustainability (Weinrich, 2018), but the commercialization of a growing number of meat substitutes is creating an increasingly competitive market (Ritchie et al., 2018), though one that presents several opportunities for investors (The Good Food Institute, 2019). However, contention lies between projects that aim to increase plant-based food production and the struggle convincing consumers to consume more plant-based foods (Hawkins, 2012). Even if structural changes are made to the current food production system that facilitates the production of more environmentally and economically sustainable foods, if this is not met by demand from the consumption side, then the effectiveness of supply-side innovations will be compromised (Hawkins, 2012). Academia and industry alike remain sceptical of the effectiveness of campaigns to bring about behavioural change with regards to shifting consumer behaviour away from meat to meat substitutes (Vainio et al., 2018). However, the number of consumers switching to low-

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meat or meat-free diets continues to increase. Consequently, businesses—including both retailers and service providers in the food sector—need to understand this growing consumer segment (Admassu et al., 2020; Roy Morgan Research, 2016).

While a large body of literature on meat substitutes has existed since the 1940s, much of the extant literature addresses these products from scientific perspectives found in medical, nutritional or other scientific journals (e.g. Kumar et al., 2017; Palanisamy et al., 2018; Salomé, Fouillet, et al., 2021; Salomé, Huneau, et al., 2021). Though this literature addresses important issues such as Life Cycle Assessment (Smetana et al., 2015a, 2015b), health improvement and climate change mitigation potential (Ritchie et al., 2018), nutritional composition (Kumar et al., 2017; Salomé, Fouillet, et al., 2021; Salomé, Huneau, et al., 2021; Vellanikkara, 2008), and chemical properties (Yadav et al., 2015), more business and consumer-oriented perspectives are needed. Consequently, a growing body of consumer-based research addressing meat substitutes has emerged as of late. Such studies have identified impacts of information (Castellari et al., 2018; Martin et al., 2021; Petersen et al., 2021), sensory characteristics (Caparros Megido et al., 2016; Elzerman et al., 2013), sensory preferences (Elzerman et al., 2015), price sensitivity (Lemken, 2021; Weinrich & Elshiewy, 2019), health considerations (Hoek et al., 2004), situational appropriateness (Elzerman et al., 2021), message characteristics (Vainio et al., 2018), consumer attitudes (Bryant & Sanctorem, 2021; Tosun et al., 2020), consumer acceptance (Elzerman et al., 2011; Hoek et al., 2013) and environmental concerns (Fox et al., 2021; Hoek, Luning, et al., 2011). The role of demographic factors has also been examined, including culture (Weinrich, 2018), gender and age (Schösler et al., 2012), as have attempts at segmentation (Apostolidis & McLeay, 2016b). However, as noted by Grote et al. (2016), there are still gaps in our understanding of the consumers of meat substitutes.

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Moreover, this body of research is centred on a small group of researchers, predominantly based in the Netherlands and other European countries. This leaves a substantial gap in our academic and professional understanding of the consumer behaviour surrounding the purchase and consumption of these products, how these products can be marketed, as well as other cultural perspectives (Tosun et al., 2020) outside of the European context. New Zealand in particular presents an interesting context for further exploration in this area due to its heavy economic reliance on animal agriculture (Ministry for Primary Industries, 2018)—a sector that broadly makes the biggest contribution to the country’s greenhouse gas emissions (Ministry for the Environment, 2021). Moreover, consumers in New Zealand have been reported to be faced with significant social barriers if they wish to avoid the consumption of animal-based products, often labelled as unpatriotic for doing so (Potts & White, 2008). Thus, research in this cultural context may help shed light on how social barriers and the stigma associated with meat avoidance can be overcome in a country that arguably needs to make drastic reductions to its livestock numbers.

Weinrich (2018) asserts that future studies are needed to determine what marketing strategies are suitable in the promotion of meat substitutes. However, Vainio et al. (2018, p. 223) emphasise that first, more research is needed to understand “the process by which individuals makes sense of message contents” and that marketing communications need to be developed that is based on an understanding of the target group’s prior beliefs. Onwezen et al. (2021) also note that there is an urgent need for research that identifies how to familiarise consumers with alternative proteins, including strategies around effective messaging and social norm incentives. Social norms, in particular, have been under-researched, despite strong relevance in consumer acceptance of meat substitutes (Onwezen et al., 2021). Moreover, the market for meat substitutes is considered to be rather diverse (Grote et al., 2016). Consumers of meat substitutes are

influenced by a range of different factors with varying impacts on consumption behaviour (Grote et al., 2016; Hoek et al., 2004). Thus, this research aims to understand the consumption drivers of alternative proteins, or ‘meat substitutes’. Specifically, this research seeks to establish a more in-depth understanding of the knowledge and consumption practices of plant-based meat substitutes in the market.

1.6 RESEARCH OBJECTIVES AND QUESTIONS

Based on the discussion outlined above and presented in Chapter Two, two research questions were developed and form the foundation of this research. Due to the degree of contradictory consumer attitudes and perceptions found in previous research (as discussed in Chapter Two), research questions were kept deliberately broad to avoid prematurely restricting the research. Specifically, from the extant literature it was clear that there is still uncertainty about what consumers know about plant-based meat substitutes and how they incorporate them into their dietary lifestyles. It was also clear that previous research has been unable to clarify with a degree of certainty, which factors are most salient in driving or inhibiting consumption of these products. From these research questions, two research objectives were derived, providing further direction for the research.

1.6.1 RESEARCH QUESTION

- What are the knowledge and consumption practices surrounding plant-based meat substitutes?
- What are the motivating and inhibiting factors that encourage and/or prevent consumption?

1.6.2 RESEARCH OBJECTIVE

1. To understand the knowledge and consumption practices of plant-based meat substitutes.
2. To identify the motivating and inhibiting factors that encourage and/or prevent consumption.

1.7 RESEARCH METHODOLOGY

This research is interested in consumer behaviour as it relates to the consumption of plant-based meat substitutes—a new and emerging product category. Due to the relatively small body of existing research in this area, this research takes an exploratory approach to answer the research question outlined above. Thus, this research adopts semi-structured in-depth interviews to identify and explore the knowledge and consumption practices of plant-based meat substitutes. Specifically, it examines the knowledge and practices of consumers by interviewing individuals who have consumed a plant-based meat-substitute product within six months from the date of data collection. Methodological considerations are discussed in more detail in Chapter Three.

1.8 RESEARCH CONTRIBUTIONS

This research has both theoretical and practical implications. Broadly, the research contributes theoretically to the consumer behaviour and sustainability marketing literature, particularly concerning food marketing, social practice, the attitude-behaviour gap and innovative product adoption. Furthermore, this research provides marketers of alternative foods—specifically those produced to replace animal-based products, such as plant-based meat

substitutes—with further understanding of barriers to product adoption and recommendations for marketing strategy.

1.8.1 THEORETICAL IMPLICATIONS

This research contributes to the marketing literature by exploring the consumption of plant-based meat substitutes. While this emerging topic is addressed in the scientific literature—particularly in the agriculture, food science and nutrition fields—exploration from a marketing and consumer behaviour perspective is still limited. Thus, this research contributes to the literature on the attitude-behaviour gap, social practice theory, plant-based meat substitutes, and ethical and sustainable food consumption, as well as addressing several gaps identified by recent systematic reviews on research in this space (e.g., Hartmann & Siegrist, 2017; He et al., 2020; Onwezen et al., 2021).

1.8.2 PRACTICAL IMPLICATIONS

This research assists marketers of plant-based meat substitutes—and other alternatives to animal-based foods—with a new understanding of consumers of these products. This research provides valuable insights for marketers in identifying factors that impact product purchase and consumption, highlighting the importance of market segmentation and product trialing, the impact of values and social structures on product adoption and product attribute preferences, as well as issues that need to be addressed through social marketing initiatives (e.g., skills development).

1.9 THESIS OUTLINE

The current chapter introduced the research by illustrating the significance of the topic, providing a background to the research, and identifying gaps in the extant literature. Following this, the research questions and objectives were presented as well as the resulting methodology for the research. Lastly, an overview of the theoretical and practical implications of the research has been outlined.

Chapter Two, Literature Review, presents an overview and discussion of the existing meat substitute literature and related research areas. First, meat and culture are explored, followed by political, alternative and sustainable consumption of food and food products. Next, more specific consumption factors are explored concerning the consumption of meat, meat substitutes, meat-free and low-meat diets. This chapter closes by examining some of the existing theoretical frameworks used to understand behaviour and consumer decision making in the context of meat substitutes and related consumption practices.

The third chapter, Methodology, describes the methodological considerations of this research. An overview of the research design is presented and the subsequent philosophical assumptions that underpin this research. The research procedure is then defined alongside the process undertaken in the development of the interview guide and data analysis. Ethical considerations are also presented.

Chapter Four, Findings, reports on the results of the in-depth interviews. An overview of the conceptual framework adopted to organise the findings is provided, and the themes arising from the analysis are presented. This chapter also presents the research findings within the wider research context and positions the current research relative to existing literature.

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The fifth chapter, Discussion, discusses the main research findings presented in the preceding chapter in more depth. This chapter applies social practice theory as a theoretical lens and explores the materials, meanings and competencies associated with plant-based meat substitutes and their related practices.

Chapter Six, Conclusion, is the final chapter of this thesis. Here, a final overview of the research is presented, followed by a detailed discussion of the theoretical contributions and practical implications. Lastly, the limitations of the present research are discussed as well as proposed directions for future research.

2 LITERATURE REVIEW

2.1 OVERVIEW

This chapter aims to provide a theoretical background on the key areas of research that form the basis for this research project. This chapter first addresses the role of meat in culture. This includes the importance of meat in the construction of individual and collective identity and the perceived moral distance between human and non-human animals. Next, political and alternative consumption is examined, and a discussion on social action through consumption and the rise of alternative food consumption are provided. Then, consumption factors are explored concerning both motivations and barriers to the consumption of meat substitutes, as well as consumer perceptions. Lastly, theoretical frameworks are examined that have previously been used to examine consumer behaviour in the context of meat substitutes and other related practices, including veganism and meat consumption. This chapter provides the foundation for the methodology, which is presented in Chapter Three.

2.2 MEAT AND CULTURE

Food products have an important and varied role in the market. They are both a necessity for survival and a tool for competitive display, identity formation and status (Arppe et al., 2011; Douglas & Isherwood, 1972; Paddock, 2012). For a long time, meat has been an integral part of society (Gordon, 2017), holding a symbolic place across all human cultures and heavily imbued with meaning (Potts, 2017). Meat represents important ideas about gender (Adams, 2010; Hovorka, 2012; Potts & Parry, 2010), class (Potts & White, 2008), socioeconomic position (Galobardes et al., 2001), geographical and economic factors (Hovorka, 2008), and national identity (King, 2018). Meat is perceived by many to be a status product (Hawkins, 2012) and is

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often linked to both wealth and prestige (Taylor & McKenzie, 2017). Ideals that are increasingly important to understand with further economic polarisation between the rich and poor, and among social classes (Paddock, 2012).

Meat and animal-based foods continue to play a key role in social and cultural rituals and identity construction (Hawkins, 2012; Paddock, 2012). In many cultures—particularly in the West—meat is strongly associated with traits such as power, masculinity, virility and ‘ruggedness’ (Potts, 2017). This association stems from the belief that masculinity is bestowed on consumers through the consumption of meat. Specifically, many cultures believe that strength—a male trait—comes from the consumption of strong animals such as beef (Adams & Calarco, 2017). Conversely, vegetable consumption represents passivity and is considered to be associated with femininity (Adams & Calarco, 2017). This is illustrated through the association of meat consumption with male-identified locations such as barbeques and steak houses (Adams & Calarco, 2017).

Meat and the consumption of animal products have also been linked with national identity. Strong ties to collective identity often result in consumers who reject animal consumption being marginalised (Potts & White, 2008). In countries where meat and farming represent dominant symbols of nationhood—such as New Zealand, the United Kingdom and the United States—refusal to consume animal products is considered an unpatriotic act (Potts & White, 2008). Many cultures and individual consumers hold strong positive associations with meat. In a study conducted by Hawkins (2012), participants from the UK were asked to identify foods consumed at times that they associated with positively (e.g., special occasions, guilty pleasures and childhood memories). The results disproportionately favoured foods that were meat-based as these were dishes that participants recalled their mothers cooking for them, and thus, had stronger

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positive associations (e.g., nostalgia) compared to plant-based dishes. In contrast, religions such as Orthodox Judaism, Islam, and Hinduism include varying food avoidances focused on the consumption of animal-based foods, yet all accept the consumption of plant-based foods (Green et al., 2010).

The acceptance of meat consumption is strongly supported by beliefs concerning humans' rights to dominate nature and other animals (Adams, 2010; Joy, 2010; Luke, 2007). Many consumers engage in discursive strategies to naturalise the normativity of meat consumption (Twine, 2017a). The consumption of meat is often communicated as essential to human existence and the natural order of things (Twine, 2017a). Adams and Calarco (2017) explain that through the process of transforming an animal into meat, the classification of that animal as *an animal* ceases to exist for it to be reclassified as meat or food. In doing so, the reclassification from 'animal' to 'food' protects the conscience of meat-eaters and masks the violence inherent to meat production (Adams & Calarco, 2017). Such a process allows consumers to exclude animals from human morality in order to consume meat free of guilt and confliction. Ensuring that the consumption of meat remains to be an out of sight, out of mind practice (Oppenlander, 2012).

The labelling of species as acceptable to eat has resulted in the compartmentalization of human versus non-human or pets versus livestock (Potts & White, 2008). Such binaries are influenced by several factors such as religion, normative practices, ethics, and culture and vary around the globe. For example, by Western standards, the idea of eating a dog will likely result in disgust (Cudworth, 2017). Yet, the consumption of beef—a practice avoided in Hindu dominated states in India due to cattle being sacred—is normalized (Cudworth, 2017). These distinctions are also influenced by the perceived appearance, intelligence and cleanliness of animals (Cudworth, 2017), as well as phylogenetic relatedness and similarity to humans (Herzog

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& Galvin, 1997; Ingham et al., 2015). Many consumers will not consume dolphin meat due to dolphins being recognized as bearing intelligence. Similarly, many Westerners will reject the consumption of pigeons due to perceptions of pigeons as ‘dirty’ but will actively consume chickens. In this vein, the consumption of animals outside of the western norm, such as horse meat (Taylor & McKenzie, 2017) or entomophagy (the human use of insects as food), are labelled as ‘primitive’ and often influenced by the persistence of xenophobia among Western consumers. In these instances, consumers’ concerns don’t arise from fear of disease or contamination but normalised cultural practices subject to underlying speciesism that governs the classification of animals as either ‘pet’ or ‘food’ (Taylor & McKenzie, 2017).

Meat consumption has also been found to be linked to certain sociodemographic factors and personality traits (Lea & Worsley, 2001; Pfeiler & Egloff, 2018c). Specifically, sex, age and education have been identified as having significant relationships with meat consumption. Given the preceding discussion on the socio-cultural meanings attributed to meat, it is unsurprising that sex is one of the strongest predictors of meat consumption. Men not only consume significantly more meat than women but are also less willing to reduce meat intake or switch to a sustainable diet, such as that of a vegan or vegetarian (Dibb & Fitzpatrick, 2014; Pfeiler & Egloff, 2018a, 2018b). There is also evidence indicating that younger consumers, and those with higher levels of education, are more likely to consume less meat or follow a meat-free diet (Pfeiler & Egloff, 2018a, 2018b; Wiig & Smith, 2009). With respect to personality, diets that include meat have been associated with the Big Five personality traits (Keller & Siegrist, 2015; Pfeiler & Egloff, 2018b). Specifically, meat consumption has been found to be negatively correlated with openness, agreeableness, emotional stability and conscientiousness, and positively correlated with extraversion (Keller & Siegrist, 2015; Möttus et al., 2012; Pfeiler & Egloff, 2018c).

2.3 POLITICAL, ALTERNATIVE & SUSTAINABLE FOOD CONSUMPTION

2.3.1 POLITICAL FOOD CONSUMPTION

Changes and innovations in the food sector are disrupting the way in which consumers perceive a historically taken-for-granted consumption practice. Food consumption is a morally and politically contested and discursively problematised field fraught with a number of anxieties over health, weight, ethics and identity (Cudworth, 2017; Miller et al., 2017; Parkinson et al., 2017; Song & Im, 2018). For many, food consumption raises issues of fairness internal and external to the human community (Sassatelli, 2004). Individual consumption preference has historically been prioritised over wider social and environmental obligations and values (Sassatelli, 2004). Consequently, the majority of consumers rely on political intervention to protect themselves from issues conflated with production and consumption through regulation of chemicals, processes, advertising and ingredients (Cudworth, 2017). However, a shift can be seen in recent consumption practices as individuals alter their consumption behaviours to better align with more globalised concerns such as public health, social well-being and environmental sustainability (Holzer, 2006; Sassatelli, 2004). Consumers are now being viewed as political and moral actors (Rothgerber, 2020; Sassatelli, 2004) who use their consumption to enact these values (Jost et al., 2017; Park, 2018). Instead of relying solely on political intervention, consumers are becoming increasingly active and public in their actions, and purchases are seen as a conscious, public action in support or opposition of organisations and behaviours (Baumann et al., 2015; Sassatelli, 2004).

Furthermore, the social regulation of consumption is based on, among other things, the classification of goods. Specifically, goods are classified as “normal or deviant, fair or unjust,

innocent or corrupting” in order to more easily negotiate consumption practice (Sassatelli, 2004, p. 181). Thus, consumers will use such classifications when making purchasing decisions to avoid products that make them feel guilty (Lindenmeier et al., 2017) and to purchase products that evoke positive affective responses (Liu et al., 2017). Consumption can therefore be wielded as a weapon against overly globalised, industrialised, commodified and dehumanised production processes (Baumann et al., 2015; Sassatelli, 2004) by selecting responsible products over those deemed problematic (Baumann et al., 2015). In this view, consumption is a practical and accessible tool to enact change above and beyond traditional political action (Baumann et al., 2015; Casey et al., 2017; Sassatelli, 2004; Valor et al., 2017). Where the meat-based food system and livestock industry are considered to be the predominant contributor to the array of problems currently being faced, boycotting these products enables consumers to contribute to relative social, economic and environmental well-being as well as social justice (Ulusoy, 2015). Characteristics and qualities of political consumption and consumer resistance is embodied by veganism, where ideological and political statements are enacted upon both personal and collective levels (Ulusoy, 2015). Through consumption, individuals are able to counter what can be described as the homogenisation of capitalist production. This has given rise to many of the alternative food consumption practices such as ethically and environmentally conscious consumption.

2.3.2 ALTERNATIVE FOOD CONSUMPTION

Interest in Alternative Food Consumption (AFC) has emerged in recent years due to increasing consumer discontent with current market practices (Smith Maguire et al., 2017). AFC describes a number of heterogeneous consumption practices, the underlying commonality arising

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from the critique and rejection of some form of consumption and the proposition of an alternative practice (Kajzer Mitchell et al., 2017; Sassatelli, 2004). For many forms of AFC, this rejection concerns our increasingly globalised food system, which poses a number of social, environmental, economic and health threats (Batat et al., 2017; Murdoch & Miele, 2004). Consequently, consumers are distancing themselves from mainstream food production and consumption practices at an increasing rate (Batat et al., 2017). This market development is attributable to not only increasing demand for better quality food but also for more meaningful and authentic consumer experiences beyond economic exchange (Kajzer Mitchell et al., 2017; Smith Maguire et al., 2017). Specifically, consumers are seeking more environmentally, healthy, and socially responsible food alternatives. Thus, AFC is defined as being “any sustainable food consumption trying to meet economic, environmental, health and social goals” (Batat et al., 2017, p. 581). Consequently, AFC sits at the intersection between sustainability and environmental, nutrition and health, policy and planning, marketing and consumer research.

Despite a growing body of evidence in support of AFC, the ability of alternatives to transform market practices is widely contested. A significant argument in this vein is concerned with whether or not AFC products maintain their alterity once they become absorbed by the conventional market (Schor & Fitzmaurice, 2017). The problem arises due to the value and attraction of alternative forms of consumption being derived from their scarcity and distinction (Smith Maguire et al., 2017). The argument follows that the progressive ‘alternative’ aims that set a practice apart become watered down once a product becomes mainstream (Thompson & Coskuner-Balli, 2007). The problem arises when alternative products rely on a narrative of alternativeness which is compromised as their production become conventionalised to meet demand once a product is mainstreamed (Smith Maguire et al., 2017). The relationship between

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alternative and conventional markets has been problematised by several scholars (e.g., Johnston, 2017; Ritzer, 2017; Schor & Fitzmaurice, 2017). Thompson and Coskuner-Balli (2007) conceptualise this using co-optation theory, whereby commercial marketplaces assimilate the symbols and practices of countercultures into that of dominant norms and practices. Specifically, dominant cultures respond to countercultures by converting symbols of rebellion into commodities that can be repositioned within dominant frameworks of meaning (Thompson & Coskuner-Balli, 2007). Moreover, commercial mainstreaming can, in turn, *promote* the oppositional symbols of countercultures (emphasis added; Thompson & Coskuner-Balli, 2007).

For example, veganism is a movement that arose from the 1960s counterculture era that rejects the meat-centricity of the West (Lindquist, 2013). Veganism and its associated consumption practices are used by its adherents to take a political stance against culturally and systemically embedded anthropocentric (i.e., human supremacism) beliefs (Sylvestre, 2009; Wescombe, 2019). However, even within the veganism movement, divides exist between different factions of this counterculture. Veganism is a popular expression of resistance within the Punk subculture that enables Punks to protest against the harmful and oppressive practices central to animal agriculture (Sylvestre, 2009). However, as Sylvestre (2009) explains, individuals who adhere to this type of punk-vegan ideology and related practices, reject what they call ‘Yuppie’ veganism characterised by the patronage of high-end grocery stores and brand fetishism. In this vein, punk-veganism can only exist alongside the existence of the ‘established other’ when such an ideology is positioned as anti-establishment and anti-capitalist (Sylvestre, 2009). Thus, mainstreaming (commercial or otherwise) of punk-vegan praxis may be considered undesirable for those engaged in this subculture, creating tension with the wider vegan movement

that actively engages in advocacy to promote the mainstreaming of more conventional forms of veganism (Wescombe, 2019).

Moreover, in order for sustainable consumption to become enduring, it must transcend its ‘alternative’ position and emerge as a mainstream consumption paradigm. This can be seen in the case of Fair Trade and organic products, whereby consumption originated as a predominantly alternative practice but was adapted for conventional distribution to conventional consumers (Klintman, 2006; Murdoch & Miele, 2004; Thompson & Coskuner-Balli, 2007). In doing so, the lines between convention and alterity were blurred and the objectives of Fair Trade and organic consumption were better realised through being adopted by a wider population of consumers.

2.3.3 SUSTAINABLE FOOD CONSUMPTION

Jones et al. (2010) note that a defining characteristic of alternative food consumption is that it is *supposed* to be more sustainable than conventional food consumption. Sustainability, in effect, is, therefore, the reason for the existence of alternative food consumption (Jones et al., 2010). Hence, if alternative food consumption really is alternative, then it arises from the need for increased sustainability. Consequently, Jones et al. (2010) argue that sustainability—rather than alternativeness—is the ultimate aim and that those who engage in alternative food consumption should move their focus from alterity to sustainability (and convention). Thus, a shift from alternative food consumption to sustainable food consumption is proposed (Jones et al., 2010).

Moreover, sustainable diets are no longer seen as niche or extreme, but rather as lifestyles that are becoming increasingly accessible, aspirational and necessary (de Boo, 2013; Hancox, 2018; The Vegan Society, 2016). Previously viewed as a sacrifice, sustainable diets are now

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being reframed in terms of what can be gained, such as health and environmental benefits (Hancox, 2018). This includes offering a lifestyle, community and culture focusing on being mindful and making positive change (Hancox, 2018) and improving consumer wellbeing (Bublitz et al., 2013). In some cases, non-animal alternatives are perceived as “high-quality alternative, premium or gourmet food products” (Flink, 2018). These shifts in consumer perceptions illustrate the changing dynamics of sustainable consumption as it moves from alterity towards being conventional and more widely accepted. Veganism, in particular, has been recognised as entering mainstream consumer practice (de Boo, 2013; Hancox, 2018). Recent reports note that environmental and health concerns have emerged as a new focus for a lifestyle that has historically been geared towards animal welfare activism (Steinfeld et al., 2006). This phenomenon is predominantly driven by millennials who are becoming increasingly environmentally and socially savvy and recognise that threats such as global warming and deforestation are certain realities that they will face in their lifetimes (Hancox, 2018). Consequently, veganism—which has long been associated with counterculture and anti-capitalist ideologies—is consequently undergoing a ‘softening’ of its image as it enters conventional consumer practice (de Boo, 2013; Hancox, 2018) and is now viewed in terms of ethical consumerism, environmental sustainability, and health and well-being (Ulusoy, 2015).

However, those pursuing the development of sustainable food systems are faced with many interconnected challenges due to the complex “social, ecological, political, cultural and institutional context in which food systems operate” (Paddock, 2012, p. 150). Yet, these contexts are also the foundation of which sustainable food consumption practices arise. As noted by Tilman and Clark (2014, p. 518), the “diet-environment-health trilemma is a global challenge, and opportunity of great environmental and public health importance”, and several studies

highlight the multiple benefits of reducing animal-based food intake (Springmann et al., 2016). Referring back to veganism, we can see how sustainable food consumption presents an “overarching system of meanings that work as a catalyst to make connections among various stances revolving around ethics, environmental sustainability and well-being” (Ulusoy, 2015, p. 422). Thus, consumers who participate in alternative sustainable consumption are united in their motivation to deviate away from harmful conventional consumption practices. However, alternative sustainable food consumption is associated with a hugely heterogeneous set of specific motivations and consumption practices in any number of social contexts (Holloway et al., 2010). These motivations and the way in which consumers become actors in alternative and sustainable consumption spaces can be contradictory (Holloway et al., 2010). Understanding this breadth of motivational factors is therefore important in our understanding of these consumption practices.

2.4 CONSUMPTION FACTORS

Dietary choices are influenced by a number of heterogeneous demographic, ideological, product and marketing factors that support and inhibit the consumption of meat substitutes (Grote et al., 2016; Ritchie et al., 2018). Existing meat substitute research and related consumer studies in green and alternative food consumption have identified a number of factors that include issues surrounding age and gender, environmental and social concerns, product qualities and availability, among others. However, these studies are incongruous in their findings (Grote et al., 2016). An underlying theme within the literature is the degree of contradictory beliefs held by consumers regarding meat and its substitutes. Research has found that consumers can hold both

positive and negative beliefs about meat (de Boer et al., 2017) as well as have paradoxical views on related consumption factors, as is discussed in the preceding sections.

2.4.1 DEMOGRAPHIC FACTORS

A number of demographic factors have been identified as having an impact on the purchase behaviour towards meat substitutes. This follows on from earlier discussions in relation to meat consumption and demographic variables in Section 2.2. Earlier studies in green marketing identified green consumers as being older (D'Souza et al., 2006). However, more recently, consumers of sustainable products have frequently been identified as being younger (Akehurst et al., 2012; Straughan & Roberts, 1999; Tseng & Hung, 2013). This has also been found to be the case for meat substitutes where millennials (a generation that includes consumers born in or after 1980; Ng et al., 2010) are more likely to consume less meat (Schösler et al., 2012), a theme also noted in the popular press (e.g. Hancox, 2018; Stephenson, 2018). This is no surprise when the movement towards plant-based consumption is being driven primarily by millennials, with the majority of vegans being under 34 years of age (Varma, 2018). Age of consumers has also been noted as determining what motivates consumption of meat substitutes. Millennials are driven by sustainability and animal welfare first and personal health second (Stephenson, 2018). In contrast, older consumers are concerned with mitigating health issues such as cholesterol, cancer and heart attacks which are linked to meat (Stephenson, 2018).

In terms of gender, a study by Hoek et al. (2004) found no difference in gender between consumers and non-consumers of meat substitutes. However, this contradicts a later study by Hoek, Luning, et al. (2011) that identified women as the predominant consumer group of meat substitutes. These latter findings are consistent with related research in organic food (Van Doorn

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& Verhoef, 2015) and broader green marketing literature that notes females are the primary consumers of sustainable products and are historically more environmentally conscious than men (Akehurst et al., 2012; Do Paço et al., 2009; Tseng & Hung, 2013). Moreover, almost twice as many vegans identify as female than male (The Vegan Society, 2016). However, research by Hart (2018) indicates that meat substitute-based dishes are more likely to be perceived as “suitable and enjoyable for men” compared to those that are vegetable-based (p. 142). Such a view is consistent with ingrained social ideals pertaining to masculinity and meat (Potts, 2017)—and by extension—meat-like products.

Household size—defined as the number of individuals residing in the same household and therefore engaged in joint consumption of food—is smaller for consumers of meat substitutes (Grote et al., 2016; Hoek et al., 2004). This finding is supported by similar studies in organic food consumption (Ngobo, 2011; Van Doorn & Verhoef, 2015). Geographical factors, including the degree of urbanisation and country of origin, also impact the consumption of meat substitutes. Some countries, such as Germany, have been found to be more open-minded to purchasing meat substitutes (Weinrich, 2018). Consumers of meat substitutes have also been found to have a high degree of urbanisation (Hoek et al., 2004). Specifically, consumers living in larger cities have higher purchase intentions towards meat substitutes than those living in smaller cities or rural areas (Grote et al., 2016).

Consumers’ level of education has been found to be higher among those who consume meat substitutes (Hoek, Luning, et al., 2011) and engage in other sustainable behaviours (Do Paço et al., 2009; Ngobo, 2011; Straughan & Roberts, 1999). Interestingly, income has not yet been found to have a relationship with meat substitute consumption (Schösler et al., 2012). This contrasts findings from related fields that indicates that consumers with higher income are more

likely to purchase organic food (Ngobo, 2011; Verhoef, 2005) and other green products (Akehurst et al., 2012) due to these products being more expensive on average. Similarly, the level of occupation has been found in the organic consumption literature to have a positive effect on purchase consideration (Ngobo, 2011), but it is yet to be determined whether this is also true for meat substitutes (Grote et al., 2016).

2.4.2 IDEOLOGICAL FACTORS

Consumers of meat substitutes include consumers who are seeking to reduce their meat consumption for a variety of health, ethical, environmental or social reasons (Murdoch & Miele, 2004), and consumers who adhere to religious dietary restrictions such as Kashrut, Halal and Buddhist (Joshi & Kumar, 2015). Ideological factors such as environmental, ethical and health concerns have been identified as important drivers for the adoption of sustainable eating practices (Beverland, 2014; Verfuërth et al., 2021). Environmental and animal welfare concerns are the main reasons for the removal of meat from the diet (Rozin et al., 1997). Consumers that consume no meat, such as vegans and vegetarians, have been found to exhibit greater concern for animal welfare and environmental issues than consumers who eat varying levels of meat (Beardsworth & Keil, 1991). Yet surprisingly, less than 20 percent of consumers of meat substitutes adhere to a strict meat-free diet (Mintel Group, 2013). Meat substitutes have been found to contribute significantly lower levels of pollution in their production when compared to meat (Zhu & van Ierland, 2005). Attention to the environmental impact of food has been identified as a motivational trigger for readiness to adopt meat substitutes (Siegrist & Hartmann, 2018; Verbeke, 2015), and as noted above, this is particularly the case for millennial consumers (Stephenson, 2018). While many consumers purchase meat substitutes in order to eat more sustainably,

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sustainability is also considered a barrier when genetically modified or mass-produced ingredients are used in production (Weinrich, 2018). Moreover, while awareness is increasing, the majority of consumers still remain ignorant of the negative environmental impacts of the consumption of meat and other animal products on the planet (Vainio et al., 2018). Disbelief in the impact of meat consumption on the planet was found to be one of the most significant barriers faced by consumers (Mäkinen & Vainio, 2014) despite meat substitutes holding significant potential in mitigating climate change (Ritchie et al., 2018). Additionally, consumers feel that environmental gains of altering their diet does not outweigh their own individual sacrifice, particularly when the rest of the population is not encouraged or forced to make the same changes (Hawkins, 2012).

Concerns for animal welfare have been found to be a leading motivator for substituting meat in meals. Animal welfare issues are defined by Kumar et al. (2017, p. 924) as those concerning “cruelty or unethical treatment of animals during rearing, transportation and slaughter”. Participants in a recent study ranked animal welfare above health, sustainability, and environmental impacts when discussing reasons for forgoing meat (Weinrich, 2018). For many consumers, animal welfare concerns and subsequent meat renunciation can result from catalytic experiences. Catalytic experiences are those identified by McDonald (2000) that raise awareness of the cruelty imparted on animals in the production of animal-based foods. Catalytic experiences mark key turning points that provoked behavioural change away from the consumption of animal-based foods. These experiences are characterised as highly emotional and fuelled by the “recognition of the power relationship between human and nonhuman animals [and] fed by negative emotions, such as guilt, sadness and anger” (McDonald, 2000, p. 9). Studies exploring the views of consumers who reject animal-based foods, such as vegans and vegetarians, have

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found that catalytic experiences often occur as the result of witnessing or becoming aware of the realities of farm life (Potts & White, 2008). These are often disturbing or traumatic experiences such as witnessing home-killing, sending livestock off to slaughterhouses, culling of pests, and other farming practices (Potts & White, 2008).

In addition to concerns for animals, concerns for human wellbeing are also relevant both at an individual and social level. At a social level, concerns for the poor working conditions for workers in the meat industry are of high importance for some consumers (Weinrich, 2018). Numerous scholars have addressed social justice issues within the global food system. Immigrants and unskilled workers make up most of the meat processing workforce and are often subject to issues of workplace safety (Gouveia & Juska, 2002), worker exploitation (Raynolds, 2002), worker abuse (Tan, 2017), unfair pay (Cook, 2010), occupational overuse conditions (Pachirat, 2011), and dishonest immigrant recruitment strategies (Meadows & Cronshaw, 2015). In addition, the COVID-19 pandemic has highlighted the poor working conditions of those working in meat processing plants (Attwood & Hajat, 2020). At the individual level, concerns relate primarily to health-related side effects of high meat consumption such as heart disease, diabetes, osteoporosis and some cancers (Campbell & Campbell, 2016; Kumar et al., 2017). However, whether health concerns have a positive or negative impact on meat substitute purchase is contested. One study found that high nutrition involvement has been found to increase purchase intention for meat substitutes (Grote et al., 2016). Another study found that personal health concerns were only drivers for meat substitute consumption in vegetarian market segments (Hoek et al., 2004). In contrast, many consumers believe that animal products, including meat, are healthy and a necessary component of a balanced diet (Vainio et al., 2018; Verbeke, 2015;

Verbeke et al., 2010; Wellesley et al., 2015) despite meat substitutes being identified as providing improved nutrition across all income levels (Ritchie et al., 2018).

In addition to the factors outlined above, research has found food neophobia—characterised by the reluctance to try novel foods (Caparros Megido et al., 2016)—to be the most important factor in determining whether consumers are ready to adopt meat substitutes, for both insect-based (Verbeke, 2015) and plant-based options (Hoek, Luning, et al., 2011). Consumer's willingness to try new foods has been found to be influenced by beliefs and perceptions of those foods. Specifically, consumers' beliefs about foods' 'disgusting' properties and reactions evoked by the prospect of consumption reduce willingness to try (Martins & Pliner, 2005, 2006). However, the impact of consumers' disgust sensitivity has been found to only produce a weak, negative impact on purchase intention for meat substitutes (Siegrist & Hartmann, 2018). Moreover, the effect of neophobia has been found to be smaller when substitute products share similarities to animal-based foods (Adise et al., 2015). That is, the closer meat substitutes are to the meat products they are trying to replace, the more willing consumers are to try the product (Hoek, Luning, et al., 2011). Interestingly, the extent to which food reminds consumers of living animals has been found to increase the impact of food neophobia (Martins & Pliner, 2006).

2.4.3 PRODUCT FACTORS

Several studies have explored the impact of product-related factors on the consumption of meat substitutes, including price, quality and sensory attributes. Though there is a growing desire among consumers to access more sustainable food products, price continues to be a significant barrier (Hawkins, 2012). Price is the main factor driving most food choices for many consumers (Chicca et al., 2018), and meat substitutes are no exception. Price is one of the largest barriers to

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the consumption of meat substitutes that are priced relatively high compared to the lower price of the meat products they are designed to replace (Apostolidis & McLeay, 2016b; Kumar et al., 2017; Ritchie et al., 2018), particularly for low-quality cuts (Weinrich, 2018). However, this view varies between consumers. Price is considered more important for meat consumers buying meat substitutes than for consumers who have cut meat from their diet (Hoek et al., 2013).

Consumers that are price-sensitive believe that substitutes should be priced lower than meat products to encourage consumption (Weinrich, 2018). As it is, the higher price of meat substitutes provides no economic incentive for substitution, and these alternative products are often considered to occupy a premium or niche segment in the market (Ritchie et al., 2017; Ritchie et al., 2018). ‘Alternative’ is becoming synonymous with ‘elite’ or ‘artisanal’ and therefore exclusive to those with the economic capital to participate (Paddock, 2012). Price sensitive consumers will inevitably purchase food products that are affordable and satiating and are usually the target of manufacturers providing highly processed foods high in sugar, fat and salt (Hawkins, 2012). However, as meat substitute products move from the stage of technological development through to increasing levels of commercialisation, the price of these products can be expected to decrease (Ritchie et al., 2018). The first-ever clean burger, for example, cost more than \$300,000 to produce in 2013, yet clean burger patties are predicted to soon cost as little as \$3.60 per pound (Kateman, 2017).

Consumers who are not price-sensitive are happy to pay higher prices—but only if the quality is appropriate (Weinrich, 2018). The perceived quality of meat substitutes is widely contested. Some consumers perceive meat substitutes to include more variety of micronutrients and no negative impacts on human health when compared to meat (Weinrich, 2018). At the same time, consumers are also concerned about the quality and nutritional value as they are aware that

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meat substitutes lack micronutrients only found in meat, such as vitamin B12 and omega-3 fatty acids (Weinrich, 2018). Consumers are also concerned with the high levels of soy found in many meat substitute products and the long ingredients lists, which are perceived as being unnatural and unhealthy (Weinrich, 2018). Conversely, health and quality concerns are one reason consumers remove meat from their diet. Many consumers of meat substitutes express distrust of the meat sector over issues such as quality (high water content and freshness), hormone and antibiotic residues, fear of zoonotic diseases (diseases that can spread from animal to human and vice versa), as well as illnesses arising from meat consumption (Weinrich, 2018). This is consistent with the alternative food literature that notes increasing issues surrounding food safety and health concerns resulting from heavily industrialised processing systems (e.g., Barling, 2004; Enticott, 2003; Gouveia & Juska, 2002; Murdoch & Miele, 2004).

Finally, consumers recognise the increasing quality of meat substitutes in terms of texture, taste, variety and appearance (Weinrich, 2018). Despite this, the sensory appeal of meat continues to act as a barrier to consumption (Hoek, Luning, et al., 2011; Kumar et al., 2017; Verbeke, 2015). Many consumers still perceive meat substitutes as having inferior texture and taste compared to meat (Kumar et al., 2017; Weinrich, 2018). The most common reason for not engaging in meat substitution is that consumers enjoy the taste of meat (Weinrich, 2018). Therefore, similarity to meat—while a deterrent for vegetarians and vegans—is important for heavy meat users or consumers who do not purchase meat substitutes regularly (Grote et al., 2016; Hoek, Luning, et al., 2011). However, similarity to meat in and of itself does not lead to higher purchase consideration (Hoek, Luning, et al., 2011). Consumers prefer products that taste good in their own right rather than products compromising on taste in order to increase similarity to meat (Grote et al., 2016).

2.4.4 MARKETING FACTORS

In addition to product factors, a number of marketing factors have been identified as impacting the consumption of meat substitutes. The availability and variety of meat substitutes in the market are problematic. Consumer criticism has arisen regarding the diversity and location of meat substitutes in stores compared to meat products (Weinrich, 2018). Where meat products are readily available in all food stores, meat substitutes require consumers to undertake additional searching or gain access through speciality food stores (Weinrich, 2018). Even when consumers are able to access meat substitutes, awareness of meat-free preparation is still a barrier (Twine, 2017a; Weinrich, 2018). Therefore, the convenient preparation of meat substitutes is an important factor when considering purchasing (Elzerman et al., 2013). Western dishes, in particular, are believed to require the inclusion of meat (Weinrich, 2018), and learning to cook in a new way is challenging. Meat substitutes allow many consumers to continue cooking in the way they are accustomed to meat-based nutrition and recipes (Grote et al., 2016). For this reason, flexitarians and heavy meat consumers will rely more heavily on meat substitutes compared to consumers who already adhere to a vegan or vegetarian diet as they will likely be familiar with recipes and cooking techniques that don't involve meat (Grote et al., 2016). In this vein, product familiarity and consumption frequency—and by extension, frequency of preparation—have a positive impact on the liking and purchasing intention of meat substitutes (Hoek et al., 2013). Moreover, though meat substitutes are available for in-home consumption, consumers are concerned about the lack of availability of meat-free products in out-of-home consumption contexts (Weinrich, 2018).

Consumers' knowledge of producers is also an influential factor (Grote et al., 2016). Specifically, consumers evaluate products differently depending on whether they are produced

by companies that exclusively produce meat substitutes and other non-animal-based products, or whether they are produced by ‘hybrid’ producers—those meat product manufacturers that have expanded their product portfolios to include substitutes (Grote et al., 2016). In instances where products are produced by hybrid manufacturers, brand attribute associations are carried over (Aaker & Keller, 1990), with either positive or negative outcomes. On the one hand, meat substitutes produced by hybrid producers are assumed by consumers to be more likely to be similar to meat products (Grote et al., 2016). On the other hand, meat substitutes produced by a hybrid manufacturer can also lead to products being evaluated negatively due to meat processors being associated with animal welfare and environmental issues (Grote et al., 2016). Consequently, hybrid companies are often penalised by consumers for producing meat, and their meat substitutes have significantly lower purchase consideration across vegan, vegetarian and flexitarian consumers, though heavy meat consumers are not deterred (Grote et al., 2016).

Finally, the wording or branding of meat substitutes has been identified as an issue. The labelling of substitutes using meat-related terminology such as ‘steak’ is considered problematic by some consumers (Weinrich, 2018). While this can be considered a useful mechanism for facilitating the substitution of meat, consumers who are actively trying to avoid animal products (such as vegans and vegetarians) prefer their food not to be likened to meat (Weinrich, 2018).

2.5 UNDERSTANDING BEHAVIOUR

This section presents the relevant theory that may be called upon to explain the consumer phenomenon under investigation. In this area, the work of Annet Hoek is prominent, and through a number of studies, Hoek has utilised several theories to explain the relationship between consumers and their decisions regarding meat substitutes.

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Through the lens of categorisation theory, Hoek, Van Boekel, et al. (2011) explore the means by which consumers identify meat substitutes as an alternative for meat. Categorisation theory suggests that consumers sort products into certain categories where a category is defined as “a set of similar objects that have one or more characteristics or functions in common” (Hoek, Van Boekel, et al., 2011, p. 372). Products can be categorised on the basis of possessing similar attributes or on the basis of providing similar outcomes. Within the former basis of categorisation lies a sub-basis of categorisation known as taxonomic categorisation. Taxonomic categorisation encompasses a hierarchical system that is based on naturally occurring relationships, and it is by this basis of categorisation that Hoek, Van Boekel, et al. (2011) determine that consumers categorise meat and meat substitutes. Specifically, meat products are sorted based on categories pertaining to animal sources such as ‘beef or ‘pork’, and as a result, consumers categorise meat substitutes separately from non-processed meat. However, within the processed meat category, meat and meat substitutes were grouped together into groups pertaining to product characteristics such as ‘burgers’ or ‘sausages’. These findings indicate that consumers recognise meat substitutes as alternatives to meat products.

In another study exploring long-term consumer acceptance of meat alternatives, Hoek et al. (2013) determine that a product’s newness positively impacts consumer acceptance. The authors note that this finding is underpinned by Optimal Arousal Theory, which assumes that “stimuli that are moderately novel, surprising, or complex will be preferred over stimuli that offer too much or too little novelty” (Hoek et al., 2013, p. 254). The emphasis here is on products being *moderately* new, as unfamiliar products that approximate foods that are already included in a consumer’s diet are more likely to be accepted than products that are overtly different. In this vein, meat-like meat substitutes are more acceptable to consumers than meat substitutes that are

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vastly different to meat, such as tofu. Moreover, repeated exposure to new products may increase consumer acceptance for some consumers. However, most consumers are unlikely to consume new products when initial liking is lower than products that they are already familiar with (i.e. meat). For this reason, efforts need to be made to increase willingness to try and to establish positive experiences upon initial exposure to new products.

Practice Theory has also been adopted in a number of studies exploring meat, substitutes and related consumption. Practice Theory enables a sociological, rather than an individual, perspective to social practices (Twine, 2017a). In relation to food, food culture is acquired and created through collectively shared social practices, which consist of bodily and mental actions, and contain historical and cultural knowledge with regards to a given practice (Bekker et al., 2017). In their study exploring cultured meat, Bekker et al. (2017) determine that the inclusion of cultured meat in society will depend largely on social practices. Through the examination of vegan practices, Twine (2017a) found a strong connection between the three core elements of practice theory. Namely, competencies (nutritional knowledge, culinary knowledge and skill), materials (provision and identification of vegan foodstuffs) and meanings (vegan values, support from peers) were found to be required for vegan practice. These findings are consistent with that of O'Keefe et al. (2016) in their broader examination of sustainable food practices, which included eating less meat, cultivated meat, and GM food (among others), as well as findings from Jallinoja et al. (2016) related to plant protein consumption.

Two other frameworks have also been adopted in the exploration of meat substitutes—namely, Random Utility Theory (RUT) and the Diffusions of Innovations Theory. Apostolidis and McLeay (2016b) adopted RUT in their study examining consumer preferences for meat and meat substitute attributes. Such an approach has also been adopted in assessing food product

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attributes, including insect-based products (de-Magistris et al., 2015), organic food (Cicia et al., 2002), genetically modified food (Burton et al., 2001), and more sustainable meat (Van Loo et al., 2014). With regards to the Diffusion of Innovations Theory, Hoek (2010) draws parallels between the process by which meat is substituted and innovation diffusion. Specifically, the process of substitution is a gradual process where considerable time may pass before a large number of consumers adopt the behaviour. Other studies in related fields have adopted this theory in explaining the diffusion of veganism (Díaz, 2016), vegan food innovations (Dedehayir et al., 2017) and plant-based diets (Lea et al., 2006).

Though yet to be adapted in the context of meat substitute consumption, Ajzen's (1991) Theory of Planned Behaviour (TPB) is one of the most prominent theories used to explain an array of related consumer phenomena. The central factors in TPB are consumers' intention to perform a given behaviour, which is determined by the attitude toward the behaviour (i.e. favourable or unfavourable opinion of the behaviour), subjective norms (i.e. perceived social pressure to perform the behaviour), and perceived behavioural control (i.e. perceived ease or difficulty in performing behaviour). The TPB assumes that the relative strengths of the three antecedents will determine a consumer's intention to perform a behaviour, and subsequently, behavioural achievement (Ajzen, 1991). This theory has been used to explain meat consumption and renunciation (Graça, 2016; Garrett Lentz et al., 2018; Stoll-Kleemann & Schmidt, 2017), organic food purchasing behaviour (Rong-Da Liang, 2014), environmentally friendly food choices (Hoek et al., 2017b; Kim et al., 2013; Mäkineniemi & Vainio, 2013; Verain et al., 2015b), flexitarianism (Verain et al., 2015a), as well as more broadly, environmental consumer behaviour (Bhuian et al., 2018; Paswan et al., 2017), and green marketing (Kalafatis et al., 1999; Liu et al., 2017; Paul et al., 2016).

2.6 CHAPTER SUMMARY

This chapter has provided a theoretical background for the main area of interest in the present research. Specifically, this chapter explored the role of meat and meat consumption in culture, including its importance to status, masculinity, and national and individual identity. The process through which animals are categorized as acceptable or not acceptable to eat was also explored, as well as how certain sociodemographic and personality factors are linked to higher levels of meat consumption. Political, alternative and sustainable food consumption was also addressed, presenting the means through which consumers can use their consumption behaviours to enact positive change. This chapter also explored a range of consumption factors that have been identified in impacting the consumption of meat. Specifically, demographic factors (age, gender, household size, degree of urbanization, country of origin, level of education and income), ideological factors (environmental, ethical, health concerns, and food neophobia), product factors (price, quality and sensory attributes), and marketing factors (availability, convenience, and consumer knowledge of producers) are all noted to impact meat consumption. Moreover, the paradoxical beliefs that surround these factors are also discussed. Finally, this chapter presents a summary of the multiple theories that have been applied to consumer research of meat substitutes and related fields. This literature provides the foundation for this research and provides a basis for the methodological considerations presented in the proceeding chapter.

3 METHODOLOGY

3.1 OVERVIEW

This chapter presents the research methodology used to meet the research objectives outlined in Chapter One. This chapter starts by presenting an overview of the research design and philosophical assumptions. Then the interview design is addressed, including the development of the interviewing procedure, and the interview guide is discussed. Finally, the sample selection and data collection process are outlined, and the method of data analysis and quality assessment is discussed.

3.2 RESEARCH DESIGN

This study aimed to understand the knowledge and consumption practices of plant-based meat substitutes as well as to identify motivating and inhibiting factors that encouraged and prevented consumption. This included gaining an understanding of consumer attitudes and behaviours and awareness and knowledge of these products. Thus, the research questions for this study are as follows:

- What are the knowledge and consumption practices surrounding plant-based meat substitutes?
- What are the motivating and inhibiting factors that encouraged and/or prevent consumption?

The exploratory nature of this study gave itself most appropriately to qualitative research methods due to their ability to provide insight into phenomena that are not easily captured through quantitative means, namely behaviours, experiences and perspectives of participants (Malhorta et al., 2017; Snape & Spencer, 2013; Strauss & Corbin, 1990). Qualitative research is

also considered most appropriate for the exploration of new or unexplored phenomena for which little is known (Strauss & Corbin, 1990) and can assist in the identification of variables for use in future quantitative studies (Malhorta et al., 2017).

As exploratory studies are used to conduct preliminary investigations into relatively unknown areas of research, an inductive approach is appropriate due to its methodological flexibility (Blanche et al., 2006; Liu, 2016). In contrast to a deductive approach, an inductive approach enables the researcher to form vague speculations about the research question and then observe instances of phenomenon (e.g., interviews) in order to make sense of it (Blanche et al., 2006). In this vein, rather than forming a firm theory of the phenomena (as in a deductive approach), common themes and patterns are identified in analysis which can then be interpreted and a theoretical framework created and applied post-hoc (Blanche et al., 2006). Thus, given the exploratory nature of the research, and the open research questions, an inductive approach was taken for the present research process.

3.3 PHILOSOPHICAL ASSUMPTIONS

Given proper consideration, a well-defined philosophical research position facilitates not only a broader view of research in general but also provides clearer direction for a specific research project within its broader context (Carson et al., 2001). In doing so, researchers are able to stake out a particular position that has important implications not only for the questions of ‘how to research?’ and ‘what to research?’ But also, ‘why to research?’ (Carson et al., 2001; Holden & Lynch, 2004). The consideration process involves examining one’s own approach to research—whether subjective or objective—and thus making assumptions regarding the inter-related constituent constructs; ontology, epistemology and human nature (Holden & Lynch,

2004; Snape & Spencer, 2013). These assumptions are consequential to one another insofar as a researcher's view of "ontology affects their epistemological persuasion which, in turn, affects their view of human nature" (Holden & Lynch, 2004, p. 3). Views held regarding these constructs are seen as aligning with diametrically opposing objective or subjective views of society and science (Burrell & Morgan, 2017; Carson et al., 2001). The divide between these extremes is spanned by varying philosophical positions (Holden & Lynch, 2004). Moreover, these assumptions underwrite different research approaches and thus have direct implications of a methodological nature, or more specifically, how research is conducted and how knowledge is obtained (Burrell & Morgan, 2017). In other words, a researcher's view of ontology, epistemology, and human nature will determine an inclination towards different methodologies (Burrell & Morgan, 2017).

3.3.1 ONTOLOGY

Ontological assumptions consider what it is possible to know about the world (Snape & Spencer, 2013). Determining an ontological position involves considering whether reality is viewed as objective or subjective (Burrell & Morgan, 2017). An objective view of reality means that one's ontological position is that of a realist (Burrell & Morgan, 2017; Holden & Lynch, 2004), positivist (Carson et al., 2001; Hudson & Ozanne, 1988; Snape & Spencer, 2013) or post-positivist (Creswell & Miller, 2000). This view contends that the world, and consequently reality, predates the presence of human consciousness. Therefore the existence of reality is independent of human perception and interpretation (Eriksson & Kovalainen, 2015; Esterberg, 2002; Holden & Lynch, 2004). In contrast, a subjective view of reality gives rise to a relativist (Holden & Lynch, 2004), nominalist (Burrell & Morgan, 2017), constructivist (Andrews, 2012; Creswell &

Miller, 2000), or interpretivist (Hudson & Ozanne, 1988) ontological position. Relativists argue that reality is subjective and socially constructed (Andrews, 2012; Mackenzie & Knipe, 2006), and its existence is contingent on human cognition (Eriksson & Kovalainen, 2015). Within this standing, no one single view of reality exists (Hudson & Ozanne, 1988).

3.3.2 EPISTEMOLOGY

Epistemological assumptions consider how we understand the world and communicate this understanding as knowledge to other people (Burrell & Morgan, 2017; Crotty, 1998). When determining an epistemological position, it is important to consider the questions “what is knowledge?” and “what are the sources and limits of knowledge?” (Eriksson & Kovalainen, 2015, p. 15). As with ontological positions, an objective epistemological standing assumes that regularities and causal relationships exist in the world (Burrell & Morgan, 2017) and that it is possible to obtain hard objective knowledge and that findings are generalisable and based on stated theories (Carson et al., 2001; Esterberg, 2002). Thus, knowledge about reality is only acquired through observation and measurement, and intangible and subjective elements are inconsequential (Holden & Lynch, 2004; Morgan & Smircich, 1980; Snape & Spencer, 2013). In contrast, a subjective standing assumes that the social world is relativistic and can only be understood through the perspectives of individuals (Burrell & Morgan, 2017) and that knowledge is based on contextual understandings (Carson et al., 2001). Therefore knowledge about reality cannot be discovered as it is subjectively acquired and highly contextual (Creswell & Miller, 2000), and the possibility of generalisable knowledge is rejected (Given, 2008; Gray, 2014).

3.3.3 HUMAN NATURE

Though associated with ontological and epistemological issues, views of human nature are conceptually separate from these constructs and concern the relationship between human nature and the environment (Burrell & Morgan, 2017). Perceptions of human nature are too antipodal and concern the debate between voluntarism and determinism (Burrell & Morgan, 2017). A deterministic standing views human action as predetermined where individuals are considered to behave reactively to the external environment (Holden & Lynch, 2004; Hudson & Ozanne, 1988; Morgan & Smircich, 1980). Conversely, a voluntarist standing posits that humans are autonomous and free-willed (Burrell & Morgan, 2017; Holden & Lynch, 2004). Within this position, individuals shape their environment and are not simply acted upon but have an impact on their world (Hudson & Ozanne, 1988).

3.3.4 RESEARCH PARADIGM

Although much of the extant literature explores ontological, epistemological and views of human nature using objective-subjective dialectical views, few researchers adopt such extreme positions (Holden & Lynch, 2004). The polarisation of research is considered neither meaningful nor productive (Cohen et al., 2011). Instead, many researchers adopt an intermediate position that balances perspectives of both subjective and objective viewpoints. Within this standing, the aim of research is instead to understand the “meaning of social actions *within* the context of the material conditions in which people live” (emphasis added; Snape & Spencer, 2013, p. 7). In other words, this view posits that there is indeed a physical reality independent of human cognition, but such a reality is only perceptible through human interpretation (Holden & Lynch, 2004; Snape & Spencer, 2013).

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In this vein, reality, knowledge and human agency is viewed through neither an extreme subjectivist nor objectivist perspective. One such intermediary position is identified by Andrews (2012) as social constructionism. As Andrews (2012) explains, social constructionism acknowledges the existence of objective reality whilst also recognising that knowledge is constructed and the understanding of this knowledge is subjective and shared. Moreover, within the social constructivist view, meaning is shared and therefore constitutes a “taken-for-granted reality” (Andrews, 2012, p. 39). Specifically, as meaning and understanding are shared, they are not reconstructed each time they are used, and thus contributes to this shared reality independent of individual interpretation and perception.

Ontologically, this means that reality is tangible while also affected by human cognition and interaction, which leads to an epistemological perspective that views knowledge as not absolute but attainable and testable (Holden & Lynch, 2004). Human nature is consequently both deterministic and voluntarist in that individuals are born into a society that is both structured and shaped by human interaction (Holden & Lynch, 2004). Thus, in taking an intermediate position, researchers’ role is to “qualify research findings as contextually explanatory and probably generalisable”, rather findings aid in our cognition of the world (Gordon, 1991; Holden & Lynch, 2004, p. 14). Only an intermediate philosophical position enables researchers to align their philosophical perspective and methodology with a given problem (Holden & Lynch, 2004). Furthermore, research in marketing focuses on both fact gathering and pattern identification as well as gaining an appreciation for the varying meanings assigned to individual experiences (Carson et al., 2001). Thus, research within the marketing discipline requires us to strike a balance between logical (objective) and emergent (subjective) approaches (Carson et al., 2001).

Consequently, an intermediate position was taken for this research. Within the context of exploring the knowledge and consumption practices relating to plant-based meat substitutes, knowledge and behaviours of human actors in the marketplace, while largely socially constructed and subjective, are influenced and subject to the material realities of the world in which they occur. For example, material elements such as physical infrastructure and product attributes do represent a physical reality independent of consumers' cognition. However, consumers' experiences and perceptions of these elements—and resulting attitudes and behaviours—are subjective and socially constructed and are the means through which physical reality is interpreted and given meaning. Thus, this research methodology here aims to understand consumers' behaviour and knowledge of plant-based meat substitutes within the context and limitations of the material conditions in which they occur, as well as the meanings for which they are imbued. Such a philosophical view is also appropriate given the inductive nature of the research (Blanche et al., 2006).

3.4 RESEARCH PROCEDURE

3.4.1 SEMI-STRUCTURED INTERVIEWS

Semi-structured interviews were adopted to explore the research questions outlined in Section 3.2. Semi-structured interviews allowed for variation and flexibility in questioning and enabled the use of probing questions to elicit more detailed responses from participants (Hair et al., 2017). Such an approach was chosen to facilitate the uncovering of hidden issues (Malhorta et al., 2017), elaboration and clarification (Barriball & While, 1994; Zikmund et al., 2011), recall (Barriball & While, 1994), allowing the pursuit of emergent themes and following the lead of

participants (Low, 2013), and reducing the risk of socially desirable responding (Barriball & While, 1994).

3.4.2 SAMPLE SELECTION AND RECRUITMENT

A purposive sampling technique was used to ensure that certain categories of individuals were included in the study as—based on prior research—they are believed to offer important perspectives of the phenomena in question (Hair et al., 2017; Robinson, 2014). Selection on this basis is determined to provide “information-rich” cases (Palinkas et al., 2015), which are particularly appropriate for qualitative studies where sample sizes are small. As noted by Grote et al. (2016), is it important to consider the differences between vegans, vegetarians, flexitarians and heavy meat consumers (meat omitted less than once per week) in relation to meat substitute consumption. For this reason, the participants were recruited from all consumer groups. Using the sampling framework outlined by Robinson (2014), the sample for this study included regular and first-time consumers of meat-substitutes who had purchased and/or consumed a meat substitute product in the six months prior to data collection, as well as a number of non-users. Beyond these inclusion criteria, the sample was intentionally heterogeneous across demographic and psychographic variables. This was due to the variance of previous research outlined in Chapter Two on meat and meat substitutes and the inconclusive impact of these variables on attitudes, perceptions and consumption behaviour—particularly in relation to age and gender. Thus, participants were screened for gender, age, diet (vegan, vegetarian, flexitarian or omnivore) and usage frequency of meat substitutes.

Participants were recruited in two stages. In stage one, participants were recruited via an online Facebook community. Accessing known users (and non-users) of plant-based meat

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substitutes was a significant challenge for this study as issues arose regarding how best to identify and access these consumer groups. While consumers with high involvement with the behaviours and products in question (e.g., vegans, vegetarians) have established and active online communities, consumers with low involvement (e.g., flexitarians, omnivores) do not. Specifically, no domestic flexitarian online groups were available at the time of data collection. However, after a preliminary assessment of online vegan/vegetarian communities, it became evident that low involvement consumers did in fact frequent these spaces and did have social ties to its members. Moreover, given that the aims of the present research are product specific (in relation to plant-based meat substitutes) as opposed to meat-free eating behaviours in general, equal distribution of participants between different consumer groups was considered to be less important than having *representation* across the different groups. Thus, online communities were considered to be the most practicable approach for recruitment despite concern about sampling bias.

Consequently, a recruitment message (and a follow-up reminder) was posted to the Christchurch Vegans Facebook Group (see Appendix C), where potential participants were prompted to make contact via email. Respondents were then provided with more information on the research (including the Information Sheet and Consent Form; See Appendix B). However, this approach yielded a sample that was biased towards younger female participants that were predominantly vegan. Consequently, stage two involved the recruitment of additional participants using a snowball sampling technique, where stage one respondents were asked to recommend others that fit the selection criteria. This stage focussed on recruiting older and male participants that had broader dietary preferences. Snowball sampling, while not able to produce a representative sample, is an appropriate method for hard-to-reach populations whilst still

enabling the identification of individuals representative of important groups or segments (Handcock & Gile, 2011). Moreover, snowball sampling has been noted to be able to generate unique types of social knowledge due to its reliance on social networks (Noy, 2008). Thus, given the difficulty in reaching non-vegan, older, and male participants, as well as evidence that online social networks are relevant to the current research context (as reported by popular press; see Halliwell, 2017; Hancox, 2018), snowball sampling was deemed appropriate.

3.4.3 DATA COLLECTION

After contact and participation consent was established, a suitable time and location were determined with interviews being conducted at the University of Canterbury campus or at another suitable location such as a public library. Audio recordings were taken of all interviews—with permission—and then transcribed in intelligent verbatim with the assistance of a third-party transcription service to facilitate data analysis. After audio recordings were transcribed, the participants' names were removed from the completed transcripts and replaced with a pseudonym in order to maintain the anonymity of the participants.

All interviews were conducted in person in Christchurch, New Zealand. Interviews were conducted over an eight-month period from August 2018 to March 2019 and lasted from 30 to 60 minutes, with most interviews taking approximately 40 minutes. A \$20 Westfield voucher was provided as an incentive to further aid the recruitment process and to thank participants for their time.

3.4.4 SAMPLE SIZE AND CHARACTERISTICS

A known issue with qualitative research is determining an appropriate sample size (Awoko Higginbottom, 2004). Previous research has attempted to operationalise saturation, and findings show little consistency in interview volume required as there is no one-size-fits-all approach to reaching data saturation (Francis et al., 2010; Fusch & Ness, 2015; Guest et al., 2006). However, the general guideline for achieving data saturation is to stop at the point where no new additional themes or codes emerge (Guest et al., 2006). Consequently, interviews were conducted until such point that data saturation was achieved or until no new substantive information was acquired (Palinkas et al., 2015). This resulted in a total of 24 face-to-face interviews being conducted, with 25 participants (two participants were interviewed together).

The final sample included participants that varied both in terms of dietary preferences and usage frequency. Despite the initial sample of participants being drawn from a vegan-oriented social media group, the final sample was well balanced between those that did and did not consume meat (see Table 1). Moreover, though the sample was recruited from a Christchurch-based Facebook community, participants included those from the wider Canterbury region (e.g., Lincoln, Lyttelton) as well as South Otago (e.g., Lawrence). However, the sample was skewed towards younger, female participants, which is consistent with previous related research (e.g. Hoek, Luning, et al., 2011) and is also a common occurrence in qualitative research (Robinson, 2014). For the purpose of this study, dietary preference is defined where: ‘vegan’ = no animal products (including no meat, dairy, eggs or animal-based derivatives); ‘vegetarian’ = no meat, but includes dairy and eggs; ‘flexitarian’ = conscious reduction of meat consumption; ‘omnivore’ = no conscious restrictions of animal-based food products. Additionally, usage frequency is defined where: ‘very high’ = once a day, ‘high’ = a few times a week, ‘moderate’ = once a week,

‘low’ = once a month, ‘very low’ = less than once a month, ‘none’ = does not use. Sample characteristics are presented in Table 1.

	Freq.	%		Freq.	%
Gender			Diet		
Male	6	24.0	Vegan	10	40.0
Female	19	76.0	Vegetarian	3	12.0
Age			Flexitarian	5	20.0
18-24	4	16.0	Omnivore	7	28.0
25-34	11	44.0	Usage Frequency		
35-44	3	12.0	Very High	1	4.0
45-54	2	8.0	High	7	28.0
55-64	5	20.0	Moderate	5	20.0
			Low	2	8.0
			Very Low	6	24.0
			None	4	16.0

Table 1. Sample Characteristics

3.5 INTERVIEW GUIDE DEVELOPMENT

An interview guide was developed to facilitate the interviewing process and ensure a level of consistency between interviews. The questions included in the interview guide were informed by previous studies (e.g. Weinrich, 2018) and driven by the research questions outlined in Section 3.2. Due to the inductive nature of this research, the interview guide was deliberately broad. Thus, while previous research was used to inform the interview guide development to some extent, questions were not limited to issues outlined in previous research to ensure that a range of potential attitudes and perspectives were captured from interviewees while still being conceptually relevant to the research questions (Blanche et al., 2006). After the first four interviews, the interview guide was adjusted to include more specific and clarification questions

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(i.e., asking participants to define meat substitutes in their own words in order to establish a common vocabulary on which to base the discussion). Questions were developed with consideration to avoid leading, loaded, biased, ambiguous, overly complex, and double-barrelled questions (Zikmund et al., 2011). The order of questions was also taken into consideration to prevent order bias (Zikmund et al., 2011) in order to ensure earlier questions did not influence response to later questions. A funnelling technique was used whereby general questions are asked initially before specific questions are asked (Zikmund et al., 2011). The exact wording of questions was adjusted on a case-by-case basis, allowing for adjustment to suit the participant and context of each interview (Malhorta et al., 2017). Furthermore, a probing strategy, as surmised by Taylor et al. (2015), was also utilised. Specifically, open-ended and descriptive questions were first asked about general topics, followed by questions asking for further detail or specific descriptions of participants' experiences and perspectives. The interview guide covered four broad topics, which included:

1. Background (personal background, defining meat substitutes, initial experience)
2. Adoption (general experience, purchasing experience, consumption experience)
3. Rejection (for non-users and respondents who tried but did not adopt)
4. Closing questions (opportunity for further comments from the respondent and/or further probing by the interviewer)

The full interview guide is presented in Appendix A.

3.6 ETHICAL CONSIDERATIONS

The guidelines prescribed by the University of Canterbury Human Ethics Committee were followed when conducting this research. The University of Canterbury Human Ethics Committee reviewed and approved the research prior to data collection (see Appendix B).

An information sheet was presented to all respondents prior to the commencement of the interview to ensure ethical practices. The information sheet (see Appendix B) informed participants about the aim of the study, what participation in the study would involve, the right of participants to withdraw, and the confidential nature of the research and storage of data collected. Informed consent was also obtained from participants prior to the interview taking place (see Appendix B). This was done by sending out the consent form in conjunction with the information sheet via email and asking participants to return a scanned of the completed and signed form. Where this was not possible, a hard copy of the consent form was provided on the day of the interview for the participants to sign in person. Participants were asked to confirm that they had read the information provided in the Information Sheet, that they agreed to participate in the study, consented to publication of results, and that they understood their rights to withdraw from the study at any time prior to completion. Participants were also asked to consent to an audio recording being taken of their interview and to indicate if they would like to review the transcription prior to analysis.

3.7 DATA ANALYSIS

Thematic analysis was the chosen analysis method for the data due to its flexibility, compatibility with a range of research paradigms and ability to yield a rich and detailed account

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of data (Braun & Clarke, 2006). Thematic analysis is also appropriate for inductive research (Liu, 2016). As defined by Braun and Clarke (2006, p. 79), thematic analysis is a method for “identifying, analysing and reporting patterns (themes) with data”. Here, a theme was defined such that it captured “something important about the data in relation to the research questions, and represents some level of *patterned* response or meaning within the data set” (emphasis original; Braun & Clarke, 2006, p. 82). Moreover, thematic analysis is not bound by theoretical frameworks, which was appropriate given the exploratory nature of Study One. Thus, inductive thematic analysis was used for this study, whereby the process of coding and identifying themes was data-driven and did not attempt to fit the data to a pre-existing coding frame (as in theoretical thematic analysis; Braun & Clarke, 2006). Thematic analysis was operationalised using the guidelines set out by Braun and Clarke (2006), which includes six phases: familiarising yourself with your data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and, producing the report. Qualitative data analysis software NVivo 12 (Q S R International, 2018) was used to facilitate the process of data analysis.

First, interviews were transcribed in intelligent verbatim. Intelligent verbatim (or ‘naturalised’ verbatim), as opposed to full verbatim (or ‘denaturalised verbatim), was chosen as the method of transcription for the present research due to its ability to better capture what was said by interviewees. As McMullin (2021, p. 2) explains, where full verbatim transcription includes all “utterances, mistakes, repetitions and all grammatical errors”, intelligent verbatim omits such occurrences, including when the interviewee misspeaks or corrects themselves. Thus, intelligent verbatim enabled transcription to record the interviewee’s intended meaning and omit content that may distract the researcher from being able to understand the thoughts and attitudes expressed by the interviewee (Herrington et al., 2016; McMullin, 2021).

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After transcription, the complete data set was reviewed to facilitate familiarisation. Ideas for initial codes were noted as a part of this step which reflected the research questions being posed (e.g. motivators and barriers of consumption) as well as ideas that arose from the data (e.g. social influence, meat avoidance). Second, the written transcripts were systematically reviewed in-depth, and excerpts of interest were highlighted to form an initial list of codes (see Appendix D). This was an iterative process whereby data was analysed and re-analysed as new codes emerged, reflective of the recursive perspective of analysis expressed by Braun and Clarke (2006). Specifically, as each transcript was reviewed and new or modified codes emerged, previously analysed transcripts were revised, and the modified and new codes were applied where appropriate. This process was repeated until all transcripts had been examined and no large sections of relevant un-coded data remained. The complete set of transcripts was reviewed a final time to check the coding for consistency and ensure no relevant sections of text had been missed. An effort was made to minimise parallel coding of text excerpts but was permitted where appropriate. For example, where overlapping motivations for consumption were present in single sections of text. At this point, this stage of analysis was considered complete.

Third, on completion of the analysis, codes were sorted into potential themes, and relevant data extracts were collated. Additional notes and hand-drawn thematic maps were used to facilitate this process and to determine possible relationships between and within themes, and identify potential levels of themes. This process resulted in a preliminary list of main and sub-themes (see Appendix D). Fourth, themes and their collated data extracts were reviewed for the purposes of refining themes. In some instances, data extracts were allocated to a different theme, or new themes were created. This step also resulted in a number of themes being combined into single themes, while other themes were separated into new distinct themes (see Appendix D).

Some themes were not considered to be adequately supported by the data and were subsequently removed. Once all themes were believed to adequately capture the composition of the data, all transcripts were read again to ascertain whether the identified themes were an accurate representation of the data (Braun & Clarke, 2006). Any data that was missed by earlier coding stages was also coded in accordance with these themes. Notes and thematic maps were also refined during this stage to capture the developing relationships within and between themes and sub-themes.

Finally, themes were defined and further refined. The ‘essence’ of each theme was identified, and the aspects of the data that each theme captured were determined. Specifically, the collated data extracts for each theme were organised in order to create a coherent and internally consistent account and an accompanying narrative were developed (Braun & Clarke, 2006). Any overlap between themes was also identified. Data extracts that effectively illustrated each theme were identified in order to clearly articulate the unique ‘story’ of each theme. The final list of themes and sub-themes is presented in Appendix D. The finalised thematic map is presented and discussed in Chapter Four.

3.8 EVALUATING DATA QUALITY

The importance of evaluating the quality of the findings from qualitative methods has been discussed by a number of researchers. Most often, this quality is discussed in terms of validity and reliability (Barriball & While, 1994; Creswell & Miller, 2000). As noted by Patton (1990; as cited in Barriball & While, 1994), the quality of interview data is largely influenced by the interviewer. While a researcher’s ability to control for validity and reliability is limited, some measures can be taken. For example, Barriball and While (1994) identify interviewer

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friendliness, approach and manner towards respondents as key in securing validity and reliability of qualitative data. The authors also consider the careful design of research tools and the ability of the researcher to make field decisions to be important (Barriball & While, 1994). Similarly, Creswell and Miller (2000) note that member checking, peer review and triangulation aid in achieving validity in qualitative research. In a more conceptual vein, Lincoln and Guba (1985) established qualitative equivalent concepts to the quantitative criteria of internal validity, external validity, reliability, and objectivity. Namely, credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985). Accordingly, reliability and validity in this research were addressed through a number of practical considerations as outlined by Barriball and While (1994) and Creswell and Miller (2000).

Specifically, as recommended by Barriball and While (1994), interviews were conducted at respondents' convenience, using a quiet room free from interruptions, and audio recordings were taken. With regards to the research tool, the interview guide was subject to internal testing and was assessed by other researchers to identify any ambiguities, leading questions or general criticisms (Barriball & While, 1994). The interview questions were also tested with four preliminary interviews and revised where necessary. Further, as suggested by Creswell and Miller (2000), member checking was implemented whereby research participants were invited to review their transcripts and confirm their accuracy. During the analysis process, an audit trail was maintained whereby evolutions in coding and themes were documented in order to account for and examine the process and product of the analysis (see Appendix D). Study One was also featured in two peer-reviewed conference papers, providing credibility to the research methodology and findings (Creswell & Miller, 2000). Finally, researcher reflexivity was also exercised and is consequently discussed in the next section.

3.9 RESEARCHER REFLEXIVITY

Reflexivity questions the assumption that researchers are neutral agents whose socio-cultural stature plays no role in the formation of research processes and outcomes (Symon & Cassell, 2012). According to Creswell and Miller (2000), researcher reflexivity is, therefore, the process by which researchers challenge this assumption through reporting and reflecting on their beliefs and underlying biases in relation to their research. This view is also shared by Symon and Cassell (2012), who note that reflexivity encourages researchers to challenge and critique their own values and attitudes and the potential influence on the analytical process. Thus, researcher reflexivity is important in that it requires researchers to acknowledge their underpinning assumptions and attitudes so that they can account for or adjust for any resulting bias (Creswell & Miller, 2000). Specifically, Symon and Cassell (2012) recommend researchers reflect on their personal interest in the topic, presupposition and pre-knowledge, and social and political positioning, with the aim of identifying how their connection to the topic and the research participants may be influenced. Further, Haynes (2012) invites researchers to make three specific areas of inquiry. Namely, ‘what is the motivation for undertaking the research?’, ‘what underlying assumptions am I bringing to it?’, and ‘how am I connected to the research, theoretically, experientially, emotionally? And what effect will this have on my approach?’

Based on my reflection on the aforementioned questions as they pertain to this research (presented in Section 1.4), it is evident that the exploration of consumer transitions to low-meat or meat-free diets is a subject that I am both experientially and emotionally connected to. While some authors suggest that being heavily involved or close to a phenomenon can make it difficult to study, others posit that personal involvement can be a useful resource and, therefore, should

not rule out an inquiry (Alvesson, 2003). Alvesson (2003) explains that in qualitative research, the researcher's job is to get "close" to the group of people under inquiry, including their meanings, ideas and social practices, through a process they refer to as "micro-anchoring"—a process that can be assisted through self-disclosure. Advocates of this practice posit that self-disclosure is "interpreted by the respondent as a means of establishing a conversational space of rapport and mutual understanding" (Pezalla et al., 2012, p. 167). Therefore, self-disclosure and a more affirming interview approach in the discussion of low and moderate-risk topics—such as lifestyle and identity—has been shown to elicit more detailed information from respondents (Pezalla et al., 2012). Consequently, I approached this research, acknowledging my proximity to the subject matter and considered this to benefit both my ability to build rapport with my research participants, as well as provide a deeper level of understanding when interpreting the data.

3.10 CHAPTER SUMMARY

This chapter provided an overview of the qualitative research methodology used to address the research objectives of this thesis. First, this chapter presented the research design that was adopted for the present study. This was followed by a discussion of the philosophical assumptions underpinning this research with regards to the considerations made for ontology, epistemology and human nature. Next, the research procedure was examined, including the method, recruitment, data collection and sample composition of the study. Moreover, the development of the interview guide and ethical considerations were discussed. Finally, the analytical process was explored in-depth, as well as the means of evaluating the quality of the data for this study. The next chapter presents and discusses the findings of the research.

4 FINDINGS

4.1 OVERVIEW

This chapter presents the findings from the semi-structured, in-depth interviews that were conducted to address the research questions presented in Chapters One and Three. The attitude-behaviour gap is presented as a conceptual framework to organise these findings and their themes. In keeping with the inductive nature of the present research, this framework was chosen after analysis. By letting the data “talk for itself” (Blanche et al., 2006, p. 353), a theoretical lens was able to be applied post-hoc instead of potentially applying apriori restrictions on analysis. The interviews and the subsequent findings explored attitudes that consumers held towards meat and plant-based meat substitutes as well as the relative barriers and motivators that were perceived to inhibit and drive consumption of meat substitutes. Thematic analysis, as operationalised by Braun and Clarke (2006), was used to analyse the data, the process of which is outlined in Chapter Three. Coding eventually generated five themes, including attitudes and behaviours, individual factors, social factors, situational factors and product factors. The final themes are presented in Table 2.

The following sections provide detailed reporting on the themes that emerged from the research, including those pertaining to individual, social, situational, behavioural and marketing factors. In some instances, direct quotes have been used. However, in compliance with the requirements set out by the University of Canterbury Human Ethics Committee and the research procedure outlined in Chapter Three, pseudonyms have been used and identifiers omitted. A profile of the research participants and their allocated pseudonyms are presented in Table 3.

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1.0 Attitudes and Behaviours	4.0 Situational Factors
1.1 Substitution Practices	4.1 Temporal
1.2 Meat Substitutes	4.2 Dining Out
1.3 Meat Consumption	4.3 Novelty Seeking
1.4 Meat Reduction	4.4 Convenience
1.5 Meat Avoidance	4.5 Availability
1.6 Political Consumption	5.0 Product Factors
2.0 Individual Factors	5.1 Taste
2.1 Values	5.2 Promotion
2.1.1 Environmental Concern	5.4 Brand
2.1.2 Animal Welfare Concern	5.5 Packaging
2.1.3 Health Concern	5.6 Price
2.2 Gender	
2.3 Skills	
2.4 Transition	
3.0 Social Factors	
3.1 Social Norms	
3.2 Culture	
3.3 Household Composition	
3.4 Social Networks	
3.5 Conflict	

Table 2. Final Themes

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Pseudonym	Age	Gender	Diet	Usage
Alan	55-64	Male	Omnivore	Moderate
April*	25-34	Female	Omnivore	None
Bonnie	25-34	Female	Flexitarian	High
Caleb	18-24	Male	Flexitarian	High
Cassie	18-24	Female	Vegan	Low
Constance	35-44	Female	Vegan	High
Elise	25-34	Female	Omnivore	None
Emelia	35-44	Female	Vegan	Very Low
Esther	25-34	Female	Flexitarian	Very Low
Fern	25-34	Female	Vegan	High
Hazel	55-64	Female	Vegan	Moderate
Heather	55-64	Female	Vegan	Very Low
Isabelle	55-64	Female	Vegetarian	Moderate
James*	25-34	Male	Omnivore	None
Jasper	25-34	Male	Omnivore	Moderate
Kimberly	25-34	Female	Flexitarian	Very Low
Maggie	18-24	Female	Vegan	High
Maria	35-44	Female	Vegan	High
Mollie	45-54	Female	Omnivore	Moderate
Natalie	18-24	Female	Vegetarian	High
Rita	55-64	Female	Vegetarian	Low
Russell	25-34	Male	Omnivore	None
Sana	45-54	Female	Vegan	Very High
Seth	25-34	Male	Flexitarian	Very Low
Tanya	25-34	Female	Vegan	Very Low

*denotes couple who were interviewed together

Table 3. Summary of Participants

4.2 CONCEPTUAL FRAMEWORK

The attitude-behaviour gap is the chosen conceptual framework for this study and has been used to organise the findings presented in this chapter. The attitude-behaviour gap (sometimes referred to as the intention-behaviour gap; e.g., Carrington et al., 2010) is a development of the value-attitude-behaviour hierarchy developed by Homer and Kahle (1989) and describes the disparity that arises between consumers attitudes towards a certain action (such as buying a product) and their actual behaviour (Terlau & Hirsch, 2015). This framework is frequently used within the context of ethical and sustainable consumption, where inconsistencies between consumers observed and attitudes towards pro-environmental behaviour are known to arise (Carrington et al., 2010; Park & Lin, 2020; Terlau & Hirsch, 2015). For example, attitude-behaviour divergence has been reported in tourism (Higham et al., 2016; Juvan & Dolnicar, 2014; Tölkes, 2020), sustainable clothing (Jacobs et al., 2018; Park & Lin, 2020), sustainable food (Yamoah & Acquaye, 2019), sustainable dairy (Vermeir & Verbeke, 2006), organic products (Aschemann-Witzel & Niebuhr Aagaard, 2014), animal welfare (Vigors, 2018) and ethical consumption practices more generally (Papaoikonomou et al., 2011; Shaw et al., 2016).

Though exploration of the attitude-behaviour gap in ethical and sustainable consumption is vast, many authors are still working to identify the specific factors that affect the progression of ethical and sustainable attitudes into ethical and sustainable behaviours (Carrington et al., 2010). For example, Aschemann-Witzel and Niebuhr Aagaard (2014), in their exploration of Danish consumers organic food choices, find that situational factors pertaining to conditions met in store (expected quality, price premium) and the personal context (moral beliefs, household member influence) at point-of-sale influence product choice and subsequently behaviour.

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Similarly, Carrington et al. (2010) address situational influences operationalised using Belk's (1975) five overarching situational factors (physical surroundings, social surroundings, temporal perspective, task definition, and antecedent states) to explain the gap between intentions and behaviour. Papaoikonomou et al. (2011) distinguish between external (product availability, product information, price, appropriate alternatives, social obligations, peer power) and internal (easiest choice, compromise, time) factors that account for the attitude-behaviour gap in ethical consumption. In their conceptualisation of the attitude-behaviour framework, Vermeir and Verbeke (2006) identify three determinants of discrepancies between attitude and behaviour intention: involvement and values (values, needs and motivations), uncertainty (information and knowledge) and perceived availability and consumer effectiveness (behavioural control). In a similar vein, Jacobs et al. (2018) explore values (biospheric, altruistic, egoistic and hedonistic) more specifically in their exploration of the values-attitude-behaviour gap in sustainable clothing consumption. Tölkes (2020) also address values in their study on sustainable tourism, including biospheric, altruistic and egoistic values in the attitude-behaviour gap. Park and Lin (2020) look at biospheric values (environmental concern) in conjunction with individual factors (demographic variables) in their study on sustainable clothing consumption and the intention-purchase gap. However, these authors also note that internal factors alone do not fully explain discrepancies between attitudes and behaviour and that external factors, such as perceived product characteristics (product value, perceived risk) also have an influence (Park & Lin, 2020). While Terlau and Hirsch (2015) do not include such product factors in their analysis and conceptualisation of the attitude-intention-behaviour relationship, they do bring together the individual (socioeconomic, needs, values, lifestyle, control, capabilities), social (norms, culture, mass media) and situational (purchase situation, incentives, availability, occasion, information,

price, time) factors addressed by previous studies mentioned here (e.g., Carrington et al., 2010; Vermeir & Verbeke, 2006).

The attitude-behaviour framework adopted here draws on previous research to organise the findings into those pertaining to attitudes and behaviour, as well as four overarching factors identified as influencing the attitude-behaviour gap for meat and meat substitutes. Namely, individual, social, situational and product factors were identified to influence this gap. This framework as it pertains to the present study is presented in Figure 1.

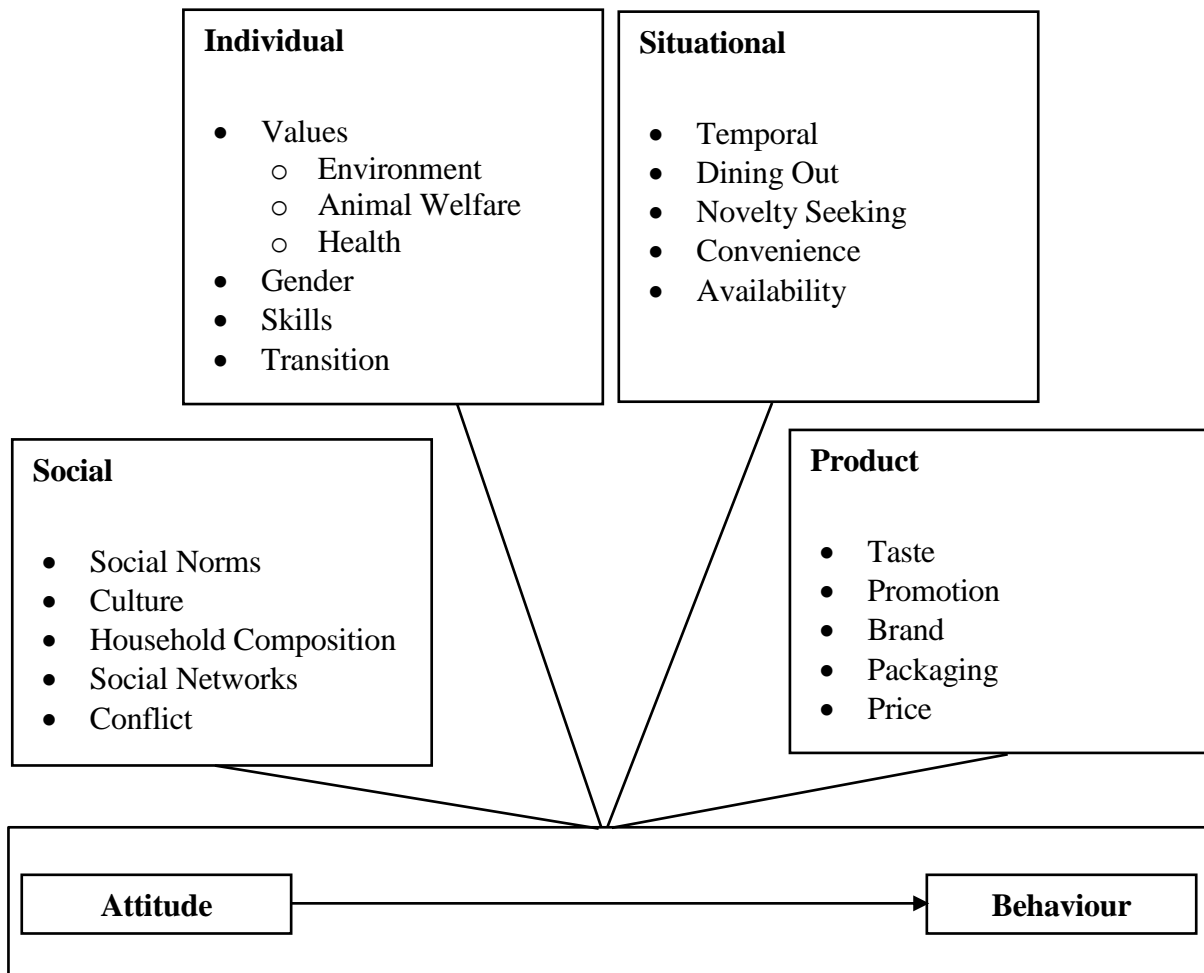


Figure 1. Attitude-Behaviour Gap (adapted from Terlau & Hirsch, 2015)

4.3 ATTITUDES & BEHAVIOURS

Before exploring the factors that were identified in the present research that accounted for the attitude-behaviour gap, an exploration of attitudes and resulting behaviours reported by participants are presented first. However, as the two are intrinsically linked, where attitudes led to behaviours, and participants subsequently formed attitudes about their behaviours (and those of others), both are presented here side by side. Attitudes and ensuing behaviours reported by participants pertained not only to substitution practices and plant-based meat substitutes but also to meat reduction and consumption and are consequently included here.

4.3.1 SUBSTITUTION PRACTICES

The *practice* of substitution—which included, but was not limited to, the use of meat substitute products—was diverse. Consequently, the attitudes and resulting behaviours in relation to meat substitutes and substitution was also diverse. Participants adopted many different strategies for substituting meat in meals, including replacing meat with vegetables, making homemade substitutes (such as homemade burgers), using more traditional substitutes (such as falafel or tofu), using other animal-based products (such as eggs and dairy), or also using plant-based meat substitutes (such as Quorn). The practice of substitution adopted by participants to a great extent was contingent on their experience with meat-free eating and often evolved over the course of their meat-reduction or meat-elimination journey. The adoption of specific meat replacement strategies has been explored in several other studies (de Boer et al., 2014, 2017; Kemper, 2020; Kemper & White, 2021; Schösler et al., 2012; Verain et al., 2015a).

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In the present study, many participants initially opted for increasing the plant component of a meal in proportion to the meat that was removed or ‘bulking up’ meals with more vegetables (Kemper, 2020). Participants reported utilising vegetables and plant-based foods that are high in protein, such as beans and legumes, in place of meat in meals. For example, Hazel had been vegan for less than 18 months at the time of the interview, and as she grew up on the ‘meat and three veg’ model common in New Zealand households, her initial venture into plant-based eating adopted a similar model:

I do have a lot of meals that are traditional, in as far as I’ll have my three vegetables, but I don’t have the meat. I quite like that. I don’t mind having that. So, I’ll either have something like that, or I’ll do something with pasta, with all the stuff mixed in, or rice with all the stuff mixed into it; that sort of thing. (Hazel)

Similarly, Alan and April, both of whom reported exploring low-meat and meat-free cooking, though not attempting to reduce their meat consumption overall, also substituted meat in some meals with plant proteins as opposed to using meat substitutes:

Yea, we eat a lot of chickpeas and lentils and stuff like that—I like those. (April)

I guess I’d rather want it to have non-meat than a meat substitute... we just tend to have a meal with vegetables, rather than anything in it—anything meat-like. (Alan)

The use of plant proteins (e.g., beans and pulses) as a substitution for animal protein has been explored in previous research (Jallinoja et al., 2016). Though where Jallinoja et al. (2016) found plant proteins were infrequently consumed, the present study found that this strategy was commonly adopted, particularly among those new to meat-free eating. This was also a strategy adopted by those with an aversion to meat substitutes, for whom the notion of including anything ‘meat-like’ was deemed undesirable or unnecessary. This contrasts with findings of Weinrich

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(2018), where meat aversion supported the use of meat substitutes, as well as findings from other studies which have shown meat-like traits to be desirable in meat substitutes (Elzerman et al., 2015; Hoek, Luning, et al., 2011). However, such studies did not include consumers who identified as vegan or vegetarian, which may account for the contrasting results.

In this vein, those consumers who abstained from meat—particularly if they had abstained for a long time—tended to be more confident with their meat-free cooking skills and often experimented with homemade or more ‘traditional’ substitutes such as homemade bean-burgers or tofu. However, which option was used was often contingent on the meal being made and the relative suitability of available options. For example, Mollie used a wide variety of strategies in her cooking.

So, we have the Quorn pieces or patties to make vegetarian hamburgers. I make vegetarian burgers and things like that. We use tofu quite a lot. So, yeah falafel—if we’re doing something I just try and, as I say, at least once a week, make sure that the whole meal is vegetarian, and either use something like that, or just make it something like an omelette or something. But in the appropriate meals I’d use a meat substitute. (Mollie)

In Mollie’s case, though she was not vegan nor vegetarian at the time of the interview, she was familiar and confident with meat-free cooking and her adopted strategy relied on meal suitability rather than a strong preference for one option over another.

Those participants who were less confident—mainly those who were reducing meat or were new to vegan/vegetarianism—opted for commercial meat substitutes (e.g., Quorn). Similar findings were also found in a study by Schösler et al. (2012) where cooking skills hampered the preparation of ‘real vegetarian meals’ or those where meat was not replaced with a conventional substitute. However, the adoption of commercial meat substitutes tended to occur in interim

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stages of the meat reduction/elimination transition or after the initial exploration into cutting meat from meals. This could be due to the preparation of ‘real’ meat-free meals requiring the development of particular skills and a movement away from existing meal formats and food hierarchies (Schösler et al., 2012), which would likely develop as participants engaged in meat-free eating practices more often and over a longer time frame. Interestingly, participants who succeeded in eliminating meat for their diet indicated that they eventually moved back to a diet of few (or no) meat substitutes and opted for higher-portions of plant proteins and/or traditional substitutes, perhaps due to an eventual complete divergence from established food hierarchies and meal formats and the development of adequate meat-free cooking skills.

For those participants who did not adhere to a meat-free diet, other animal products were largely perceived as cheap and readily available—often already on hand and ready to be used. However, few participants increased the consumption of other animal products, such as eggs and dairy, and this was limited to those who were not actively reducing their meat intake and occurred when meat was not readily available or convenient to cook. For example, Jasper was not actively trying to reduce his meat consumption but did often use other animal products such as eggs and dairy in lieu of meat largely due to reduced cooking and preparation time:

If it's not meat then its dairy products as well... More often or not it might be something like eggs on toast if I'm in a hurry and feeling a bit lazy. (Jasper)

This contrasts to some extent with the findings from Schösler et al. (2012), who determined that the most popular meat substitution strategy among Dutch consumers was other animal products (e.g., fish, eggs or cheese). The “less but better” strategy explored by de Boer et al. (2014), where less meat but of higher quality (e.g., free-range, grass-fed) was not reported by participants in this study.

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Moreover, participants who were not attempting to reduce their meat consumption rejected the idea of using substitutes. For some, parallels were drawn between the consumption of meat and addictive behaviours such as smoking, whereby the use of meat substitutes was perceived as swapping one vice for another. For example, when explaining why he didn't use meat substitutes, Russel talked about how the consumption of meat was a habit that he was trying to break and, in doing so, was not wanting to replace one vice with another akin to a smoker switching from cigarettes to an e-cigarette:

But in the mentality that I was in back then it sort of like the e-cigarette/cigarette argument. I didn't want to remove one thing just to replace it with another because it is the same fixation, it is the same habit as you said with the cigarette thing you're not actually breaking it... I wouldn't substitute meat for something else that is just as bad or maybe worse, I'd substitute meat for something that was better than meat otherwise I'd just eat vegetables if I wanted to substitute meat. (Russel)

For others, substitution was deemed unnecessary when participants were still willing and able to consume meat—if cravings ensued, then one would simply yield to temptation rather than seek out specific substitutes. For example, Elise expressed that substitution was not a focus for her, as if she craved a particular meat-based food, she was much more inclined to just eat the food she was craving than to seek out a specific substitute for it:

I actually probably wouldn't seek out a bacon substitute just for the sake of; oh my god, I have to have some bacon—because if I was going to do that, I would probably just have some bacon. (Elise)

This theme of craving meat in the context of meat reduction experiences has been reported by other studies (Kemper & White, 2021). As in Kemper and White (2021), craving here also pertains to participants' taste preferences and enjoyment of meat.

4.3.2 MEAT SUBSTITUTES

Participants' attitudes regarding plant-based meat substitutes were often based on the evaluation of the perceived likeness of the product to a meat-based equivalent. This was on the basis of the taste of the product as well as other product attributes such as shape, texture and colour. For example, Fern and Jasper's conceptualisation of a meat substitute, and evaluation of whether a product would fall into this category, was assessed on how closely the product resembles meat without the inclusion or use of animal products:

For me, a meat substitute would be something that resembles what I ate when I was growing up. So like a meat substitute would be like a burger, or hotdog, or veggie bacon, or like ground round. Things that look like meat products (Fern)

I'd probably say that sometimes it's something that, as a meat substitute, they're trying to replicate meat that's not using meat. So they'll try to use pretty similar flavourings and things like that... so something that, for example, that would end up being your meat portion (Jasper)

However, some participants attitudes towards plant-based meat substitutes instead arose from the function of the product and the role the product played in a meal. For these participants, an evaluation on this basis was considered to be a more important determinant of whether a product was classified as a meat substitute or not, rather than the products inherent likeness to real meat.

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For example, Esther highlights that for her, the *purpose* of the product played a more important role in her considering whether a product could be considered a substitute or not:

Definitely quite heavy on the substitute side of it so that it's intended to be used in a recipe, for example, instead of the real chicken... the more I think about it, it's probably more about the purpose (Esther)

Interestingly, some participants' conceptualisation of a plant-based meat substitute was almost indistinguishable from the brands that they perceived to be synonymous with the product category. Strong examples of this were in relation to the brand Quorn, a meat substitute brand originating from the United Kingdom. This brand, in particular, was highly salient among participants, especially those who had either lived in or travelled to Europe. For example, Kimberly and Mollie had both spent a number of years living in Europe and expressed favourable attitudes towards the brand Quorn. While Seth, though he had not travelled to Europe, perceives the Quorn brand name as interchangeable with 'meat substitutes' as evidenced in the way that he talked:

Yeah, like the brand Quorn (Kimberly)

Things like Quorn (Mollie)

Or if you were going to use chicken, you could use Quorn instead (Seth)

Beyond attitudes regarding the defining attributes of plant-based meat substitutes, participants also expressed attitudes regarding the product category as a whole and its role in the food market. Specifically, participants perceived plant-based meat substitutes, and meat substitutes more generally, to be a growing market trend that had grown in popularity and diversity in the last few years. Some participants, particularly those who have been vegan or vegetarian for an extended amount of time, were able to identify a noticeable improvement in

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both the quality and the overall availability and awareness of these products. This acted as positive reinforcement for participants who already purchased and consumed meat substitutes—as they felt more validated in their existing behaviour—and also motivated participants who were previously reluctant to trial new products. For example, Constance had adhered to a meat-free diet for many years, and it was evident that her attitude towards commercially available meat substitutes had changed over time. Previously, she considered the products to either be poor in quality or found the limited product variety and the overreliance on soy was not suitable for her due to her soy allergy, resulting in a negative attitude. However, now with a wider variety of products available and wider adoption into mainstream foodservice providers, her attitude had become more positive:

Yeah. I'll talk to some younger people who are vegan, and they get so down about how slowly it's progressing, but I feel like I can see a bigger picture there, where it's like; I used to have to eat a salad or steamed vegetables if I went to a restaurant because there was nothing—there was no—well, from where I was anyway, there was certainly no vegan or vegetarian restaurants (Constance)

Other participants who were new to meat-free eating identified that it was their recent attitude change towards these products that resulted in them adopting them into their diets.

Some of the stuff now is very good. I'd actually say up until quite recently, I wasn't all that impressed... I guess probably a couple of years ago I wouldn't have touched them (Alan)
It's just exploded in the last couple of years which is part of my decision is because it's a lot easier (Sana)

Such attitude changes may be explained by the influence of normative beliefs as product adoption becomes more widespread (Solomon et al., 2018).

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Moreover, due to the growing market for plant-based meat substitutes and the introduction of new brands and product lines, a significant learning curve was reported to take place by participants. Many underwent an exploration stage of product trialling where multiple products were purchased, and experimentation was undertaken in order to determine individual product preferences. Due to strong perceptions of the inconsistency of the sensory characteristics (especially taste) and ease of use between and within brand product offerings, this exploration was deemed a necessary stage—albeit an expensive and time consuming one. For example, Sana talked about the research process she undertook in order to identify which of the many available products she liked enough to purchase again:

Because I like a bit of research, I just went and tried all of them, I tried everything—and some of them are not good. Just to see what I like and what I don't like and then kind of have settled on a set of things that I like to eat. (Sana)

As Villas-Boas (2004) explain, often, consumers can only gauge how well a product suits their preferences post-purchase after they have experienced the product first hand. The learning that arises from this experience, in turn, affects product evaluations in later periods (Villas-Boas, 2004). However, while some participants took this as a given, comparable to exploring any new product category, food or otherwise, others expressed frustration. For example, Constance goes so far as to recommend a trialling stage to people who are new to consuming plant-based meat substitutes due to the perceived inconsistency between products:

I would advise them to try a few different products, until they found something that they like, because there's definitely good ones and bad ones out there. (Constance)

Whereas other participants instead expressed frustration. Specifically, participants were unhappy with the financial cost of trying products that were unsatisfactory. For others, the experience of

trying some products was deemed so poor that pervasive negative attitudes arose that extended to the whole product category. Such occurrences were reported by those avoiding meat and actively consuming it. For example, Alan explained that his former experiences with products had acted as a deterrent for him trying them again, and he only did so because his daughter went vegan and brought some home for him to try:

It is a lot better these days, but I think if that it hadn't have been for my daughter, and she would have brought it home, I wouldn't have tried it, just because of those previous experiences, I think. (Alan)

However, such experiences tended to be the exception rather than the norm, with most participants satisfied with the 'short-list' of products that arose from this exploratory stage. Participants indicated that they engaged in a high level of brand loyalty for those products and the brands that yielded favourable evaluations in the product trialling stage. For example, Mollie talks about her process of identifying her preferred products and likens this to the process she would undertake for any other product category:

I think it's the same with most; if you buy one product and it works out well, you tend to go back to the same product. So, I tend to do that; if I find something I like I'll stick with it. I think that's the same with anything, isn't it? So, nothing other than what I wouldn't do for any other product. (Mollie)

4.3.3 MEAT CONSUMPTION

The interview findings highlight the diversity of behaviour among participants in the consumption of meat. The choice to consume or not consume meat is not a dichotomous one and exists on a spectrum with consumption choices varying not only between participants but also

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within the day-to-day behaviour of individuals. These variations in meat consumption are consistent with previous research that indicates that consumers do not see meat reduction as an all-or-nothing process (Kemper & White, 2021). In the present study, meat consumption varied between participants who still included meat products in their diets. Variations occurred with regards to the quantity and type of meat consumed, as well as the meal in which it was eaten. In relation to quantity, those participants who were not deliberately attempting to reduce their consumption of meat, such as Jasper, included meat products in three to five main meals a week:

Most of my meals do have meat in them. Definitely dinner would be something that I have a fair bit of meat in. (Jasper)

In contrast, those who were consciously reducing their meat consumption reported only having one to two servings of meat per week. For both groups of participants, the consumption of meat tended to focus on evening meals, with some also eating meat at lunchtime. However, those who did consume meat for lunch, such as Alan and Mollie, reported eating smaller portions or different types of meat than what they would have for dinners such as cold cuts or leftover chicken:

That would be at dinner time. I sometimes eat cold meat for lunch as well, just in a sandwich, but that would not be much, though; that would be maybe a thin slice of chicken or something like that. It really would not be much. Yeah, but that would only be at dinner time; I don't eat meat in the mornings. (Alan)

Not for breakfast, and we might have a mix of—we might have a ham roll or something like that for lunch, but not always meat. (Mollie)

As for Mollie above, some respondents reported not consuming meat in the mornings. This was common among most meat-eating participants who mentioned they did not regularly consume

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meat for breakfast, with the exception of one who reported often having a cooked breakfast on Sundays that included some form of meat. Other participants reported that they did not enjoy eating large amounts of meat and instead opted for smaller portions and shifted the focus of the meal to vegetables. This was particularly the case for those who didn't perceive meat as a necessity but enjoyed eating it.

I don't usually eat like a big bit of meat on my plate. I will do that on occasion, but I don't go out of my way to eat like a whole steak, or a whole bit of meat every night. I like to just chop it up and put in with other stuff. So, typically for my fiancé and myself one piece of steak would feed both of us because we would cook up that way... It's not really a necessity for me—but I do enjoy it. (Russell)

Thus, it is clear that the consumption of meat is highly nuanced, especially among those adopting a flexitarian diet (Dagevos & Voordouw, 2013). At one end of the spectrum, meat-eaters (i.e., no meat reduction) consumed meat in the largest portions, across multiple days of the week, and often in multiple meals a day—though more typically in their evening meal (consistent with previous research; e.g., Horgan et al., 2019). At the other end of the spectrum, meat-avoiders (i.e., vegans and vegetarians) consumed no meat. In between these two archetypes sit the meat-reducers. Also referred to as flexitarians (e.g., Verain et al., 2015a) and semi-vegetarians (e.g., Mullee et al., 2017), meat-reducers are defined by Dagevos and Voordouw (2013) as those consumers that abstain from meat at least once per week. It is perhaps the meat-reducers who had the most variation in their consumption of meat.

4.3.4 MEAT REDUCTION

Continuing on the discussion of meat-reducers from the previous section, it is clear from the findings from the present study that the gap between going meat-free one day per week and absolute abstinence leaves room for a diverse array of consumption practices. Thus, Dagevos and Voordouw (2013) provide a useful distinction between light, medium and heavy flexitarians or meat-reducers: light meat-reducers abstain from meat one or two days per week, heavy meat-reducers abstain from meat five or six days per week, and medium meat-reducers are those in between (i.e., those who abstain from meat three or four days). However, where the aforementioned study and others (Malek et al., 2019) position consumers as fitting into—and remaining within—separate categories of meat reduction, the present research suggests further nuance and migration within and between these groups. Specifically, meat-reducers in this study reported what can be described as a ‘phasing out’ of meat as reduction levels increase. There was a consistent belief that the practice of reducing one’s consumption of meat was a positive choice—even among those who were not actively attempting to reduce their own consumption of meat. Many participants expressed that they liked the idea of ‘cutting down’ how much meat they included in their diet. For example, Alan indicated that he simply liked the idea of eating less meat, while Jasper was able to articulate specific reasons as to why he perceived meat reduction positively:

So I think it’s kind of nice to know that even if it’s saying I probably couldn’t go full vegetarian or vegan at this stage, it’s kind of nice to know that for example it’s one less meal a week which is then 52 less meals in a year of let’s say 200g, do the math, you’re already saving a lot in that aspect I suppose. Or just small changes can still end up causing—if everybody did it—this big change. So yea, I think it’s probably that. (Jasper)

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I like the idea of eating less meat. I mean, I don't have a fundamental ethical problem with eating meat, but I like the idea of eating less meat. (Alan)

Such findings reported here and in the previous section (Section 4.3.3) show similarities with previous research (Grassian, 2020; Latvala et al., 2012). When participants reduced their consumption of meat, their consumption practices changed with respect to the portion and frequency of meat consumption, the elimination of meat from morning and lunch-time meals, and the overall reduction of meat consumption across the week. This shows an emphasis on situational and temporal changes in consumption behaviour, consistent with other research (de Boer et al., 2014; Kemper & White, 2021), and indicates that meat reduction for some individuals is a stepped approach where abstinence is the goal (Grassian, 2020). This differs from other studies that report changes in reduction patterns with respect to the *type* of meat consumed as consumers transition from high to low levels of meat consumption (Latvala et al., 2012). Namely, a movement from high consumption of red meat to a higher proportion, or exclusive consumption, of poultry. Such behaviours were not reported by participants.

The interview findings also indicate a change in attitudes participants held regarding the role of meat in their diet—a perceptual shift reported elsewhere (Kemper & White, 2021). For those reducing their meat consumption, participants' meat reduction journey saw them undergo an attitude shift where meat was no longer viewed as preferable or necessary for their health. Participants indicated that they didn't consider meat to be a necessary dietary component and therefore did not feel that it was 'needed' to be healthy. For example, both April and Elise indicated that they no longer considered meat to be necessary:

Well we don't particularly need it. (April)

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I have already gone so far down that track to not eating as much meat that I wouldn't—I kind of feel like I don't need to go back to eating much, if any, meat. (Elise)

This is a direct contrast to other research that shows that consumers have a high attachment to meat and that this attachment is a primary inhibitor to meat reduction (Dowsett et al., 2018; Graça et al., 2015; Graça et al., 2019; Lacroix & Gifford, 2019; G. Lentz et al., 2018; Wang & Scrimgeour, 2021).

What is also interesting is the beyond health perceptions, attitude shifts towards meat consumption pertained to a number of reasons. For some, this related to preference and ability to prepare meals without meat, where preparing meat was perceived as energy and time consuming and a pain point for those with busy lives. This was particularly the case among younger participants, consistent with previous findings from other studies (Kemper & White, 2021). Several participants described needing to plan meat-based meals in advance in order to either ensure fresh meat was consumed before its expiration date or so that they could remember to take the meat out of the freezer in time to defrost. For many of the younger participants, such as Russell and Elise, this was uncondusive to their busy work and social lives and therefore often omitted meat for this reason:

I would mainly eat vegies just like out of convenience and because usually you'll buy veggies you in bulk whereas you'd buy meat in like a tray. Whereas veggies, you'd buy like maybe two heads of broccoli and lots of mushrooms and some tomatoes and all that and it's always there. So it's just something that will stagger throughout the week but meat you have to buy pretty fresh I think. (Russell)

When my ex-partner and I were meal planning it was because not all—not both of us is going to be home first thing in the morning to take meat out the freezer, you need to know

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what that meat is going to be to know what's going to go with the rest of the meal, and I just can't be bothered. I remember actually talking to a friend about it because, he was telling me that when we went to Wanaka, him and his partner just eat veg and didn't have any meat and that was glorious for them because they make whatever they feel like because they don't have to wait for anything to defrost. (Elise)

In this vein, others described themselves as 'lazy' or not interested in planning meals in advance and, therefore, not being willing or prepared enough to incorporate meat into their regular diets. April and James were a couple living together and expressed that planning meals was not a priority for them, preferring to decide on the night what was going to be cooked—thus, meat-free meals often provided this flexibility more so than those that contained meat.

April: We are pretty lazy, so it will often buy one or two things and chuck them in the freezer and then forget about it until it's too late to—

James: Well, you've got to pre-plan it, and we just don't—

April: We just don't plan anything—

James: We don't even know what we are cooking for dinner tonight

For other participants', reasons for preferring to not include meat stemmed from a combination of egoistic and altruistic beliefs pertaining to health, the environment, and animal welfare. This trifecta of concerns has been discussed in numerous studies in the context of driving and encouraging meat reduction, substitution, and avoidance (Graça et al., 2019; He et al., 2020; Mullee et al., 2017; Mylan, 2018; Neff et al., 2018; Zur & A. Klöckner, 2012). However, environmental and health motivations alone are more commonly cited for those engaging in meat reduction only (Carfora et al., 2019; Kemper & White, 2021; Macdiarmid et al., 2016). In contrast, the addition of animal welfare concern is cited more frequently and with higher

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importance in studies exploring meat avoidance, such as those addressing veganism and vegetarianism (Corrin & Papadopoulos, 2017; Pribis et al., 2010; Rosenfeld, 2018). Further discussion on these consumer values and concerns are discussed in Section 4.4.1.

As a consequence of their meat reduction, some participants talked about how the role of meat in their diet has changed. Where it was once considered an important part of a diet and often constituted the main component of most meals, this perspective is changing. For these participants, their motivation wasn't necessarily to reduce their meat consumption but to consume more vegetables. For example, Seth and Russel both talked about using vegetables as the main part of the meal and just using meat for flavour or as a garnish.

Like chicken or beef, I'll just cut it up and have it over the top, not really as the main part of the meal. Like, it used to be the main part, but I'm trying to eat not less meat but more salads and stuff. (Seth)

I like to just chop it up and put in with other stuff. (Russell)

Thus, meat moved from being a central component of participants' diets to one that was either eliminated completely or seconded to a secondary (such as a side to a vegetable-based dish in smaller portions) or tertiary role (such as a garnish in very sparing quantities), further supporting the suggested movement within the hierarchy of foods discussed prior. Consequently, for these participants, meat ceases to be a significant food in participants' diets as other foods are incorporated to replace meat, including meat substitutes. Such findings may also indicate a shift in consumers perceptions of the hierarchy of foods (Dagevos & Voordouw, 2013; Twigg, 1983). Specifically, meat (red meat and poultry) has historically held the highest position over other animal products (including seafood, dairy and eggs), with plant-based foods (fruit, vegetables, grains) positioned at the bottom of the hierarchy (Twigg, 1983). Shifts have been reported in

other studies with respect to the relative position of meat and plant-based foods. However, where the findings of the present study diverge is that such shifts have only been present in previous research among consumers who were engaging in meat reduction (Camp & Lawrence, 2019; Dagevos & Voordouw, 2013). In contrast, participants in this study who were not actively engaging in meat reduction practices still reported viewing the consumption of meat as less positive compared to a diet high in plant-based foods. Specifically, some participants were less motivated to reduce meat in their diets per se but were motivated to increase their consumption of plant-based foods (reducing the proportion of food consumed as meat as a result) as these were perceived as tantamount to a healthy diet.

4.3.5 MEAT AVERSION

Participants reported experiencing an aversion to meat—though the extent of this aversion varied within participants, particularly between those who did and did not consume meat. This negative attitude towards meat consumption arose from feelings of disgust towards meat. This is consistent with findings from other studies that indicate that meat disgust is negatively associated with meat intake (Becker & Lawrence, 2021). For example, Bonnie strongly felt that meat was gross and not healthy for human consumption, which subsequently led to her keeping her intake low:

I think eating too much meat is really gross and kind of bad for you, so I try to keep my meat intake low. (Bonnie)

This view was common among those participants who had eliminated meat completely but was also shared among those who only ate small amounts of meat. Even excluding those who abstained from meat, many participants expressed a general dislike for meat and perceived meat

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and its preparation negatively. Preparation and handling of meat, in particular, was also strongly linked to disgust. Participants who consumed meat, and adhered to either a flexitarian or omnivorous diet, expressed a sense of disgust or an “ick factor” in relation to the tactile qualities of meat. These participants discussed scenarios where they experienced a strong dislike of the touch and feel of meat when handling or preparing meat for a meal. For example, Caleb experiences this when having to prepare chicken:

Meat you have to deal with actually touching—like, say chicken and stuff like that—I don't really know what the word for it is, but just the fat and the yuckiness of it (Caleb)

For this reason, participants reported not enjoying the practice of preparing meat themselves and instead drew distinctions between the preparation and consumption of meat. In other words, these participants were more comfortable consuming meat than they were handling and preparing it. For Esther, this was based that she did not like handling meat though she still liked to consume it:

I probably feel, as weird as it is, more comfortable, or I am more used to consuming meat than I am prepping meat... definitely for me a high ick factor in handling the meat than eating cooked meat (Esther)

However, as illustrated by the quote from Caleb above, participants' aversion to touching and preparing meat was more strongly associated with some types of meat than others. For some participants, chicken aroused a stronger sense of aversion in many participants, which tended to stem from concerns regarding food safety (see Section 4.6.4). Other participants expressed similar sentiments regarding more processed meat products and small goods such as sausage and mince. However, where aversion to chicken was expressed in terms of the tactile experience of handling raw chicken, aversion to processed meat and small goods was related to the gustatory

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experience of consuming these products. For example, where Esther expresses a negative attitude towards preparing chicken, April also expresses a negative attitude but in relation to the consumption experience of consuming small goods:

Thinking about it, if I ever do prepare meat or if I am eating it, chicken is always the last choice probably... I really dislike chicken and everything to do with it (Esther)

I'm not particularly fond of the texture of meat anyway. I can't do mince I can't do sausages; they just make me gag (April)

In some ways, this contrast with findings reported elsewhere. For example, Lacroix and Gifford (2019) found that having to prepare meat-free meals acted as a barrier to meat reduction, particularly when consumers lacked the knowledge or skills to do so. However, the participants in the present study, while also considering this a barrier (see Section 4.4.3), also viewed having to prepare meat as a deterrent and instead preferred to consume it when it was prepared by others. Thus, in other ways, these findings are consistent with other studies that indicate that meat disgust is present among flexitarians and has a strong influence on meat consumption (Becker & Lawrence, 2021).

In contrast, participants who did not eat meat, and adhered to vegan or vegetarian diets, identified similar experiences when contemplating the consumption of meat. This is also consistent with the recent research by Becker and Lawrence (2021) that showed that many vegetarians are disgusted by meat. These participants also expressed negative attitudes and a sense of disgust and aversion in relation to meat, but this was due to an awareness of meat being a direct result of killing an animal. Specifically, disgust arose from participants' inability to disassociate between meat and the source animal. Ultimately, participants who did not consume meat perceived meat to be 'unclean' and described the smell produced by cooking meat to be

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that ‘of flesh’. Thus, the disgust experienced by non-meat eating participants was articulated by some in terms of an aversion to the sensation of handling animal flesh. For example, Maggie identifies their negative attitude towards meat to stemming from their awareness of the source of meat (i.e., animal bodies).

I was so disgusted at the idea of eating meat because I know where it came from. When I first went vegan, my family didn't really understand, so they would cook up meat still, and I ate meat a couple of times when I was vegetarian around at their house, and they were like; see, don't you see how nice it is—and it actually made me feel quite sick (Maggie)

Similarly, both Fern and Isabelle refer to linguistic devices used in popular discourse to separate the animal from meat:

I know, I'm like; meat—ick! Because I can associate it with what it really is, but I think yea, even language and linguistics when it comes to thinking about the word meat and pork and beef—why don't we call it cow and pig? (Fern)

I don't enjoy cooking meat because I don't enjoy handling raw flesh. I mean, the German word for meat is fleisch which is the word for flesh. We don't really talk about it as flesh (Isabelle)

However, vegans and vegetarian participants who were put in situations where they had to prepare meat—such as for a family member or a pet—used forced disassociation as a coping mechanism to combat feelings of disgust or guilt in relation to the handling of meat. This is similar to findings presented by Johnston and Baumann (2021), where participants experience guilt and disgust in preparing meat for their families. For example, Tanya talks about needing to prepare meat for her pet dog and negative affective response arising from such an experience:

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I have to disassociate when I cook meat. When I cook meat for my dog, I really don't like it. It feels like I'm handling something that's very unclean. I don't know. It just gives me the creeps. I don't like the smell getting all over my body (Tanya)

Overall, these findings show that the attitudes held by participants towards meat in this study are not as positive or as entrenched as previously thought—particularly with respect to health (Vainio et al., 2018; Verbeke, 2015; Verbeke et al., 2010; Wellesley et al., 2015), and are influenced by disgust (Becker & Lawrence, 2021).

4.3.6 POLITICAL CONSUMPTION

Finally, some participants reported that their purchase of meat substitutes was a political act and thus considered altruistic in nature. Politically motivated consumption often occurs in two ways: through boycotting, which centres on ‘punishing’ businesses for unfavourable behaviour, or through buycotting, which focuses instead on supporting businesses that engage in desirable behaviour (Neilson, 2010). Participants in this study perceived their own political consumption to occur on both fronts simultaneously. Specifically, purchasing meat substitutes was seen as a means of supporting brands that were considered to align with their values (buycotting), and in doing so, also a way to take consumer spending away from brands perceived as harmful (boycotting). However, conflict was reported to arise when animal-free alternatives were produced by companies that also engaged in animal agriculture or when vegan brands were acquired or invested in by larger non-vegan companies. On the one hand, participants felt compelled to support companies that sold vegan products, but on the other hand, they also felt uncomfortable directly or indirectly supporting a company that also invested in animal agriculture or other perceivably problematic markets. For example, Emelia talks about wanting

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to support the normalisation of vegan products, but also not wanting to support companies that still treat animals poorly:

I get the argument that you want to support it becoming more normal, and you want the companies to see that there's a market for it, but at the same time, if I know something about it that I don't like, then I won't buy it... There is also the debate about giving money to these companies that buy out these vegan/vegetarian companies that produce this fake meat. So there are these companies that do test on animals and do make meat products that are buying up these smaller ones and then selling their products, so there's an ethical dilemma of; do I want to give my money to this massive company that does treat animals poorly? (Emelia)

To more clearly demonstrate, Emelia talked about Magnum bringing out two vegan ice cream products and how she felt compelled to purchase these products to signal to the brand that there is a demand for vegan alternatives. However, Magnum is owned by Unilever, which is well known for participating in animal testing and other unethical practices:

I got swept up in it. I was like, oh, I need to go and get some Magnums. Then, somebody posted on Facebook how, of course, it's owned by some huge corporation... they test on animals, and I was like; what—I can't believe that I've got so swept up into it. So, sometimes I don't know everything about stuff, and I will have it, but whenever I do know, then I'm like, right—well okay, I won't eat them, then. (Emelia)

For some participants, this was reason to abstain from any products owned by companies perceived as doing harm to animals and the environment—even if these products were vegan.

However, such a political view was almost exclusively held by participants identifying as vegan—a lifestyle and value system that is in itself inherently political. Vegan participants felt

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that purchasing these types of products was a means of signalling to food retailers and producers that there is demand for more plant-based (animal-free) products. This is consistent with findings that draw definitive lines between veganism and political activism (Cherry, 2006, 2015; Cherry et al., 2011; Neilson, 2010), including those that have explored veganism as conceptualised as boycotting and leftist praxis (Dickstein et al., 2020). Moreover, beyond rewarding (punishing) manufacturers of beneficial (harmful) products, participants also perceived their consumption practices as a means of market signalling. Specifically, participants believed that by voting with their money (Neilson, 2010), they could communicate demand for meat-free products to retailers and other members further up the marketing channel. For example, Fern likens purchasing a specific product that is aligned with her values as a means of voting with her money:

I think individuals can vote with the money that they spend and what food they eat, and that will help the environment; that will help animal rights; that will help our health. (Fern)

This was seen as a way of supporting products that had positive externalities aligned with their values.

Thus, the perceived cumulative effect of this political consumption is that retailers are encouraged to stock these products and manufacturers are incentivised to invest in their production to meet demand. The benefits of this were perceived as two-fold. First, investment in meat-free product production was perceived to be a means of shifting investment away from harmful production practices (i.e., animal agriculture). Second, continued investment was perceived as a solution to bringing market prices for these products down. Consequently, increasing their own frequency and quantity of purchase and further stimulating adoption by other consumers. For example, Natalie hoped that businesses would continue to invest in product development in this space which would in turn also help to bring down the price:

Yeah, definitely. I'm kind of hoping that they'll become more popular and come down in price as well. So, I try and buy them lots to support it. (Natalie)

Finally, Participants who were inclined to participate in political forms of consumption tended to internalise views of personal responsibility. Specifically, these participants felt that it was up to the individual to change their behaviour rather than solely rely on government regulations and policy to change.

That's a big thing, and I can't believe don't—how powerful are we as consumers that if we all avoided milk and cut down on meat at least, what a huge impact that would make.

(Emelia)

Participants expressed a great deal of internalised responsibility for the welfare of animals and damage to the environment. This internalisation stemmed from the attitude that individuals are responsible for their behaviour and should engage in pro-environmental and pro-social behaviour. Changes in government, policy and organisations were not perceived as reliable or timely. This contrasts with findings from other studies, where individuals viewed corporations and systems as being at fault for social and environmental damage, including climate change (Helm et al., 2021).

4.4 INDIVIDUAL FACTORS

With attitudes and subsequent behaviours in relation to plant-based meat substitutes, substitution practices, and meat having been discussed in the previous section. This section, and those that follow, present the groups of specific factors that contribute to the relationship between attitudes and behaviours. The first group of themes that emerged from the interviews were those pertaining to individual factors. These factors were intrinsic variables that influenced the attitudes

that participants expressed regarding both meat and meat substitutes. Building on the framework utilised by Terlau and Hirsch (2015), such factors included consumer's values, gender, skills, and transition.

4.4.1 VALUES

Values within the context of meat substitute use and reduction pertained to three primary issues. Namely, consumers' value of—and concern for—the environment, their health, and animal welfare. The link between one or more of these values and meat reduction and substitution has been reported in other studies (e.g., Bryant & Sanctorum, 2021; Trethewey & Jackson, 2019). For example, de Boer et al. (2017) found animal welfare and health to motivate meat reduction and avoidance, and other studies have found environmental, ethical and health concerns to be important drivers of sustainable eating practices (Beverland, 2014; Verfuert et al., 2021). In the present study, in most cases, participants cited two or more of these values, which were perceived as having a combined effect on their motivation to alter their meat consumption behaviour. For example, Elise considered health and environmental concerns though was not actively trying to reduce her meat consumption, whereas Bonnie considered all three in her reasons for reducing meat:

Health was kind of a consideration, and environmental stuff is a consideration as well.

Yea, a combination of, I mean it's kind of a bunch of things, its health, it's environmental
(Elise)

It's pretty bad for the environment. It's not great for the animals. It's not great for me either as a human. I don't know, there are just so many reasons why we should be reducing animals from our diet, and it seems like the right thing to do. (Bonnie)

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This is consistent with other research, such as that by Lacroix and Gifford (2019) that indicated that health and environmental concerns were ranked first and second respectively by meat consumers—though this study reported more importance was placed on health. This same study also indicated that ethics was also a concern for those reducing their meat consumption (Lacroix & Gifford, 2019). In the present study, consumers who still consumed meat felt that health and environmental concerns were more prevalent and often considered to carry similar or equal weighting in their decision-making process. However, consumers who had eliminated meat from their diets were more inclined to also value animal welfare in conjunction with their health and the environment. For example, Cassie reported valuing health, environment and animal welfare which subsequently motivated her adherence to a vegan diet. Whereas Hazel, who was also vegan, considered animal welfare first, and health and the environment second:

I went vegan for all the environment and animals and all that kind of stuff, but I also went vegan for the health and rejecting how everyone eats like “we need to eat meat”, and then they eat all this processed stuff. (Cassie)

The environment probably comes in—be like animal welfare, and then underneath health/environment. (Hazel)

Thus, it is interesting to note that the relative importance of each value varied between participants, as did the order in which these motivations took priority. To some extent, this determined or influenced attitudes and purchase considerations towards plant-based meat substitutes. For example, those participants for whom health was a priority were less inclined to purchase meat substitutes, whereas those participants for whom environment and animal welfare

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were key concerns were more inclined to purchase and use these products, which Maria articulates here:

My partner's actually quite anti them because his veganism's far more about the environment, whereas mine is far more about animal liberty—liberation, sorry. So, yeah, probably just to bulk out the meal, really. We're certainly not eating them for our health.

(Maria)

However, it is important to note that in contrast to other studies (e.g., Lacroix & Gifford, 2019), the relative importance of these values was not captured quantitatively and should be interpreted with caution. Though in saying that, the influence of these values on behaviour was discussed in depth by participants. Consequently, a more detailed reporting and discussion of each value, and the impact on behaviour, is presented in the following sections.

4.4.1.1 Environmental Concern

Interview findings indicate that most participants valued environmental protection and sustainability and therefore expressed some degree of environmental concern. The influence of environmental concern and its relationship with meat and meat substitutes has been explored in a number of studies (e.g., Jaeger et al., 2021; Martin et al., 2021; Wang & Scrimgeour, 2021). First, in relation to meat consumption, most participants in the present study were aware to some extent of the environmental impact of producing meat and other animal products. However, whether this knowledge—and subsequent concern for the environment—was strong enough to elicit behavioural change varied within participants. For example, Mollie and Jasper both communicated that they were aware of the detrimental impact of animal agriculture and meat

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production on the environment, but neither were actively trying to reduce their current level of meat consumption:

I absolutely am very aware, too, that we can't keep going like this, this planet; we can't keep eating the meat that we're eating. We don't eat a lot compared to other people. We're not big steak eaters, but actually, we all need to do something to decrease our reliance on— (Mollie)

I haven't really had time to make my own opinion on it I suppose if, I think if I lessened my impact on the environment I would be happy, that could be for example having fewer meat days and I think consciously I eat less meat than I used to through being with my partner and seeing the information that's available. Yea, probably not to the point that I would quit it just yet. To be fair, I love dairy products. Maybe, vegetarianism could be an option but probably not veganism. I love yoghurt and cheese, even though I know it's ruining the beautiful environment that I enjoy, realistically. (Jasper)

In the above examples, participants' meat reduction was passive and driven by their partner (in Jasper's case) or their children (in Mollie's case), as opposed to being linked to their environmental concerns. These examples illustrate the attitude-behaviour gap that was present among many participants who still consumed meat. Namely, while most (if not all) participants held the attitude that meat production was bad for the planet, this concern did not translate into behavioural change for all participants. Thus, tension existed between participants' desire to limit their environmental impact and their enjoyment of meat and other animal-based products. This discrepancy between behaviour and various ideals (such as environmental concern) in relation to meat consumption has been referred to by some authors as the “meat paradox” as a specific type

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of cognitive dissonance (Buttlar & Walther, 2018, 2019; Dowsett et al., 2018; Johnston & Baumann, 2021; Khara et al., 2021). Though while predominantly discussed in terms of the conflict between eating behaviour and affection towards animals (e.g., Rothgerber, 2020), this meat paradox may also be prevalent in relation to environmental concerns, as reported here. Moreover, as illustrated in the quote from Jasper, participants who still consumed meat were to some extent reluctant to educate themselves on the environmental impact on their food, justifying their lack of research in some way. The cognitive mechanisms identified by Trethewey and Jackson (2019) may explain this behaviour, whereby consumers avoid thinking about the impact of animal agriculture on the environment in order for conflicting values (i.e., environmental concern) and behaviour (e.g., eating meat) to coexist. In contrast, those who were vegan or vegetarian were better informed on the specifics of environmental degradation due to animal agriculture compared to those who still consumed meat and had thus altered their behaviour in order to align their values and behaviours.

In relation to meat substitutes, some participants took issue with many meat substitutes and other vegan products being imported from overseas and thus having a negative environmental impact through increased food miles. For these participants, where environmental concern was a leading contributor to their reasons for reducing or eliminating meat, the relative food miles of certain products was considered an inhibiting factor in relation to purchasing intention. For example, Heather explained that though she was concerned about the geographical origins of the vegan products she consumed:

They sold one that came from overseas, and I hate—like, everybody says, oh because it's vegetarian or it's vegan or something like that, it doesn't matter where it comes from, but to me, it does. (Heather)

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Similar findings have been found on research on organic food products, whereby though organic food production may have positive environmental effects, such effects are mitigated when organic food is transported over long distances (Su & Haynes, 2017). Thus, where plant-based meat substitutes are perceived as better for the environment than meat, extended transportation requirements (especially to New Zealand) detract from this positive perception.

Consequently, where participants could access locally sourced products, this was considered preferable. However, this came at a cost as participants noted that the quality of local products was perceived as lower than that of nationally or internationally sourced products. While for some, this presented a barrier to purchasing locally produced products, other participants such as Emelia prioritised products being locally sourced over perceived taste and quality. A distinction was also made by some participants, such as Isabella, between those products that were truly perceived as “more local” and produced within her city of residence and those that are made domestically:

Although, at the Opawa Market, there's a company—I can't remember what they're called. It's very small—that make their own little vegan patties. They taste a bit like cardboard, honestly. I mean, they're not that nice, but I'd prefer to have that in the freezer for those emergency times because I know they're made down the road. (Emelia)

I like locally sourced stuff, if at all possible. So, I think locally-sources is number one, and even if there was a Christchurch company making good stuff, I would buy that in preference to an Auckland company. (Isabella)

The significance of country of origin and food miles in relation to plant-based meat substitutes is largely underexplored, and thus these findings provide interesting insight relevant to marketers.

Other studies, such as that by Weinrich and Elshiewy (2019), do highlight consumer preference for locally produced algae-based meat substitutes, though from a quantitative perspective using choice-based conjoint analysis.

4.4.1.2 Animal Welfare Concern

Interview findings indicate that a number of participants valued animal welfare and were therefore concerned about the welfare of animals in the context of animal agriculture and meat production. The role of animal welfare concerns and their relationship with meat consumption and meat substitutes has also been explored elsewhere (Bryant & Sanctorum, 2021; He et al., 2020; Tosun et al., 2020). In the present study, in relation to meat consumption, some participants in the present study indicated that they felt uncomfortable with the consumption of meat or expressed specific concerns regarding the treatment of animals raised for food. However, the extent of these concerns varied among participants and was largely contingent on their current meat consumption or avoidance. Those participants who still consumed meat expressed general feelings of guilt in relation to the consumption of meat when they were aware of the implications for the lives and welfare of the animals—albeit not enough to cut meat out of their diet completely. For example, Kimberly talked about trying not to eat too much meat (bacon) because she feels guilty about it:

Is there a reason for that? Well, I do have bacon sometimes, but I just find it—it's really weird because I try not to eat too much meat because I feel bad about eating meat—just my conscience doesn't feel great about it. (Kimberly)

Similar to the conflict between environmental concern and meat consumption, the meat paradox explored by Rothgerber (2020) and others (Buttler & Walther, 2018, 2019; Dowsett et al., 2018;

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Johnston & Baumann, 2021; Khara et al., 2021) is also evident here in relation to animal welfare. Specifically, participants who consumed meat were to some extent aware of the relationship between meat production and animal suffering but not enough to abstain from consuming meat entirely. This again affirms the presence of cognitive dissonance among meat consumers (Dowsett et al., 2018; Rothgerber, 2020) and an attitude-behaviour gap between consumers attitudes (e.g., caring about animal welfare) and behaviour (e.g., consuming meat). Furthermore, as for the environmental impact, participants who consumed meat also seemed reluctant to raise their awareness of the impact of meat production on animal welfare. As Elise explains, though she is aware and concerned for animal welfare, she acknowledges that she is “not aware of the details” and will avoid watching media content that might make her more aware of these details:

I guess that is the other thing in terms of animal welfare and farming conditions, and stuff does play into it. It goes hand in hand with the environmental stuff in that I am not that aware of it in the details. Like if you put a video up of the terrible conditions that pigs are farmed in, I am not going to watch it, but I am aware that it exists kind of thing. (Elise)

This, again, might be explained by the cognitive mechanisms identified by Trethewey and Jackson (2019), whereby consumers employ denial and avoidance strategies to facilitate their own continued consumption of meat. Thus, as Trethewey and Jackson (2019) propose, it may not be the possession of these values that predict meat avoidance but rather the rejection of these cognitive mechanisms. In this vein, participants that had eliminated meat from their diet were more knowledgeable about the realities of animal agriculture with respect to animal welfare and did not experience the same degree of cognitive dissonance. For example, both Hazel and Fern were predominantly motivated by animal welfare and subsequently eliminated meat from their diets as a result:

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The first one would be the ethical side of it with regards to hurting animals, and what happens to them when they kill them, and the whole treatment of the animals. (Hazel)

Yea, it was definitely ethical totally. I do definitely agree that it's much healthier for you, but for me, it was primarily for animal rights reasons. (Fern)

It is evident in the above examples that neither Hazel nor Fern employed the same cognitive mechanisms to mitigate discrepancies between attitudes and behaviours and instead altered their behaviour to better align with their concern for animal welfare. However, concern for animal welfare was a motivator for the elimination or reduction of meat consumption, which in some cases (but not always) led to the consumption of meat substitutes. Thus, valuing animal welfare had an indirect, as opposed to a direct, influence on meat substitute consumption.

4.4.1.3 Health Concern

Interview findings indicate that most participants valued their health and were therefore concerned about health in relation to both the consumption of meat and the consumption of meat substitutes. Health concern has been explored elsewhere in relation to meat (Bonnet et al., 2020; Fox et al., 2021) and meat substitutes (Bryant & Sanctorum, 2021; Petersen et al., 2021). First, in relation to meat consumption, many participants perceived the consumption of meat to have negative implications for their health. These concerns tended to stem from either general perceptions of meat not being healthy or to more specific reasons such as links to cancer and other specific health implications. For example, Elise talked about not feeling good after eating meat and related this to physical sensations of feeling overly full or “bogged down” after she ate meat. Similarly, Seth explained that he cut down on meat because he wanted to be healthier:

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I have always liked eating bacon and all the rest of it, but I was kind of just conscious that it wasn't actually that good for my body, and I didn't respond well to it... Like, my ex-partner eats a heap of meat, and I always just wound up feeling quite bogged down after I finish a meal... I think it's generally crept into the subconscious as well that pork is supposed to be really bad for you, but I don't know where that came from that just in the back of my brain that it's not supposed to be that good for you. (Elise)

I just want to be healthier, I guess. (Seth)

Other participants expressed specific health concerns in relation to the consumption of meat and other animal products. This was more so the case for participants who had eliminated meat entirely, such as those who were vegan or vegetarian. Participants in this instance expressed health concerns as being a contributing factor to their dietary choices, but this was not the primary motivator and was largely secondary (or tertiary) to environmental and animal welfare concerns. For example, Hazel indicated that she was aware of the health implications of meat in relation to some cancers but was still secondary to her other concerns:

The second reason would be for health benefits because I know that eating animal products causes cancer and is not good for me. (Hazel)

Again, similar to environmental and animal welfare information, participants who abstained from meat were more knowledgeable of the specific relationships between meat consumption and human health. In contrast, those who still consumed meat were unable to cite specific knowledge about such relationships. This again highlights the presence of the attitude-behaviour gap as well as the cognitive mechanisms (Trethewey & Jackson, 2019) employed by meat eaters to avoid

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experiencing strong levels of cognitive dissonance and any behavioural changes that may arise as a result.

Second, in relation to meat substitutes, some participants perceived these products as healthier than meat. This perception related to the belief that by removing meat—which was perceived as unhealthy—any non-meat substitute would therefore be a healthier alternative and provide more variety in the diet. For example, Mollie explains that she thinks trying new things and eating meat substitutes are good for her and her family:

Because I think it's good to eat them—better for your health—good to try new things, and also we have friends and family who are vegetarian, so to save making two different meals—it's a combination of all those things... I've certainly made a much more conscientious effort to—probably more because I think, a) for health reasons, and b) environment and world reasons that I need to buy them more than what I did in the past.
(Mollie)

However, not all participants perceived meat substitutes to be healthier than meat. This was related to both the perception that the products are highly processed as well as contain a large number of ingredients and/or specific ingredients that were undesirable. Specifically, participants expressed concern over consuming products that were perceived as being highly processed. This was, to a great extent, assessed on the length and contents of the product's composition and was determined by checking the ingredients list on the packaging. Thus, the length of the ingredients list was used as a surrogate indicator for the extent of processing that a product had undergone. However, products that were determined to be highly processed were not necessarily avoided—though some participants indicated a preference for those that were less processed. For example,

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Alan described the process by which he assesses a meat substitutes appropriateness for his needs, first by checking the ingredients list and then making a judgement on whether he perceives these ingredients (and the level of processing) to be healthy:

I'd still look at the ingredients list; what's actually in there? Just because it's not meat does not necessarily mean it's healthy, and there might be other nasty stuff in there, and I don't really know that stuff. Definitely look at the ingredients list—what else they've actually put in there. I guess the shorter the list, the better, for me, just in general. (Alan)

However, it is important to note that concern regarding highly processed foods was not just an issue with regards to meat substitutes, but meat products as well. Meat that was also perceived as having undergone extensive processing was also avoided or eaten in restricted amounts by some participants. As Russell explains, that when he previously eliminated meat from his diet (though he was not vegan nor vegetarian at the time of the interview), his main motivation was avoiding the health implications of meat processing. Therefore for Russell, in order for him to adopt plant-based meat substitutes, they would also need to be 'clean' or minimally processed:

What I was trying to get away from with meat, which is all of the processed stuff that goes around with meat ... Long term use—it would have to genuinely be healthier and cleaner than meat for me to consider it. Because I am not ethically minded in that way, it's not a selling point for me just to not eat meat—because I am still pretty selfish really in that, I want to eat the cleanest possible thing so like minimal process probably. (Russell)

For some participants, the desire to avoid processed foods was strong and extended beyond just meat and meat substitutes. For some participants, such as Cassie, this meant adopting a whole-

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foods plant-based diet that emphasised unprocessed, whole foods. For others, like Emelia, this equated to her adopting a raw food diet and avoiding any level of processing, including cooking:

I went vegan for all the environment and animals and all that kind of stuff, but I also went vegan for the health, and rejecting how everyone eats like “we need to eat meat” and then they eat all this processed stuff... I was just like no, I just want to eat pure fruits and vegetables and that sort of stuff. So now it’s like all the processed stuff is coming out. It’s cool that it makes it more accessible, but I’m also like; this is the total opposite to why I went vegan. (Cassie)

Yeah, just healthy eating. I actually went—we went raw for a little while, just—I don’t know why I went raw, but that made me super aware of what I was eating. It was only probably about four years ago. (Emelia)

However, Emelia indicated that she did not adhere to such a strict diet all the time and that exceptions were made for specific product categories:

So, now everything—if it’s packet food—I very rarely would eat packet food, unless, of course, it’s biscuits. If someone buys me biscuits, there are no rules. Just the dairy; no dairy in it, but anything chemical I just have it if it’s a biscuit. (Emelia)

In addition to processing, product ingredients were also identified as a health concern in relation to meat substitutes. This was related to general health concerns or to specific ingredients, such as those that are not vegan or trigger a food allergy. With regards to general health concerns, participants expressed concern over products that were high in additives or unhealthy ingredients such as sugar and salts. For example, Tanya expressed concern regarding the sugar and salt contents:

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Also, there's a lot of additives that - when I read labels, I read them carefully, so all the added sugar and salts, sometimes I worry about that. (Tanya)

However, many concerns were related to a wide range of specific ingredients. For those participants that were vegan and who avoided all animal-based ingredients, including dairy and eggs, meat substitutes that included these ingredients were consequently avoided, as Maria explains:

Obviously, just that they say vegan because some of those—is it Linda McCartney—have egg in them. (Maria)

Other ingredients of concern were soy and palm oil. Soy is used in the majority of meat substitutes, and soy-based products represent the largest portion of the product category. One participant, Constance, was not only vegan but also had a soy allergy and expressed frustration in the widespread use of this ingredient which made it difficult for her to find products she could eat. Other participants, like Russell, expressed a general dislike for soy. This stemmed from poor taste perceptions in relation to the use of the ingredient as well as perceived health implications resulting from its consumption:

I really didn't grow up eating meat substitutes; it was just not something that was readily available, plus anything that ever was, was always soy. (Constance)

But one of the things I didn't like about supermarkets or meat substitutes is the soy element.

I am not a big fan of soy... It doesn't taste good to me, and also, I've heard a lot of stuff about phytoestrogens and stuff—and with all that out there, you don't want to take the risk.

I have heard that it is beneficial for women but not too much for men, so when I was vegan,

I stuck to mainly almond milk. (Russell)

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This is consistent with previous studies that have indicated that a ‘soy’ label on the packaging can negatively impact sensory perceptions of meat substitutes (Elzerman et al., 2015; Elzerman et al., 2013). Soy and palm oil were also raised as concerns due to environmental and animal welfare issues related to their production. For soy, this was due to concern regarding genetic engineering from one participant and its links to health, environmental and animal welfare issues. This consequently resulted in a preference for organic products. For palm oil, this was more related to environmental and animal welfare concerns.

I just check that there's no GE ingredients because soy can be GE, and a large percentage of the world's soy—about 80 per cent of the world's soy is GE, and most of it is used for animal feed, which is really unfortunate, because it's not beneficial to the animals at all, and that's why they tend to kill the animals young. So, I always check that—not just because of the health implications, but because of the broader implications; you don't want to support it anyway. I prefer to buy organic wherever possible, and I'll buy that in preference to non-organic, and I'll pay a bit more for organic because I think that's—you're not just doing that for your health—you're doing that to benefit the farmers who are doing their bit to clean up their soil. (Isabelle)

Thus, concerns for the environment, health and animal welfare might not be so easily separated out and are perhaps more interrelated than previously thoughts, especially when it comes to the use of specific ingredients such as soy and palm oil, or where ingredients are genetically modified. Moreover, the use of additives and ingredients such as those mentioned here have been raised as health and environmental concerns when used in meat substitutes by other studies (Weinrich, 2018).

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However, despite some negative health perceptions regarding meat substitutes, these products were perceived by several participants as an accessible and convenient source of protein. For example, Emelia, Cassie and Maggie mentioned the availability and use of meat substitutes as a convenient way for them to meet their protein intake requirements. This was facilitated by clear nutritional information on the product packaging:

I like to avoid processes as much as possible, but at the same time, sometimes if it's convenient, or sometimes if I might crave a little bit of sometimes, maybe that's a bit of the protein that's added to it. (Emelia)

Like, the Bean Supreme burger patties I really like because it's just something tasty with a bit of protein. (Cassie)

I also like to see on the front of the packet when it says like B12 and Iron and that stuff.

I'm just a sucker for that stuff. It just grabs me. I'm like; I could use some of that. (Maggie)

Similarly, products that have a nutritional profile similar to meat were perceived more favourable. For Elise, in order for her to adopt plant-based meat substitutes as a replacement for meat in her diet, the nutritional profile would need to reflect the same nutritional benefits she would gain from consuming meat:

Nutritional value being similar would really help because, you know, there is no point substituting out chicken if all of a sudden you've lost all of the same nutritional things you were trying to get from that. (Elise)

Lastly, while some participants were motivated by health in the reduction and substitution of meat, Fern expressed frustration at the conflation of veganism and health. This view illustrates

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health concerns taking a secondary position to animal welfare and/or environmental concern for many participants who were vegetarian or vegan.

I'd be like, I can have fries, and I'm not a salad person. A lot of vegan people tend to be like; we can have salad; I'm like, you can go fuck yourself because I don't want salad... I can be an unhealthy vegan if I want to. I definitely enjoy like having some salty chips like I'm not like a health nut just because I'm vegan. (Fern)

Overall, health concerns in relation to plant-based meat substitute consumption varied much more than concerns pertaining to the environment or animal welfare. While some studies have reported that health is a driver to meat substitute use (Elzerman et al., 2021) and that meat substitutes are perceived as healthier than meat (Hoek, Luning, et al., 2011), the findings here suggest the relationship between health perceptions and meat substitutes may be more nuanced. Such findings may indicate the need for further market segmentation on the basis of specific health concerns (or lack thereof).

4.4.2 GENDER

In addition to the values discussed above, the interview findings also identified gender as an individual factor that influences attitudes, behaviour and the gap between them. Gender differences were evident with respect to participants' adoption and preference for meat substitutes, as well as attitudes towards meat consumption. First, in relation to meat substitutes, participants identifying as male expressed stronger preferences for meat substitutes that were similar to meat. Participants identifying as female also reported this to be the case for their (male) partners or other male family members and subsequently influenced the kinds of products they

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used when cooking for them. For men, those products that more closely resembled meat in terms of its sensory qualities—like taste, texture, appearance, and smell—were perceived more favourably. For example, Fern talks about using more meat-like products when cooking for her dad:

My Dad is like a meat and potatoes kind of guy. So I need to make something that somewhat resembles the food that they're used to. (Fern)

Similarly, Constance talks about how much her husband enjoys products such as the Beyond Burger because of its high similarity to meat:

My husband is pickier, I guess, and not as into just eating vegetables, so I have to be a little bit more creative, and I do all the cooking at home... The Beyond Burger, when they came out with that in Canada, he was so excited, and he just loved it. He was like, I can't even really tell the difference. (Constance)

In contrast, women were more inclined to use meat substitutes that were dissimilar to meat (such as tofu) or those that were natural mimics of meat (such as jackfruit or legumes). For example, Maria talks about having a strong preference for meat substitutes that are obviously fake and thus dissimilar to meat:

When we left the farm, my partner went vegan, like the day he walked off the farm, and he used them a bit as a transition for his dietary stuff... I want them quite obviously fake, to be honest. My partner would probably be the opposite, though (Maria)

Findings reported elsewhere support those outlined here. Research conducted by Elzerman et al. (2021) showed that men were substantially less likely than women to perceive plant-based

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proteins such as chickpeas or nuts as appropriate meat replacements. Similarly, Hart (2018) reported that dishes using meat substitutes (as opposed to plant-based proteins) are considered more appropriate and enjoyable for men. However, research by (Hoek, Luning, et al., 2011) identified women as the primary consumers of meat substitutes. Though this research only quantified the number of women in a consumer group of meat substitutes (Hoek, Luning, et al., 2011), and did not explore product attribute preference, as is discussed here. Thus, the findings here may support the identification of links between meat (and meat-like products) and masculinity (Hart, 2018; Potts, 2017).

Second, in relation to meat consumption, gender differences were also evident. This was true for both the reduction and elimination of meat from the diet. Female participants reported that the men in their lives, including their partners, children and friends, consumed more meat than they did and were resistant to limiting their consumption. For women who were vegan or vegetarian (like Emelia), this created some tension around sharing cooking responsibilities and meals together. For women who were only reducing and not eliminating their meat consumption (like Kimberly), their cooking and eating arrangements with their male partners were more flexible:

I've got friends that are vegetarian—not vegan, that use that, and one of them—her husband's a meat-eater, and he still seeks the—he'll still buy some fish to go with it, but she's trying to show him as well that actually, were you full—do you feel like you need to add the meat to that—we had it last time, and it was quite filling—you don't need to add the meat. (Emelia)

I didn't enjoy cooking meat, but I cooked it because my husband at the time and my boy like meat. My girl doesn't really like much meat. (Isabelle)

No, we cook together. He eats more meat than I do, so we just split—sometimes it's egg on side of the pan or one side of it that has chicken, and I'll have chickpeas and something like that, but we cook together. (Kimberly)

I basically stopped buying meat after my ex-partner moved out, and actually, in fact, before he moved out, I was consciously trying to eat a bit less meat. (Elise)

These findings are relatively consistent with previous research. For example, in their systematic literature review, Hartmann and Siegrist (2017) noted that a number of studies report consistent gender differences in consumers' willingness to reduce meat consumption, with women more likely than men to reduce how much meat they eat.

4.4.3 SKILLS

The skills possessed by individuals was another factor identified to contribute to the attitude-behaviour gap. Specifically, participants might possess a positive attitude towards meat reduction and/or adoption of plant-based meat substitutes, but if they lacked the skills and know-how to engage in such practices, then they were unable to alter their behaviour. Furthermore, the level of competency also influenced participants' reliance on meat substitutes. Specifically, participants cooking competency and confidence in the kitchen was perceived as a barrier to meat reduction and elimination more generally, but subsequently contributed to higher use of, and reliance on, meat substitutes. Lack of skills has been identified by previous research as a barrier to meat reduction (Lacroix & Gifford, 2019; Schösler et al., 2012; Weinrich, 2018). Participants expressed concern that low-meat or meat-free eating required them to learn new cooking techniques and recipes, and thus, meat substitutes enabled them to cook the same dishes they already knew while being able to easily substitute the meat component for a plant-based

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alternative. For this reason, participants who considered themselves to be less competent in the kitchen relied on meat substitutes more than those who were more confident cooks. For example, Bonnie talks about her limited cooking skills and thus relying on meat substitutes to cook in a way that she is familiar with without having to learn new competencies:

I am also a terrible cook and only know how to cook a certain way because that's how I was taught how to cook, so it's like an easy way to substitute that in without having to change the meals or having to Google heaps. (Bonnie)

If my partner is home, and he generally doesn't really cook them—I probably cook them more because I'm not the best cook. Yeah, so I don't think there's an answer to that one.

(Maria)

It is also interesting to note that gender differences are also present in this instance. Specifically, participants who identified as women noted that the men in their lives (e.g., partners, flatmates) were more likely than they were to have limited cooking skills and subsequently were more reliant on the use of plant-based meat substitutes—though some female participants also identified as having limited cooking competency (as above). For example, Constance mentions that her husband uses them when she goes away and is not available to cook for him. Similarly, Maggie talked about helping her flatmate transition to a meat-free diet by introducing him to meat substitutes:

He probably eats more of it when I'm away—if I'm not around because it's convenient for him to just—he's not much of a cook, but I would say it's pretty steady overall. It's just kind of incorporated as part of our weekly food. (Constance)

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It's because my flatmate at the time, who I had convinced to go vegetarian, he didn't know how to cook at all, so he just liked things from the frozen section, and he loved frozen pizzas and all that kind of stuff. We would spend a lot of time looking through the frozen section looking for things that he could eat, and then we saw them all in the freezer section.

(Maggie)

Other participants that were comfortable with cooking, but did not have the desire or resources to learn how to cook meat-free, used meat substitutes in lieu of changing their style of cooking. For example, Emelia's father was motivated to eat meat-free but after a lifetime of cooking with meat, and was less motivated to learn new ways of cooking and thus used meat substitutes. Similarly, Elise was also a good cook but liked the idea of meat substitutes adopting the same functional qualities of meat, as well as the taste:

My dad; he went vegan for health reasons. Well, I kind of forced him to—educated him. It's just been great for him, now he's into it, but he buys a lot of meat substitute products because he's had a lifetime of eating meat. So, when we go over for dinner, it's usually like a tuna bake, but it's like a fake tuna in a tin. (Emelia)

I think that goes right down to the product being the same; then, there is no learning curve.

(Elise)

Some participants described an evolution of their own culinary journeys into meat-free cooking. Specifically, they felt that they relied on meat substitutes more in the earlier days of eating meat-free, and once they had learned more about cooking without meat, they reduced the number of meat substitutes these used. Moreover, some participants indicated that learning to cook meat-free lead them to improve as cooks, thus improving their competency and confidence

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in preparing food. For example, Fern describes how she went vegetarian and then vegan when she was younger and has since developed as a cook and relies on substitutes less:

I probably depended on them a lot more when I was younger and new to vegetarianism and veganism. Now I'm probably a lot more confident in cooking where I don't really rely on them so much, but they are still something that I use kind of regularly, but it's not so much of a necessity as before because I was conditioned, I guess to eat meat-based meals so when you transition it's nice having something in that place, but now that I'm kind of more getting a global diet I guess it's not so dependent. (Fern)

This is consistent with previous research. Grassian (2020) reports that vegans are more likely to experience the largest increases in cooking skills. Similarly, other research indicates that when initial changes are made to behaviour, and there are perceivable benefits (e.g., improved health and increases in skills and confidence), behaviour change is consequently consolidated (de Visser et al., 2021)

Interestingly, cooking competency was also perceived to be a barrier to meat consumption by younger participants. Cooking meat was considered high risk not only in relation to food safety but also in terms of the meal turning out poorly. For this reason, participants elected to avoid cooking meat themselves or to only prepare certain types of meat and avoid others. For example, Elise talked about struggling to cook a steak well, and thus only ate it when she went out to a restaurant:

But to be fair, I was never eating red meat that regularly because I was never buying it to cook it because I don't know how to cook myself a good blue steak—I'm gonna wreck it. (Elise)

4.4.4 TRANSITION

Finally, the last individual factor identified in the interview findings pertains to ‘transition’. Where factors such as values, gender and skills describe issues that accounted for the gap between attitudes and behaviours of plant-based meat substitutes, the theme of transition describes the process of narrowing this gap as participants progressed from a diet of high meat consumption to one that was low in—or free from—meat. Specifically, many participants perceived meat substitutes as highly suitable for consumers who were in a ‘transitional’ phase of moving towards a meat-free diet, such as vegan or vegetarian. For example, Cassie and Constance both identified meat substitutes as a means of facilitating the transition to a low or meat-free diet:

I think to me, I kind of think they are great for people that are finding the transition kind of hard and need something that replicates the traditional like—you have your meat, your potato and your vegetables on your plate—you know? (Cassie)

I really like that they’re available, especially to people who are trying to transition from eating meat; it just makes the transition a lot easier for them, or that’s what I’ve noticed with my husband anyway, but yeah. (Constance)

The reason for such perceptions was due to the functional similarity of the products in relation to meat and thus enabling those transitioning to more easily substitute meat in dishes familiar to them (similar to the theme of skills discussed above). The ease of substitution enabled by meat substitutes was perceived as reducing the cognitive workload of learning new recipes or cooking skills on behalf of the person transitioning, and therefore made meat-free eating more accessible—especially for those with limited culinary skills or confidence. Both Hazel and Kimberly recalled experiences when they were first reducing and removing meat from their diets

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and the challenges they faced. Thus, both indicated that the availability of products such as meat substitutes would have made such experiences easier, particularly in earlier stages when skills in meat-free cooking are yet to develop:

I think all those meat substitute products, I think are perfect for someone who's transitioning from being a meat-eater to a vegan; I think that is where they're really good, because you are a bit desperate to know what the hell you're doing, and they're quite good as convenience products, because they replicate meat or mince or whatever, and so it's easy to cook—you feel like you've got something that you can cook.. (Hazel)

Yeah, and from seeing when you're trying to eat less meat, how complex it is to figure out how to cook everything, because you don't know any other ingredients, and so when you think of the time of cooking and things like that, you're just like—I get it—it's easier. It's a lot easier, but yeah. (Kimberly)

Such findings, in some ways, reflect the earlier discussion presented in Section 4.3.4, whereby meat reduction is not necessarily an all or nothing approach (Kemper & White, 2021). In this vein, plant-based meat substitutes, when incorporated as a part of a meat reduction strategy by individuals, may help facilitate this transition more easily. However, in contrast to the findings presented above, Emelia talked about how meat-substitutes could be useful for those transitioning but would still recommend to those individuals that meat substitutes are not necessary and most meals can be made without them:

Unless it's easier for you to transition from what you're used to, but I'd probably say you'll get used to—it's like sugar in your tea; I used to have sugar in tea, and then when I stopped eating it—I don't want sugar in my tea. You know? Yeah, I wouldn't be a good one to give

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advice as pro it, really; I would be, come over, and I'll show you how to make that without any meats, like spaghetti Bolognese—you don't need mince in it. (Emelia)

However, such a stance is likely due to Emelia's avoidance of processed foods and adherence to a whole-food diet.

In addition to assisting in one's own meat reduction/elimination journey, one participant described using meat substitutes as a means of acclimating her family to meat-free eating. While the family members themselves were not attempting to reduce or eliminate their meat consumption, this participant utilised meat substitutes when cooking for them in order to broaden their tastes and perspective of food. Here, Tanya talks about using meat substitutes when she cooks for her family, almost as a compromise between her way of eating and that of her family's where the food is meat-free but more closely resembles what her family is used to eating:

Yeah, or I have bought them before when I was making food for my family, because they're not vegan, and it's a nice transitory step, and they really like the Beyond Meat ones. I'm just trying to inch them towards thinking that food can be made without animals. (Tanya)

Such an example presented by Tanya also highlights the role of social relationships and networks in the stimulation of new dietary behaviours. Consequently, social factors are discussed in the next section.

4.5 SOCIAL FACTORS

The second group of themes that emerged from the interviews were those pertaining to social factors. These were factors were extrinsic variables that influenced the attitudes that participants expressed regarding both meat and meat substitutes and consequently also

contributed towards the attitude-behaviour gap. Such factors include those identified by Terlau and Hirsch (2015), such as social norms and culture but also identifies new factors pertaining to household composition, social networks and conflict.

4.5.1 SOCIAL NORMS

The first social factor identified in the interview findings is that of social norms. Social norms in the context of meat consumption and use of plant-based meat substitutes refer to acceptable values, attitudes, behaviours and beliefs within social groups in relation to dietary choices and product use (Solomon et al., 2018). Specifically, participants referred to both social norms in relation to veganism and meat-free eating, as well as how the use of plant-based meat substitutes was helping to shift these norms. First, in relation to low-meat and meat-free diets, participants often expressed awareness and concern for the stigma associated with low-meat and meat-free diets. Veganism, in particular, was perceived as highly stigmatised, and this was often considered to impede social interactions with others. Previous research has indicated that meat-eaters often marginalise vegans and vegetarians by stereotyping them as ‘abnormal’ for defying social norms regarding omnivorous diets (De Groat et al., 2021). Participants in the present study who identified as vegan/vegetarian indicated that this was indeed their experience. For example, both Cassie and Emelia talked about facing stigmatisation for their dietary and lifestyle choices:

When I was younger, there was a big stigma around people who ate stuff like that. (Cassie)

You could have a big conversation about how socially being vegan is really a bit like a leper. (Emelia)

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Similarly, Fern talked about finding her path to veganism difficult due to the stigma that she faced when she was younger. However, she did note that times have changed and that perhaps veganism is not as stigmatised as it once was:

It was something that I wanted to do for a long time. I think the whole path of going vegetarian in the first place was to eventually get to be vegan, but at the time, I was quite young, and I didn't really have the guts to really do something that was so outside of common practice, especially at the time—given that being vegetarian ten years ago was not really a popular thing to do. (Fern

While the previous examples have been from participants that were meat-free at the time of being interviewed, Russell was not presently attempting to reduce his meat consumption but had attempted to do so in the past, citing stigmatisation within his family and friends as a significant barrier:

Yea, so there is a lot of societal pressure, I think against veganism, which I found while doing it—and it's sort of like an undertone, it's not like blatantly in your face like; why the fuck are you doing that? It's sort of like, hmm, okay—you know? (Russell)

Such findings are consistent with previous research that indicates that vegetarianism is perceived by consumers to be socially stigmatising and that anticipated stigmatisation was a barrier to going vegetarian (Rosenfeld & Tomiyama, 2020). Similarly, other research has reported that consumers will cope with negative stigma by distancing themselves from “vegan” or “vegetarian” identities, even if they do adopt the behaviours associated with these lifestyles (Randers et al., 2021).

Interestingly, the increased awareness, availability and use of meat substitutes were perceived as helping to negate the stigma associated with meat reduction and avoidance, thus

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assisting meat-free eating to become more normalised. Moreover, meat substitutes were also perceived as increasing feelings of inclusiveness within family and friend groups and reduced feelings of awkwardness and exclusion. This was particularly the case for participants who identified as vegan and consequently were more inclined to feel stigmatised by peers and society. For example, Maggie talked about how she liked to use meat substitutes when she cooked for other people in order to demonstrate to them that the food she consumed was not so different to the food that they ate and consequently closing perceptual distances between veganism and conventional diets:

I like trying these things because it means when I cook for other people like at their house or at a BBQ or something, I can show them that what I'm eating isn't that insanely different to what they're eating, so it's kind of encouraging people to see that it's not so scary or foreign... I think it makes cooking a lot easier. It also makes me seem; I like to know that they're there, so people don't think that I'm like a total freak who eats nothing like what they eat. Whereas, if I just bring that to a BBQ, they're like, I get it. I think it's made being vegan a lot easier, just in general. And if you go to a potluck or family dinner or something, it makes choosing something to take a lot easier. (Maggie)

Similarly, Fern and Sana talked about how using meat substitutes allowed them to feel less alienated in food-focused social settings such as BBQs and Thanksgiving. The use of these products enabled them to participate in meat-dominant spaces whilst still adhering to their own meat-free practices:

I knew I didn't want to eat meat, but I was also raised eating things that resembled a burger, so it wasn't so weird for me to go to a family BBQ and bring my veggie burgers because I

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still feel like I am not alienated in a group because; oh look, I've got my Tofurkey... It probably has just made it easier to fit in at like family functions. The only time I can think of when it really didn't, where it really helped would be at Thanksgiving where I have my own meal, and it mirrors what they're eating, and I don't feel like such an outsider that I a lot of the time eating vegan makes you feel like. (Fern)

You know, it's like a part of New Zealand culture to have a BBQ, so it's quite nice to be able to participate in that stuff and feeling like I can have a sausage and bread like everyone else. Being able to go to a BBQ and bring my own food but still participate in the BBQ. (Sana)

Such sentiments were also shared by Emelia and Cassie, whom both noted that the use of meat substitutes made engaging in social events with meat-eaters easier and assisted in reducing or avoiding stigma:

It just makes it easier; people don't look at you sideways when you're eating a burger same as they are really... it normalises it (Emelia)

It's less drama and less stigma. I think it's a lot easier nowadays with all the substitutes. (Cassie)

Similar findings have been reported by Apostolidis and McLeay (2016a), where vegetarians use of meat substitutes were used to more easily prepare meals for friends and family whilst still maintaining their own vegetarian diet. In this vein, meat substitutes were perceived as facilitating shared consumption experiences between meat-eaters and meat avoiders and reducers. Thus, further assisting in the normalisation of reduced and meat-free eating practices and the consumption of meat substitutes, as well as social engagement between meat avoiders and

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reducers and their families and friends. Specifically, meat substitutes were perceived as enabling people who consume meat to more easily cook and share food with friends or family who adhere to low-meat or meat-free diets. . In the present study, Mollie and Bonnie, who still consumed meat, talked about using these products, and keeping them on hand in the freezer, for when they needed to cook for friends and family who avoided meat:

We have friends and family who are vegetarian, so to save making two different meals—it's a combination of all those things. (Mollie)

You can just have it, and when you have a vegan friend coming around, you don't have to think about what am I going to cook for you? (Bonnie)

Interestingly, the reverse was also considered to be true in that meat substitutes enabled people who limit or avoid meat to more easily cook and share food with friends or family who eat meat—even if these products aren't a regular component of their own diet. This was expressed to be particularly evident in social gatherings where food is the focal point, such as barbeques, potlucks and seasonal holidays (e.g., Christmas and Thanksgiving). For example, Cassie and Tanya talked about how even though they don't use meat substitutes themselves, they purchase them for when they go to events with meat-eaters so that they contribute something that still aligns with their own values:

I don't buy it for myself, but a couple of weeks ago, I got invited to a BBQ, and it was so much easier to pick up a packet of vegan sausages than me try to make something at home and bring, it just gets awkward. (Cassie)

If I'm going to a barbecue or something, I'd be sure to bring non-meat hotdogs or whatever, but for myself, not so much. (Tanya)

While stigma has been discussed by a number of authors in relation to vegetarianism and veganism (e.g., De Groeve et al., 2021; Laakso et al., 2021), little research to date has explored the relationship between stigma and the use of plant-based meat substitutes. Such findings have implications for social marketers in particular who may wish to promote meat substitutes as a part of a meat reduction or elimination strategy as a means of combatting perceived and anticipated stigma.

4.5.2 CULTURE

The second social factor identified in the interview findings pertained to culture. Culture is defined by Solomon et al. (2018) as the “values, ethics, rituals, traditions, material objects and services produced or valued by the members of a society” (p. 514). In the context of meat consumption and the use of plant-based meat substitutes, such cultural influences impacted participants’ experiences with meat reduction in particular. Previous research explains that culture can play a significant role in determining whether it is considered acceptable to consume meat and certain species (Khara et al., 2021). Specifically, cultural backgrounds that supported plant-based eating had positive implications for the adoption of plant-based diets and meat avoidance when participants moved into new households. Maria, for example, explained that the cultural and familial influence from her partner made the removal of meat and adoption of a meat-free diet easier for them and their family:

My partner’s from Malawi, so he’s half African and half Kiwi, and in Malawi, because it’s one of the poorest countries in the world, everything is plant-based, because it’s poverty, so for him, it wasn’t actually that much of a transition as you might imagine. (Maria)

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Though Maria's decision to transition to a meat-free diet was external to the social influences in her home (i.e., she was motivated by animal welfare concerns), the cultural background of her partner made her transition for herself and her family easier.

In contrast, other participants felt that their cultural backgrounds negatively impacted their willingness or ability to remove or reduce meat in their diet. This was particularly the case for those participants who were from New Zealand and other cultures that favoured high levels of meat consumption (e.g., Croatia, Canada, North America, UK). For example, Jasper explains that growing up in a New Zealand household that valued meat consumption and adopted the meat and three veg 'tradition' has had an ongoing influence on his diet into his adult years:

I come from a large family that's eaten primarily meat and three vege, so meat's been a big part of my upbringing, usually meat that has been cooked very well. It's probably a large crux of my diet in the past as a result. (Jasper)

Similarly, Caleb also grew up in New Zealand, and his family too placed significant value and importance on the consumption of meat. For Caleb, this presented a challenge where he was attempting to reduce his meat consumption now that he no longer lived with his family and was somewhat distanced from his cultural upbringing, but the process of visiting his family in some ways reintegrated him into the culture of eating meat. Thus, culture for Caleb was a point of contention between his past and present consumption practices:

My family was big on meat. It would always be meat for—there would always be some type of meat in dinner. Then, say most weekends it would always been like maybe eggs and sausages, and stuff like that for breakfast... So, it can be tough on me moving between here and going back to live with my family, because my family will cook meat, and then I feel

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like I will eat meat just because—otherwise, I need to go and try and find my own things or find my own products. (Caleb)

Though also living in New Zealand, Esther's family were from Croatia—another meat-centric culture. However, as she and her family moved away from Croatia to New Zealand, overtime Esther's attachment to meat diminished despite moving to another country that also valued meat consumption:

So growing up, it was pretty meat-based; my family is from Croatia in Serbia, so traditionally, that cuisine is very meat-heavy. I guess when I was in high school, I just found myself gravitating towards less meat in my meals and dishes, so that's probably just continued ever since then. So I guess the past 10ish years, my diet has been very low in meat. It's kind of hard to quantify, but definitely, the majority of meals are meat-free. (Esther)

The findings reported here are largely consistent with previous studies that highlight the relationship between meat and culture. Many Western cultures, in particular, place significant value on meat and its consumption in part due to its symbolic meanings of power and masculinity (Potts, 2017). Similarly, meat also has strong ties to national identity, especially in countries such as New Zealand (Potts & White, 2008).

4.5.3 HOUSEHOLD COMPOSITION

The third social factor identified in the interview findings referred to the household composition in which participants lived. Living situations, and the dynamics that exist within them, are known to influence household and individual decision making (Solomon et al., 2018).

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The influence of households and consumer lifecycle stages in relation to meat reduction has been explored in previous research, finding barriers to meat reduction and substitution strategies similar across different lifecycle stages (Kemper, 2020). In the present study, the household composition was indicated to influence perceptions of meat and the adoption of low-meat or meat-free diets. Specifically, participants felt that their current and former household members, including both family members and housemates, impacted their current dietary choices. For some participants, this had a positive impact on the reduction or removal of meat from their diet where those who had grown up in a low-meat or meat-free household indicated that this largely influenced their own dietary preferences later in life. For example, Sana talked about how she grew up in a vegan household prior to living with another vegetarian later in life, which subsequently led to her eating small amounts of meat as an adult:

I grew up vegan until I was ten and then kind of never really ate a lot of meat because I grew up in that non-meat environment. I lived with a vegetarian for ten years, so I was mostly vegetarian, and then meat was just an easy form of protein for me; it's just the way I saw it. (Sana)

Other participants had similar experiences whereby they had moved out of the parental home and moved into flats with others who were vegan or vegetarian. The transition out of the family home and into one shared with others facilitated the transition to a meat-free diet, even if this was not something that was supported when they were living at home. For example, Isabelle had lived in a flat with vegetarians since moving out of home and had other family members that were vegetarian, which subsequently influenced her transition to a meat-free diet:

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So, I've known for ages really, because I've always been in vegetarian flats, and so you get to know these things. My grandparents on my father's side were vegetarian, so it goes back a long way, and we ate—at home, we had meat once a week, and that was it; everything else was vegetarian. (Isabelle)

Similar experiences were also reported by Maggie and Emelia when they left home to go to university. Both had indicated that they wanted to reduce their meat consumption but did not start transitioning into a meat-free diet until they moved away from the family home and lived with other people who were also meat-free:

I started when I first came to university. I've always wanted to stop eating meat, but I wasn't able to do that while living at home. (Maggie)

I think it's just—for me, it was at university living with other people that were vegetarians that were into food and knew how to cook. I thought I knew how to cook, but I really didn't. So, that was my first step into healthier eating, and then my husband—we've been together 20 years or so now, but he couldn't cook really that well, and then I taught him to cook, and now we both teach each other, and it's a bit part of our life; eating and food. (Emelia)

As Emelia explains above, living with other people that engaged in low-meat or meat-free practices in her household facilitated her transition to meat-free eating due to more easily sharing knowledge and skills with her housemates. This is aligned with previous research that indicates that moving out of the family home can trigger changes in food habits and impact on choice for sustainable food products (Aschemann-Witzel & Niebuhr Aagaard, 2014; Kemper & White, 2021).

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However, other participants had a different experience. Where the example above illustrates situations where participants wanted to transition to a meat-free diet, and their other household members facilitated this process, other participants reported experiences where this change was unsolicited. Consistent with previous research (Aschemann-Witzel & Niebuhr Aagaard, 2014), for some participants, moving in with their partners led to them lowering or eliminating meat consumption when they previously had no intention to do so. For example, Caleb moved in with his fiancé, who was vegetarian, and as she was the primary cooker in the household, he ate less meat as a result:

Since my fiancé, and then moving into just us two cooking, she was a bit vegetarian, so she never really ate that much meat anyway. So, I was never a big cooker, so she was always—I was there to help and stuff, but she always took the lead. So, we never really ate a lot of meat, which I started to get used to, and now I don't really see myself going back to that.

(Caleb)

Experiences like that of Caleb exposed participants to alternative ways of eating that were free from or low in meat. Such experiences, while unsolicited, often led to more favourable attitudes towards low-meat and meat-free eating, which subsequently led to behavioural change. Such findings indicate that household composition may act as a means of not only altering attitudes but also closing the attitude-behaviour gap among meat-eating consumers living with those who avoid or reduce their own meat consumption. Thus, involuntary meat reduction was perceived positively by participants who considered the change in their diets to be preferable. While Caleb was reluctant at first, he explained that he eventually became accustomed to eating less meat and eventually came to prefer it:

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It took a lot of time, but I'm happy with how I'm eating now. Obviously, I still eat the occasional meat, but I definitely know that I've cut back a lot since how I used to... Yeah, I feel good. Yeah, I'm happy. I don't really see myself going—actually, I wouldn't go back to eating meat every day. I wouldn't do that. I'm happy. (Caleb)

Similarly, Alan went as far as to say that his daughter eliminating meat from her diet was an excuse for him and his late wife to reduce their intake, which was something they have been considering for a while:

My late wife and I were actually quite happy to reduce our meat consumption. It was actually a good excuse to do that. It's something that we wanted to do anyway. (Alan)

Such findings are similar to those of previous studies such as that by Hoek et al. (2017a) that indicates that household composition can influence liking and habitual consumption in relation to sustainable food choices. The example provided by Alan also highlights the influence of the presence of children on meat consumption. Participants with kids explained that the presence of children had an impact on the dietary habits of other household members. The influence of children on participants food choices was expressed in one of two ways. First, some participants reported that when their children indicated that they wanted to stop eating meat, this subsequently resulted in the rest of the family making adjustments to their diets. For example, Alan explains above and here that his daughter's transition to a meat-free diet resulted in him changing his own meat consumption behaviours:

I guess that would have been my daughter, as well; since she's making the effort to be vegan, I don't really want to be sitting there and eating meat while she's eating meat substitutes or trying to eat vegan... Also, if we have dinner together, I like to have a meal

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together that we all eat; I don't really like the idea of cooking something just for her, and I eat something different because we like eating meat. I think if we're all eating together, anyone can eat vegan or vegetarian—that's fine. So, I think that's what motivates me, really, to eat that. (Alan)

Second, other participants reported the opposite wherein they wanted to reduce or eliminate their meat consumption, but the presence of children was perceived as making this difficult. These difficulties were communicated to arise from children being 'fussy eaters' and the challenge of finding child-friendly dishes that would please everyone in the household. As Mollie explains, she finds it challenging to reduce her meat consumption due to the food preferences of her children and wanting to keep everyone happy. Consequently, Mollie anticipates that when her kids leave home, her dietary choices will likely change:

The other thing, as I said, my son isn't great at particularly vegetarian... If it was just my husband and I, it wouldn't be so hard, but something that's child-friendly as well I'd like to increase it more... I think probably for us, too when our kids leave home we will eat differently. (Mollie)

Similarly, Elise described living with her (male) partner and how he preferred to eat larger quantities of meat. She experienced a degree of frustration in wanting to consume less meat and discussed her experience navigating shared meals that would appeal to both of them. After they broke up and he moved out, she felt that she was better able to eat how she preferred:

I basically stopped buying meat after my ex-partner moved out, and actually, in fact, before he moved out, I was consciously trying to eat a bit less meat... I like red meat... but even that, like—I just stopped—I didn't really feel like I needed it as much... So I was cutting

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back, or I would cook up enough veggies, and he would cook his own meat—or I would just have a bit of whatever was going, and he would have the majority of it because he eats so much more than me as well. But since he moved out, I haven't had to buy anything, and even I have a packet of bacon in the freezer, and it's literally sat there for months—I don't even feel like cooking it. It's like now that I've gotten used to eating less of it, I don't really want it that much either. (Elise)

The findings presented here in relation to children in some ways indicate the presence of pester power (Solomon et al., 2018). This emphasises that household decision making is not always made on an individual basis but rather a result of negotiations among household members, including children (Papaoikonomou et al., 2011). While this can have a positive influence on meat reduction in some cases, it can also be inhibitive such as for Mollie. It is perhaps less surprising then that smaller households, such as those without children, are more likely to consume meat substitutes (Grote et al., 2016; Hoek et al., 2004). However, in Mollie's case, she found that because her children were picky eaters, she often relied on meat substitutes that were perceived as highlight similar to meat as a means of adding variety to family meals in a way that was less obvious to her children:

Well, I mean, when I first started off, I made my son one of those Quorn patty burgers, but I didn't tell him that it was anything other than—he thought it was just like a chicken patty, and he ate it. I said, oh, how was it? Oh, that was the best burger I've ever had, he said. I said you know what? You know, with kids, that what you do; you just lie and then tell them after. (Mollie)

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Therefore, meat substitutes may be a useful tool in alleviating conflict in household dynamics, similar to how they are used to facilitate shared consumption in social settings (as discussed above in Section 4.5.1).

Finally, as discussed earlier in this section, some participants experienced an involuntary reduction in meat consumption as a result of living with others who were reducing or eliminating their meat consumption. Participants experiencing this involuntary reduction in meat often talked about ‘craving’ meat, particularly when they had gone several meals without consuming it. For example, Alan mentioned that while he didn’t mind eating more meat-free dishes, eating this way for an extended period of time did lead to them craving meat:

I have to say if I had vegan or vegetarian several days in a row, I do get a bit of a craving for a bit of meat. (Alan)

The experience of craving meat in response to meat reduction has been reported elsewhere. Namely, findings reported by Kemper and White (2021) showed that consumers’ taste preferences and enjoyment of meat led to cravings. However, where cravings in this instance lead to a re-categorisation of meat from regular everyday food to one of being a ‘treat’, findings in the present study indicate that this is not the case when meat reduction is a result of circumstantial factors (e.g., living with a vegan/vegetarian), as opposed to personal choice.

4.5.4 SOCIAL NETWORKS

The fourth individual factor identified in the interview findings is that of networks. Where the previous discussion on household composition explored the influence of lived-with others on consumer behaviour, social networks recognise that social influence also extended to those that

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participants did not live with. These networks influenced both the role of meat in the diet and the adoption of meat substitutes and also included ‘offline’ networks such as friends and partners, as well as online social networks, such as online communities and social media. First, in relation to meat consumption, participants indicated that their social relationships were considered as a primary source of information regarding meat-free eating. For example, Jasper’s girlfriend was vegan, and when he visited her, she cooked vegan food for him. As a result, his consumption of meat had decreased, and he since purchased meat substitutes on occasion:

I think consciously I eat less meat than I used to through being with my partner and seeing the information that’s available... Every now and then, and sometimes I’ll make my own meals that I prep as a result that might not necessarily have meat in them. (Jasper)

Therefore, in relation to meat substitutes, being exposed to these products through friends in social situations were considered important in motivating people to try them for themselves. Often these participants had not previously consumed meat substitutes, and the opportunity to trial them presented in social situations were in many cases the first time participants had been exposed to these products. For example, Seth recalled trying his first meat substitute when his flatmate offered him some. Similarly, Tanya had a boyfriend that used them often:

Probably from a friend of mine; she’s vegan. Or like one of my old flats had a vegetarian, and that was shared cooking, and when she was cooking, she would use them quite often in her meals. (Seth)

I had a boyfriend that cooked a lot of them. (Tanya)

Similarly, Emelia and Kimberly also had similar experiences when their friends had purchased them and allowed them to try them for the first time:

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Someone comes to dinner, and they bring this along with them. I think, oh, I'll try that.

(Emelia)

I've been to friend's houses who are vegetarians, and I've had them. (Kimberly)

In other cases, participants were heavily influenced by the personal recommendations of their social connections. This influenced not only initial trialling but also brand and product selection. Participants perceived their social connections who were regular consumers of these products as 'experts' and important sources of information regarding not only which products and brands are worth trialling but also as a means of being informed about new product releases. This is consistent with findings from other research that indicates that friends and family are often the main sources of product information for meat substitutes (Apostolidis & McLeay, 2016a). For example, Rita, Esther and Alan all indicated that they placed significant value on personal recommendations from colleagues, friends or family members—especially when looking to purchase these products for the first time:

Probably somebody else telling me that they'd used them, and that's why I thought, well okay, I'll try it... I found out about Quorn through someone who used to work here. (Rita)

I would value someone who has tried quite a few of them, saying to me, oh cool, try this one; this is the one you should try. This should be your entry point; this is the one that I enjoy, for example. (Esther)

I really take my directions from my daughter in that respect; if she finds something new, then I'll buy it, and I'll try it out with her. I'm not sure if she wasn't there, whether I would—actually I might; I might just try it out when I see it in the supermarket, yeah.

(Alan)

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Consequently, personal connections may help to not only alter attitudes but also alleviate discrepancies between attitudes and behaviours in relation to plant-based meat substitutes. Thus, where Onwezen et al. (2021) found that negative opinions of friends and family negatively influenced consumer acceptance of insect-based meat substitutes, perhaps this also holds true for plant-based meat substitutes where positive evaluations from social networks have a positive impact on consumer acceptance. Moreover, as Choudhary (2020) explains, when consumers start to use a product, their social networks also begin using products and develop preferences for the same brands.

Finally, participants indicated that online communities were also considered to be the primary source of information on both meat-free eating and meat substitutes, even though they may not know the community members personally. Facebook groups, in particular, were reported to play a key role in disseminating information. For example, Maggie reported that joining online vegan Facebook groups were important in her journey to becoming meat-free:

Then the rest of it kind of just came as I became vegan. I joined the Facebook pages and stuff like that, and everyone posted; I learned so much from those pages, like just people are really passionate about sharing information on there. (Maggie)

Similarly, Sana and Ester perceived online networks to be an important source of product information specifically:

There is a whole community of people who have tried everything and will give you a run down. There are the Christchurch Vegans and a page that has product listings of every kind of product on Facebook, which is great. (Sana)

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Interestingly recently, it has been Facebook groups. So less Facebook advertising, less so stuff on my Timeline as in friends posting about it, but I'm in a few groups a lot of those are localised, and some are international. But it's from the localised, and heavily localised the Christchurch ones' for example that's where I find out about it mostly. (Esther)

Moreover, these online communities played an important role in increasing awareness around new product launches and providing information about the availability and sourcing of meat substitutes and other plant-based alternatives. For example, Bonnie talked about using a local Facebook group to find out about when new products were released and how to prepare them:

Follow the Auckland vegans Facebook page that page even if you don't live in Auckland because that page was amazing. Whenever a new product comes out, they would post it, and people would go home and cook it and post all the tips. If you didn't know what to do with something, you could just follow that page and find the information on it. (Bonnie)

Oftentimes, this resulted in a snowball effect whereby an initial group of community members would trial products and then post their experiences online, resulting in additional consumers purchasing and trialling the products. In other cases, online communities were seen as a source of important information where new consumers of meat substitutes could find advice from more experienced others on the preparation and cooking of these products. Though not in relation to meat substitutes, Fern noted the phenomena surrounding the release of the vegan Magnum ice creams and the buying frenzy that ensued:

Even though it's not a meat product, I find it incredibly interesting looking at how the Magnum ice cream; what was so interesting about that was that it created a ripple effect.

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One vegan tries something, and they're like it's so good everyone should try it, and then the next person tries it, and the next person tries it. (Fern)

Thus it is clear that offline and online networks play an integral role in influencing attitudes and behaviours and are also important sources of information about meat-free eating and meat substitutes.

4.5.5 CONFLICT

The final social factor identified in the interview findings pertains to conflict. Where discussions on previous themes of social norms, culture, household composition and social networks largely reflected positive sentiment in relation to social connections, some participants did report negative implications. Specifically, some participants expressed conflict between their relationships and their beliefs and dietary choices—though this was more prevalent for participants who were stauncher in these beliefs. These participants communicated that they felt they often had to make a choice between their values (as relating to their dietary choices) and seeing friends and family members who were unsupportive or opposed these views. In some instances where considerable barriers were present, participants had to navigate these in their desire to continue eating meat-free. For example, Fern discussed avoiding specific social situations entirely where there were going to be food practices she found abhorrent:

Like I don't want to, I want to hang out with you guys, but I don't want to like sit around and watch a pig in a spit. (Fern)

Similarly, Maria talked about not seeing her in-laws who still consumed meat as she did not enjoy sharing food with carnists or people who adhere to the ideology of carnism. Carnism is defined

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as a belief system and largely non-conscious set of norms that allow consumers to deny animal suffering within the meat production process in order to perpetuate the consumption of animals and their bodies (Joy, 2010). Consequently, Maria found this challenging:

It's not hard for me because they're all my in-laws, I guess; probably harder for my partner. I don't know. We're pretty independent people. He doesn't need me to be at what he goes to. He can go to all the family functions with the kids, and I just choose not to go. I actually don't actually eat with carnists because I'd probably be throwing up. So, I won't eat around carnists eating. (Maria)

While participants such as Fern and Maria actively avoided situations that were perceived as unpleasant or confrontational with respect to their values and dietary practices, other participants described finding a work-around or compromise when sharing food or co-habiting with people who consumed meat. Such compromises were largely practical in nature and centred on meal composition and preparation. However, such strategies were more common among participants who had reduced but not eliminated meat from their diet and were thus less inclined to experience disgust or discomfort at the presence of meat. For example, Sana talks about how she and her husband eat their main meal at lunchtime and then just snack in the evenings, which was considered easier to adapt to both dietary preferences:

It's just my husband and me at home, so we just cook our own food. He's a meat-eater, so I eat my main meal at lunchtime and so I usually either have vegetables and a protein or— at lunchtime and I then just have something light—like crackers or something—for dinner, so my meals are in reverse. (Sana)

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Moreover, participants reported experiencing a tension between not wanting to reinforce the stigmas associated with veganism (e.g., Markowski & Roxburgh, 2019; Rosenfeld & Tomiyama, 2020), particularly those relating to vegans as picky eaters. Specifically, participants described wanting to comply with social norms and politeness while also wanting to act in a way that is in accordance with their beliefs. However, such instances sometimes resulted in conflict or social awkwardness—particularly in instances where the other party was less informed on the specifics of a vegan diet and the subsequent avoidance of certain ingredients. For example, Emelia described a Christmas where her mother-in-law offered her non-vegan food and the social awkwardness that ensued:

We were at my husband's mum's last Christmas, and she wasn't even—I mean, bless her—she tried really hard, but the chips—I was like—I needed to ask, are those—and I felt really bad. She was a little bit offended. You know? I was like, oh are those—can I eat those, Susan? She was like, what do you mean—they're chips—of course, you can. Then I thought, okay—shouldn't have asked—I should just not eat them. (Emelia)

Where Emelia's response was to remain consistent with her values and vegan diet, some participants described situations in which they deviated from a vegan or vegetarian diet so as to avoid both going without food and avoiding conflict and risk being perceived as impolite. However, on almost all accounts, this occurred with those who were relatively new to a vegan diet or still in their transitional stage. For example, Natalie explains that when her father cooks for the household, he cooks vegetarian, and so she eats what he has cooked despite identifying as a vegan:

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I like to cook kind of specific vegan stuff sometimes, and then other times Dad will cook, and he cooks more vegetarian, which is what I mean by I'm not strict vegan, because also when you live with other people, it can be a bit of a challenge, too. (Natalie)

Similarly, Hazel also deviated from her usual diet because she was dining out with colleagues who had picked a restaurant and not accounted for her vegan dietary restrictions. Hazel described being in a situation where she either had to deviate from her usual vegan diet or have nothing to eat:

So, if I go out, I will try to have vegan, then vegetarian if I can't do vegan, and if I can't do vegetarian, or the vegetarian options are not very nice, then I might have meat, but it will only be a small portion of the thing will have some animal product in it. (Hazel)

Interestingly, the experiences of Natalie and Hazel were in relation to the consumption of dairy and eggs or related ingredients as opposed to the consumption of meat. Whereas Maggie described being in a situation where her family cooked meat for her and her feeling compelled to eat it even though she described the experience as sickening:

When I first went vegan, my family didn't really understand, so they would cook up meat still, and I ate meat a couple of times when I was vegetarian around at their house, and they were like; see, don't you see how nice it is—and it actually made me feel quite sick. (Maggie)

Thus the aversion experienced by participants was reported as much stronger in relation to meat than other animal-derived ingredients. This is consistent with findings from existing research (Rosenfeld & Tomiyama, 2019), where vegetarians were reported to react negatively to eating meat.

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Similar to the others, Heather recalled situations where friends or family had offered her food that contained animal products, and she opted to consume the products on offer despite it going against her beliefs.

If somebody gives me eggs, then I will have those eggs and thank you very much. If I go to their house and they say, would you like a cup of tea, then I will say, yes please—not; oh, but I don't want any milk in it. (Heather)

For Heather, the desire to conform to social norms and 'keep the peace' outweighed her commitment to her values, resulting in her putting the comfort of others before herself. However, unlike the other participants, Heather explained that this was also due to her tight financial position and not feeling that she was able to turn down free food. Previous research has indicated that vegetarians do sometimes deviate from their diets and that this was common when dining with family members or as a means of not disrupting social situations (Rosenfeld & Tomiyama, 2019).

4.6 SITUATIONAL FACTORS

The third group of themes that emerged from the interviews were those pertaining to situational factors. These were factors that were extrinsic variables that either assisted or inhibited the consumption of meat and meat substitutes and were momentary in nature in that they were contingent on time and locational variables. Such factors included temporal, dining out, novelty-seeking, convenience and availability.

4.6.1 TEMPORAL

The first situational factor identified in the interview findings was the theme of ‘temporal’—the influence of time on behaviour related to both meat and meat substitutes. First, participants reported that the consumption of meat and meat substitutes was greater and more likely to occur in evening meals, or whichever meal was considered to be the main meal of the day. While findings relating to the meals in which participants consumed meat have been reported earlier (see Section 4.3.3), this is readdressed here and framed within the context of temporal influence on consumption. For example, Jasper noted that he predominantly ate meat in the evening:

Most of my meals do have meat in them. Definitely dinner would be something that I have a fair bit of meat in. (Jasper)

Whereas Sana, who did not eat meat, reported that she used meat substitutes at lunchtime because that was her main meal for the day and did not use them for any other meals:

Because I eat my main meal at lunchtime, I have to have something that is easily packaged and pre-cooked, and so things like the Linda McCartney sausages or the Bean Supreme patties and sausages are just easy to bring to work. (Sana)

The timing of meat substitute consumption was consistent across participants—for those who were reducing their meat consumption and for those who had eliminated it completely. However, it is hard to determine whether this shows a preference for consumers to eat meat substitutes at certain times of the day or whether this is a reflection of the type of products currently available and accessible in the market. On the one hand, it may be that participants in this study prefer to consume higher satiating, heavier foods in their main meal for the day (like meat and its substitutes). Such a practice is common in New Zealand and other culturally similar countries

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whereby the highest proportion of calories is consumed at dinner (Dagevos & Voordouw, 2013; Park et al., 2018; Sui et al., 2017). On the other hand, many of the products available in the market are reflective of foods more commonly consumed in the evening or most appropriate for larger meals (e.g., burgers, sausages, mince, stir-fry strips; Curtain & Grafenauer, 2019) in comparison to those consumed more commonly at other meal times such as lunch or in lighter meals (e.g., cold cuts). In both instances, this would indicate that meat substitutes are not only adopted by participants in lieu of meat but also integrated into meal plans and routines in the same way.

Second, many participants described a level of seasonality to their consumption of meat substitutes. Specifically, participants reported that they often purchased these products more during the New Zealand summer. This was due to the higher occurrence of social and family events during summer and over the Christmas period. For example, Cassie, Fern and Mollie all reported that they were more inclined to purchase and consume greater quantities of meat substitutes during summer due to increases in their social activities:

Maybe Summertime when there's like BBQs and maybe when I have people around. Sometimes it's just convenient to just be able to whip up something that people recognise; people recognise a burger patty. (Cassie)

Maybe like BBQ season, like when other people during the summer, which I guess is like summer here—which is so weird to me—like BBQ season, I would probably resort to eating like veggie dogs a lot more than I would like to say right now. (Fern)

Probably more over summer when we have friends and relatives stay, or you're with them who—like, I've got a niece who's vegetarian and stuff like that, so I'd have more of them in the summer just because I've got people staying who I need to cater for, but we use them throughout the year. (Mollie)

Participants explained that because meat substitutes were an easy and convenient way to cook meals for the meat-eating friends and family, they were more inclined to purchase and use these products for social gatherings—even if they did not regularly purchase these products for their own personal consumption (as discussed in Section 4.5.1). Thus, participants purchased these products more frequently and in higher volumes at times when they were more social. While seasonality has been discussed in previous research in relation to meat substitutes, such findings centred around (the lack of) seasonal fluctuations in supply when compared to meat (Kumar et al., 2017), as opposed to the seasonal fluctuations in demand as presented here.

4.6.2 DINING OUT

The second situational factor identified in the interview findings related to where the participants were eating. Specifically, situations where participants were dining out, such as eating at a restaurant or ordering takeout, influenced what they ate. Participants indicated that they were more likely to deviate from their regular diet or try new foods when eating outside of the home. This is consistent with previous research that indicates that eating patterns and performances of eating practices are context-dependent and can change in different localities (Castelo et al., 2021). Those participants who were attempting to reduce their meat intake (even if they ate predominantly vegetarian at home) noted that they were more likely to consume a meat option when dining out. For example, Bonnie talked about consuming meat when here at home cooking lapsed, and she relied more on takeaways:

If I haven't done any cooking, I'll eat out, and that's when it comes back into my diet a bit.

(Bonnie)

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Similarly, Caleb was exclusively vegetarian at home but was sometimes tempted when ordering takeout to order something that included meat:

The only thing that stops me sometimes is just that I still do eat takeaways, but even when I do get takeaways now, I sometimes get vegetarian takeaways. (Caleb)

Elise, Esther and Russel also often ordered meat-based dishes when ordering outside of the home. However, in contrast to the examples presented above that represent lapses in self-discipline or being tempted by takeout menus, these participants instead saw dining at restaurants as an opportunity to deviate from the style of cooking that they did at home:

If I am going out for food, I still often will choose meat and sometimes choose vegetarian—but I am usually more likely to choose something with chicken in it. (Elise)

If I'm cooking at home, never. But if I am ever eating out or going out socially, so sometimes if it's summer just because I am a summery person, out more. So that might be one meal a week, might have some meat in it. (Esther)

I wouldn't say that I was a vegetarian. Most of the meals I eat tend to revolve around vegetables, but I wouldn't say most—I would say I would eat—say if I go out for a meal, it would definitely have some form of meat in it usually. (Russell)

Elise, Esther and Russell preferred to not prepare meat themselves but enjoyed eating it when it was prepared professionally.

In relation to meat substitutes, participants who did not regularly purchase these products for at-home use reported that if they are dining out-of-home, then they were more likely to purchase. This was the case for both consumers who ate meat and those who were meat-free. For

example, Elise reported that if she saw dining out as an opportunity to try new foods as opposed to needing to purchase and prepare these herself at home:

I went down to Bacon Brothers, and they had a bacon substitute on a burger, then I would give that a go. (Elise)

Similarly, Cassie was less concerned about the opportunity to trial new products but saw dining out as an opportunity to deviate from her regular food practices:

Not that often, but I have them when I go out if places have them. (Cassie)

Thus, out-of-home dining experiences were perceived as opportunities to deviate away from normal consumption practices and trial new products that participants were reluctant or apprehensive about purchasing and preparing themselves. In some ways, this is similar to previous research that has indicated that meals eaten outside of the home tend to be less healthy than those prepared at home (Popovich, 2017). However, it also highlights potential implications for marketers who may wish to use foodservice restaurants as channel members as a part of their wider marketing strategy for meat substitutes.

4.6.3 NOVELTY SEEKING

The third situational factor identified from the interview findings pertained to whether participants were engaged in novelty-seeking behaviour at the time of purchase. Exploratory and novelty-seeking behaviour has been suggested by several authors to give rise to search, trial and switching behaviours (Berlyne, 1970; Hirschman, 1980; Sheth et al., 1991). Furthermore, this behaviour has also been linked to the diffusion of innovations within the market (Hirschman, 1980; Rogers & Shoemaker, 1971). As reported by participants in this study, meat substitutes

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were widely perceived as a means of satisfying variety-seeking behaviour. Such products were considered to add diversity and variety into participants' diets, and novelty was consequently a primary purchase driver. For example, Cassie and Fern talked about valuing variety in their diets:

Sometimes it's just nice to have something different. (Cassie)

I like having variety and having food taste good, and not being bored... Yea, like I still bought a pack of smoky BBQ veggie burgers the other day, and I have been randomly making them, but it was more because I wanted to see what they tasted like because I've never had that product before. (Fern)

Similarly, Constance and Jasper reported that they engaged in novelty-seeking behaviour as a means of satisfying curiosity:

Curiosity as to what do they taste like—I haven't had a burger in like—since I was a little kid—I'd like to try one and see what it's like. So, yeah, I think just curiosity, mostly.
(Constance)

I think I was just curious as to what was out there, to be fair. (Jasper)

Interestingly, one participant said that while he wasn't interested in using meat-substitutes for the sole purpose of replacing meat in his diet, he did consider them to be a way of adding variety and enjoying them for their own sake:

I would try the product, and I'd probably eat the product quite often, just not have it as a substitute. (Russell)

Moreover, where high levels of brand loyalty have been reported elsewhere (see Section 4.3.2), deviation from preferred brands often occurred when new products were released to the market and subsequently added or excluded from participants' evoked set. In contrast, while variety-seeking was a key driver for purchase for participants, in some cases, this did not lead to repeat

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purchase behaviour or brand loyalty. Instead, product switching occurred, and purchasing products was perceived solely as a means of trialling and adding variety as opposed to sustained product adoption. For example, Esther noted that she was often motivated to trial new products, but even when she liked them, she did not engage in repeat purchase behaviour:

Honestly, it was more out of curiosity. I've always, mostly at least, eaten a meat-free diet, and so I was quite comfortable cooking meat-free that wasn't new to me, and that wasn't worrying to me or overwhelming. It was just something that I was used to doing. It was more just curiosity, more the novelty of it. I don't think, for example, I have ever bought a meat substitute again; if there is a new brand or a new kind or something new about it, I might try it once. Buy it to try it once, but I can't think of a time when I have purchased it again probably. It's more about trying it. (Esther)

The adoption of food innovations is impacted by a number of factors, including price, quality, health and consumer personality traits (de-Magistris et al., 2015; Dedehayir et al., 2017; Lin et al., 2019). Product adoption for vegans, in particular, is impacted by factors such as cost, taste, health, convenience, and satiation (Dedehayir et al., 2017). Such results may explain the low reported rates of product adoption for some participants.

Overall, variety-seeking behaviour was evident across all types of participants, including those who usually abstained from purchasing commercial meat substitutes as well as those not attempting to reduce their meat consumption.

4.6.4 CONVENIENCE

The fourth situational factor identified in the interview findings was that of convenience. Convenience emerged as a theme for both users and non-users of meat substitutes and was

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considered an important factor when selecting food products and planning meals. Here, convenience refers to time-saving benefits, ease of use, and meal suitability. First, in terms of time-saving benefits, this was relevant to both general food choices and the use of meat substitutes. For example, for Jasper, convenience often took precedence over health which was largely due to having a sedentary job and a busy lifestyle and thus wanting to save time:

My diet, um, is not brilliant, to be fair. I think sometimes convenience will win. Being at an aero club, often there's convenience foods like chocolate, chips, that kind of thing there as well. Other than that, I try to eat well. I have a job that's very much sit on your backside all day—which doesn't necessarily help with expending the calories that you eat at these places. It could be better; it is something that I am working on at the moment, to be fair. But I would like to think that ideally, I would be eating relatively healthily. (Jasper)

This is consistent with previous research that indicates that factors such as convenience often outweigh other altruistic or egoistic considerations such as health or animal welfare (Fox et al., 2021). Consequently, convenience has been reported as a barrier to the adoption of plant-based diets when consumers struggle to find appropriate options at restaurants or experience difficulty preparing meat-free meals (He et al., 2020). Therefore, convenience is often a stronger motivational driver than animal ethics, sustainability or health in reducing meat intake (Hartmann & Siegrist, 2020).

In this vein, participants noted that learning to cook meat-free required them to think about food in a different way and was often time-consuming, even when they were technically competent in cooking. For example, Natalie noted that meat substitutes reduced the physical and mental workload of cooking which was perceived as highly beneficial:

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I guess you grow up having certain meals, so it's quite nice to be able to still cook in that same way. Obviously, if you don't use these products, and you just go vegan and use whole foods and vegetables and stuff, you have to be very creative in what you make. Sometimes you're not feeling particularly creative. (Natalie)

Consequently, participants noted that they typically purchased these products out of convenience. This was considered by many to be a primary motivator for why they chose commercially produced meat substitutes over other substitution options such as tofu or legumes. Participants perceived these products to provide benefits such as reduced preparation time, which was noted as particularly important for those with busy lifestyles. For example, Cassie noted the time-saving benefits of buying store-bought patties instead of preparing her own from scratch:

Probably convenience. Just as I said before, it's just a lot easier. I don't have to put as much time into preparing, like I used to prepare all my own patties by hand, which takes a long time when you have to cut up all the veggies and blend them all together, and then bake them. (Cassie)

Similarly, Constance considered the use of meat substitutes to cut down on cooking time when preparing meals for her and her husband. Mollie also noted the time-saving benefits of using meat substitutes when she led a busy life:

I like how convenient it is; as I said, if I'm in a hurry and I just want to fry up a burger, or something like that, it's really easy. (Constance)

How convenient they are is just fantastic, because as I said, I have a pretty busy life, and just being able to grab them at the supermarket just makes it so much easier. So, I think the convenience of them is really great. (Mollie)

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Interestingly, convenience perceptions were strong enough that participants considered meat substitutes to fall into the ‘convenience food’ category. While this may be beneficial in some ways (e.g., reducing perceived convenience barriers to meat-free eating), this also meant that some participants did not see them as products to be consumed regularly, just when convenience was sought. For example, Hazel viewed meat substitutes exclusively as convenience products and thus only used them when she was in a rush rather than a regular staple in her cooking:

So, that’s probably when I’ll have the meat substitute; it’s convenience food. It’s more for convenience food than something that I’ll normally have for my meals. (Hazel)

Such findings are perhaps unsurprising given that meat substitutes are often characterised by consumers to provide convenience (Aleixo et al., 2021) and that consumers are consequently more likely to place importance on convenience benefits when choosing meat substitutes (Tosun et al., 2020; Weinrich & Elshiewy, 2019).

In terms of ease of use, meat substitutes were perceived as easy to cook and prepare and to facilitate meat-free cooking in a number of ways. Namely, by assisting people who were not confident in the kitchen or had low cooking competency (see Section 4.4.3 for further discussion on skills) and by reducing the risk of food safety issues and subsequently reducing the effort required for preparation and cooking. For example, Bonnie and Kimberly were reducing their meat intake and found meat substitutes to be useful in that they did not require them to learn new cooking skills and could be easily substituted for their meat equivalents:

I prefer to cook meat substitutes. If you compare the mince, it’s not too different; you just put it in some water, and you’ve got basically the same thing and cook it the same way. (Bonnie)

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No. It was actually quite similar to cooking normal chicken chunks. (Kimberly)

Many participants also discussed food safety with respect to (in)convenience. This was in relation to the preparation and consumption of meat, as well as the use of meat substitutes. Participants who consumed meat mentioned food safety as one of the reasons why they had reduced their meat consumption (particularly for chicken). This is consistent with previous research that indicates that meat products are associated with higher food safety risks (Apostolidis & McLeay, 2016b), and thus food safety is a primary motivator for meat reduction (Grassian, 2020). For example, Bonnie talked about finding cooking chicken stressful and subsequently avoided cooking it:

Chicken stresses me out, especially if you are doing enchiladas or something because you can't see the meat, and it's like, yea, it's a little bit disconcerting. I'm terrified of chicken, I love chicken, but I'm terrified of it. (Bonnie)

Other participants who no longer ate meat considered the lower food safety risk to be a considerable benefit of meat-free eating. By extension, participants also felt that meat-free meals required less caution during preparation and less cooking time and were consequently more convenient to make. For example, Fern reported that she felt she had to take less caution when cooking meat-free meals:

I know I'm like, it's fine, I'm not going to die, I'm fine. But with meat stuff, like animal meat, it definitely, I think there's more caution making sure you're careful and not cross-contamination and things like that. Like raw chicken, ick, yea. (Fern)

Similarly, Heather noted that using TVP (textured vegetable protein) was more convenient than cooking meat-based mince because the risk of getting sick was lessened or eliminated:

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If I'm doing spaghetti Bolognese, you have to brown the mince and all that, so that takes a long time, but you don't really need to do that with the TVP. So, that's easier. The other thing I feel about it is I can't make a mistake and undercook it and get sick. So, I don't feel that it's as crucial to cook it the same amount of time. Well, I don't cook it the same amount of time. I just like it to be a bit browned or something. With meat, you've got to make sure it's all cooked. (Heather)

Consequently, meat substitutes were perceived as safer to eat as they carried fewer risks associated with food poisoning, which made them a more convenient choice. For example, Rita felt she could cook quicker with Quorn instead of chicken due to perceived lower food safety risks. Cassie shared this perspective and considered meat-free eating and the use of meat substitutes to be much more convenient for this reason:

Well, chicken, I'm quite aware of the need to be quite careful and wash before and after, and that sort of thing, but I wouldn't be particularly worried about it with Quorn. (Rita)

I think it's way easier. I don't have to worry about, for example, cooking chicken; you have to be really careful about how you cook chicken because you can get sick really easily. But you don't have to worry about that; with vegan things, vegetables and stuff like that, you are pretty safe with just standard hygiene. You'll be all right, which is pretty cool. (Cassie)

Moreover, foods that were either vegetable-based or used meat substitutes could be kept longer in the fridge. This was perceived as beneficial not only for convenience but also as it reduced food waste. For example, Heather explains that using a meat substitute in lieu of meat meant that it could be stored in the fridge for longer and still be considered safe to eat:

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Yeah, and the other thing is if someone makes a pot of spaghetti Bolognese, then I'll eat some and put it in the fridge, and I'll be still eating that a week later, but I would never have done that if it was meat; would have chucked it out because I would have thought it was bad and everything, and it would have been I'm sure. (Heather)

These findings in relation to food safety are perhaps unsurprising when higher use of meat substitutes have been reported after food safety crises (Hoek, Luning, et al., 2011; Sadler, 2004). However, other than to note that more research is needed to evaluate the food safety of plant-based meat substitutes (He et al., 2020), little research has explored food safety in relation to these products.

Finally, another significant benefit relating to the perceived ease of use of meat substitutes pertained to meal suitability. When selecting specific meat substitutes, participants' decisions were highly dependent on the suitability of the product for a specific meal. Suitability was often described in terms of how similar the product was to the meat equivalent and whether it would work in a particular dish and thus be convenient to use. For example, Alan considered taste and meal suitability to be significant motivators in his decision to purchase particular meat substitute products:

If it's good, then I'll eat it. It doesn't matter to me that it's a meat replacement or something; if it fits the dish that I'm cooking and it tastes good, then I'll eat it. (Alan)

Similarly, Fern explains that she also considers meal suitability when selecting specific meat substitutes at the store. Whereas Esther considered meat substitutes to be a convenient way of being able to make meals that she wouldn't otherwise be able to make without meat:

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Like are they flavourful? Do they pair well with what I already make? I already make a lot of rice and pasta and stir-fries and things like that, so being able to compliment what I cook normally. (Fern)

That's probably been the biggest impact, I suppose it's not often, but I make a meal that I usually wouldn't be making if I was not using a meat substitute. (Esther)

Previous research has indicated that reluctance to break away from established conventions and accustomed meal patterns are barriers to meat substitute use (Graça, 2016; Schösler et al., 2012). Moreover, research conducted by Elzerman et al. (2021) reported that plant-based meat substitutes were perceived as less appropriate than meat products by consumers. In contrast, findings reported here indicate that meat substitutes facilitated participants' in maintaining established meal patterns and existing ways of cooking due to perceived meal suitability.

4.6.5 AVAILABILITY

The final situational factor identified in the interview findings is that of availability. In this context, availability referred to both distribution (i.e., retailing and foodservice channels) and placement in-store, both of which were identified by participants as a barrier to the acquisition and consumption of meat substitutes and thus contributing to the attitude-behaviour gap. While availability could also be viewed as a product factor (see Section 4.7), it has been included here as situational factors as it pertains to access at the time and location of purchase and are therefore explored as situational. First, in relation to distribution, while participants recognised that meat substitutes are becoming more available and accessible overall, gaining access to specific products continued to be an inhibiting factor. This is consistent with findings reported elsewhere that indicate that availability is among the most important factors when consumers decide to

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purchase meat substitutes (Curtain & Grafenauer, 2019) and that lack of available substitutes is an impediment to meat reduction (Weinrich, 2018). For some participants, this was based on a lack of awareness of where they could access meat substitutes, such as knowledge of which supermarket chains or individual stores stocked them. For example, April and James indicated an interest in purchasing these products but exhibited a lack of awareness of stores that stocked them:

Where do you get them? (April)

Where would you buy a meat substitute? (James)

Therefore, lack of availability is a significant inhibitor in meat substitute consumption (Apostolidis & McLeay, 2016a; Schösler et al., 2012). While other participants were aware of some stockists of meat substitutes, and specific brands and products, they noted that there was inconsistency regarding their availability. Specifically, different supermarket chains—and even different stores within chains—varied in terms of the brands and product lines that they stocked. For example, Bonnie moved from Auckland to Christchurch and was unable to find certain products she was used to being able to access:

They're not stocked everywhere. I found when I moved to Christchurch, it was really hard, like a year ago, it's much better now, but it was really hard to find stuff that I was used to in Auckland. We had this great wee vegetarian place that was like an Asian-Vegetarian supermarket. They had so much great stuff that was really easy to use, and since moving to Christchurch, there is far less of that, and only certain supermarkets will stock that stuff that I'm used to buying. (Bonnie)

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Similarly, Natalie noted that some individual supermarkets had a good range of products, but often others did not. Thus, visiting one store in a chain did not guarantee that she would be able to access the same products she had purchased from another store in the same chain:

Some supermarkets have a good range of them—some of them don't. So, it can be quite annoying if you go to the shop, and they don't have what you're after. That's probably the main thing. (Natalie)

For this reason, some participants explained that they either had to make special trips to acquire certain products by visiting a store or chain they didn't usually go to, or they had to switch supermarkets as a part of their regular shopping practice. For example, Alan's family preferred to shop at Pak'n Save and was reluctant to have to travel to other stores, but noted that this was sometimes necessary in order to access meat substitutes:

I guess availability can be an issue. We tend to shop at Pak'n Save, and I don't really want to go to lots of different stores. It's kind of a time thing, and Pak'n Save is not too bad, but for this kind of thing, Countdown is probably better. I don't want to shop at Countdown consistently because they're quite a bit more expensive. (Alan)

Where Alan opted for making special trips outside of his regular grocery shop to acquire meat substitutes from a different store, Bonnie instead opted to move her regular grocery shop to a different supermarket chain that provided better access to meat substitutes:

Well, at the start of last year, I would only shop at Countdown even though I don't like Countdown—I wasn't used to Countdown—because my flatmate shopped there and also because they had Sunfed chicken there so I would always check if it was on special. So I guess that changed for a while, and then I have stopped doing that now, and I will make a

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special trip for it if I want it; I usually have one in the freezer anyway. If it's on special, I will grab a couple, but if it's not unless I really want it for a particular meal, otherwise it's usually pretty cheap to have something else. (Bonnie)

These findings are consistent with previous research that notes that while meat products are available everywhere, meat substitutes need to be sought out and often purchased from specialist shops (Weinrich, 2018). Another strategy adopted by those who had been vegan or vegetarian for some time was to utilise online communities to improve knowledge and access to meat substitutes. Local Facebook groups, in particular, were identified as a primary source of information regarding where and when to access specific meat substitute brands and products.

So it's usually a brand name that I have heard before, but they're saying, hey, we found it in "Countdown Colombo" or whatever here. Everybody else, this is where it's at at the moment. This is where you can find it. (Esther)

The role of online communities and networks is discussed in more detail in Section 4.5.4

In relation to place, the in-store placement of products was also considered a barrier to access. Some participants were not aware of where products could be found within stores. While all products were perceived as being classed as meat substitutes, participants noted that there was often no clear, centralised location in-store. Products were often dispersed across the store depending on whether they were shelf-stable, fresh or frozen. While participants understood why stores might do this based on storage requirements, it was identified as an issue when shopping—particularly for new users who were less experienced in locating these products. For example, Kimberly, who was attempting to reduce her meat intake and was new to meat-free eating, indicated that she did not know where she would find meat substitutes in-store:

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I wouldn't even know—to be honest; here, I wouldn't even know where to find those products. Generally, in the supermarket, I wouldn't even know where to go. (Kimberly)

Moreover, different supermarket chains, and stores within chains, were reported to place products in different locations, which further exacerbated access issues. Both Rita and Fern noted that meat substitutes were often scattered across the stores they visited, and placement varied from store to store:

They're often—in the supermarkets, sometimes they don't have them all together; they're sort of spread out throughout—supermarkets availability—I notice there's a big difference between the Countdown and the New World. We're near St Martin's New World, and that's got a really good selection, whereas the local Countdown is a bit difficult to find them.

(Rita)

Oh, ok. Well, there is no place in most of the stores that I have seen here; there are like tiny little sections. They're just randomly dispersed throughout the store, which I am getting used to, so you really have to look to see where these products are located. (Fern)

Additionally, product placement in-store was also an issue in relation to the proximity of meat-based products. Participants noted that some supermarkets elected to place some meat substitutes in the chiller section of the store. For those participants that were vegan or vegetarian and actively avoided meat, this was considered a barrier. The proximity of the meat substitutes to actual animal flesh was perceived as repulsive, akin to the products being 'contaminated'. For example, Fern reported finding plant-based mince in the chiller next to the meat and experiencing disgust as a result:

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I was in a store a few weeks ago when I first got here, and they had like veggie ground meat—fake meat or whatever—in the meat section. I'm like; I don't want to go in the meat—the whole point of me being vegan is to avoid all of that and to place it there thinking that people are going to with their carts with the meat section and be like; oh I'm going to get my veggie meat sitting right beside a T-bone steak. Like, come on—Like that's disgusting. I'm not gonna buy it just because of where they put it. (Fern)

This links with an earlier discussion on meat aversion presented in Section 4.3.5. Moreover, while the relationship between disgust and meat aversion has been reported in previous studies (Onwezen et al., 2021), it is interesting to note how this disgust can be transferred via physical proximity to meat-based products. Thus, while aversion to meat arising from disgust may contribute to the adoption of plant-based meat substitutes (Siegrist & Hartmann, 2018), in-store positioning of these products may inhibit this when meat substitutes are stored next to the meat. Possibly due to consumers wanting to “avoid contact with death” (von Essen, 2021, p. 7).

4.7 PRODUCT FACTORS

The fourth and final group of themes that emerged from the interviews were those pertaining to product factors. These were factors were extrinsic variables that pertained directly to meat substitute products and either assisted or inhibited their subsequent purchase and consumption. Such factors included taste, promotion, brand, packaging and price.

4.7.1 TASTE

The first product factor identified in the interview findings is that of taste. Taste here referred to general taste perceptions as well as the perceived meat similarity of plant-based meat

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substitutes. The importance of taste in relation to meat substitutes has been reported by a number of authors (Apostolidis & McLeay, 2016a; Elzerman et al., 2011; Fox et al., 2021; Schösler et al., 2012), and this was also the case in the present study. First, in terms of general taste perceptions, some participants expressed preference towards products that had a pleasant and distinct flavour, such as those that came pre-seasoned. For example, Fern reported that the specific flavour of a product was a key consideration in her purchasing decisions as she sought products that would pair well with the meal she intended to prepare:

Like are they flavourful? Do they pair well with what I already make? I already make a lot of rice and pasta and stir-fries and things like that, so being able to compliment what I cook normally. (Fern)

In contrast, others preferred ‘bland’ products as these were perceived as offering higher levels of versatility, enabling participants to season and flavour the products themselves based on the specific meal or personal preference. For example, Bonnie preferred products that had no strong flavour as she wanted products that would work in a number of meals, rather than one specific dish:

And being reasonably bland, so not coming with seasoning or flavour on it so that I can do it myself. So that I can buy one product for multiple meals rather than one product that only works for this flavour group, or to cook it this way. (Bonnie)

Interestingly, many participants reported prioritising texture over taste when selecting meat substitutes. This was not to say that taste was not important; rather, meat substitutes were perceived as offering a specific texture that they could not easily achieve through other means such as using lentils or tofu. Thus, the texture was an important consideration during product

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selection. For example, Fern notes that flavour is more easily to replicate than texture and thus considered texture more important when making a product selection:

Probably the shape and texture, like the way it looks—not necessarily the way it tastes because you can make tofu or soy protein taste delicious, and it couldn't look like meat—so for me, it's visual, and I guess the texture of how it resembles. (Fern)

Similarly, Esther considered the textural qualities of products to be important when wanting to replicate meat in her cooking:

Burgers are my favourite meal, and so I struggle with the patty sometimes because it's usually like a legume-based thing. Requires a lot of work; it's not the same, often a bit mushy when you bite into it at least, it's not the same. (Esther)

It is interesting to note that where previous research has indicated largely negative taste and texture perceptions of meat substitutes (Bryant & Sanctorem, 2021; Tosun et al., 2020), this was not always the case in the present research. While participants noted that they had had bad experiences with particular products, overall taste perceptions were relatively positive. However, the *importance* placed on taste and texture is consistent with other studies (emphasis added; Bryant & Sanctorem, 2021).

In relation to meat similarity, meat substitutes were often defined by participants by their likeness to real meat. In other words, meat similarity was perceived as a defining characteristic of this product group. For example, Alan describes a meat substitute as something that is like meat but is not meat:

When you say meat substitute, I guess the image that springs to mind is something that tastes like meat and looks like meat but is not meat. (Alan)

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However, attitudes towards meat similarity were divided among participants. Participants that were vegan or vegetarian perceived similarity to meat negatively. This arose from the sensory qualities of the product replicating that of animal flesh, particularly in terms of the texture and physical appearance. Therefore, those participants who abstained from meat consumption and were actively avoiding meat found such product characteristics as undesirable. For example, Maria describes how after initially transitioning to a meat-free diet, the idea of consuming something similar to meat was highly repulsive:

Yeah, so we had quite a transition, as you can imagine, going from dairy farmers to becoming vegan animal rights activists. As far as faux meats, when I first went vegan on the farm, I couldn't bear the thought of them. I thought anything even resembling flesh was just repulsive to me. (Maria)

Similarly, Tanya described the first time she tried the Impossible Burger, and while she recognised that the company had very deliberately created a product that was similar to meat, she herself found it off-putting:

It's a little too meaty; it bleeds like a burger. They do that very intentionally, I think with beet extract or some sort of vegetable. It's got the texture of meat. It kind of grossed me out because it really tasted like a cow. (Tanya)

In contrast, other participants favoured products with high perceived meat similarity. This was particularly the case for those participants who had reduced but not eliminated meat from the diet. Such a view was also more commonly held by those participants who identified as male as opposed to female participants. For example, Mollie recalled giving her son a Quorn burger for the first time, and how he liked it so much he didn't realise that it was not a real chicken patty:

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Well, I mean, when I first started off, I made my son one of those Quorn patty burgers, but I didn't tell him that it was anything other than—he thought it was just like a chicken patty, and he ate it. I said, oh, how was it? Oh, that was the best burger I've ever had, he said.

(Mollie)

Similarly, Constance reported that her husband really enjoyed eating the Beyond Burger (a product manufactured to have high meat similarity) because of how closely it resembled meat:

The Beyond Burger, when they came out with that in Canada, he was so excited, and he just loved it. He was like, I can't even really tell the difference. So, for him, I think that was the big thing; it actually resembled what he once ate and really liked. He had that option; hey, I don't have to harm animals. (Constance)

Therefore, commercially produced meat substitutes are perceived to exist on a spectrum from those that are highly similar to meat that possess both functionally and sensorially similar attributes (e.g., Beyond Burger and Impossible Burger) to those that have low similarity and are just functionally similar to meat (e.g., Bean Supreme). In relation to those that have lower similarity to meat, participants noted the appeal of such products residing primarily in their functional qualities. Specifically, participants noted that these types of meat substitutes were available in forms similar to their meat-based counterparts (e.g., burgers, sausages, mince), and this added to their convenience. For example, Cassie, who was vegan, explained that she preferred products that were functionally similar to meat so that she should use them in the same way she would a meat product, but without having to eat something that tasted like meat:

I'm like, that's a bit funky, but then there are ones that are just extra protein which are the ones that I go for. Like, the Bean Supreme burger patties I really like because it's just

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something tasty with a bit of protein, but it's not like trying to be meat because no meat comes in the shape of a burger patty anyway. (Cassie)

Similarly, Sana enjoyed the convenience associated with the functional similarity but had no desire for products that had sensory similarity to meat:

Like I don't have a desire to eat food that's like other food. I like the idea of sausage, but bacon seems like a step too far to me; I don't need to be eating fake bacon. It's quite bizarre. The thing I like about the sausages is a convenient package of food, but if it was flat and round—you know—I don't really care all that much. (Sana)

This is consistent with findings from previous research that indicates that preference for meat-like qualities varies between consumer groups (Elzerman et al., 2013). For example, consumers with negative attitudes towards meat-like taste and texture are more likely to choose meat substitutes that are derived from ingredients such as micro-algae due to dissimilarity to meat (Weinrich & Elshiewy, 2019). Furthermore, it has also been noted that the market share of meat dissimilar products is limited to consumers who are willing and wanting to consume products that are not like meat (Hartmann & Siegrist, 2017). Therefore, distinctions can be made between market segments for meat-like and meat-dissimilar products and the characteristics sought by consumers in these groups. This may be on the basis of dietary preferences (e.g., vegan/vegetarian vs meat reducer) or based on usage frequency, as reported by Apostolidis and McLeay (2016a).

However, despite the variety of products on the market—including those that were perceived as highly similar to meat—participants still perceived there to be distinct differences between the products and their animal-based counterparts. Specifically, while participants overall

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had positive attitudes towards the products, they noted that other consumers who were trying them for the first time shouldn't expect such products to be identical to meat in terms of their sensory qualities—especially taste. This was not construed as a negative per se, but something they desired other consumers to be aware of in terms of managing expectations and to enjoy products for their own unique qualities, even if they aren't exact replicas of meat. For example, Cassie reported that she would urge new consumers to be open-minded, a sentiment that was shared by Isabelle:

Maybe go at it with an open mind. I guess a lot of people I don't know the word for it, but just use it as you would meat but also don't expect it to be the exact same. I guess the point of it being a vegan alternative is that it is vegan food, and vegan food is different. I think, for me at least, when I approached things, not expecting them to taste like meat, I enjoyed them a lot more. (Cassie)

Don't expect it to taste like meat. Just expect it to be what it is, and give yourself a few tries before you give up because it takes a wee while sometimes to get used to new combinations of flavours, or a new flavour or new textures. (Isabelle)

Whereas Maggie noted that while she doesn't think it is essential for meat substitutes to taste like meat, they should still be tasteful:

I don't think a meat substitute has to taste meaty, but it has to taste like something. (Maggie)

This is consistent with previous findings that report one of the main reasons consumers do not adopt meat substitutes is due to perceptions of being tasteless (Tosun et al., 2020) and that taste remains a barrier to the consumption of meat substitutes (Martin et al., 2021). Among other

factors, taste has been reported to be highly influential in the acceptance of alternative proteins, including plant-based meat substitutes (Onwezen et al., 2021).

4.7.2 PROMOTION

The second product factor identified in the interview findings is related to promotional activities. Interestingly, participants identified promotional activities undertaken by brands as having very little impact on their adoption of meat substitutes into their diet. Very few participants were aware of any advertising or marketing efforts carried out by producers of meat substitutes and those who could mention advertising messages from overseas. For example, Emelia was unable to recall campaigns she had seen in New Zealand but remembered campaigns she had seen in her time in Europe:

Yeah, so it was Linda McCartney, I suppose, which is a big huge advertising corporation then, wasn't it? (Emelia)

Therefore, where awareness of New Zealand based advertising and promotional campaigns were limited, participants instead reported becoming aware of new products through their online networks (see Section 4.5.4) or by seeing them on shelves in the store. For example, Esther noted that the primary way in which she became informed about new product releases was through local Facebook groups or seeing new products on shelves during her regular grocery shop:

Interestingly recently, it has been Facebook groups. So less Facebook advertising, less so stuff on my Timeline as in friends posting about it, but I'm in a few groups a lot of those are localised, and some are international. But it's from the localised, and heavily localised the Christchurch ones' for example that's where I find out about it mostly... I guess if I had

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to sort of pinpoint it, probably in the last few years have I noticed it being an option in the supermarket shop, for example. (Esther)

This is consistent with previous research, which has indicated that shelf space on supermarket shelves is an important factor in influencing consumer acceptance of plant-based meat substitutes (Onwezen et al., 2021). Moreover, the other channel that participants mentioned was through press releases published through national media outlets. For example, Esther also mentioned that she heard about the Beyond Burger and subsequently wanted to try it after reading about it in a press release online:

For example, I have really been wanting to try the Beyond Burger for quite a long time now because that's something that I have heard about for a long time—that was something that was in the larger press for a while as well. (Esther)

The lack of awareness of advertising campaigns raises some important issues for marketers and, to some extent, contrasts with previous research that has explored the effectiveness of advertising campaigns in having a positive impact on demand for meat substitutes (Apostolidis & McLeay, 2016a). However, the extant literature on the promotion of meat substitutes is limited and has addressed how to use promotional activities to promote meat reduction as opposed to specific meat substitute products (e.g., Apostolidis & McLeay, 2016b).

4.7.3 BRAND

The third product factor to be identified in the interview findings is that of the brand. The importance of brand in determining consumers' choices for meat substitutes has been reported in previous research (Apostolidis & McLeay, 2016b), and this was also found to be the case here.

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In the present study, brand names were central to the discussion of meat substitutes and related to brand synonymity, recommendations and product recall. First, in relation to synonymity, in most stances, participants referred to products by brand name as opposed to product types or descriptions—as was the case for meat. Specifically, where meat and meat products were talked about in general terms (e.g., chicken, fish, sausages, burgers), meat substitutes were almost exclusively referred to using their brand names. For example, in talking about their experiences, Bonnie, Emelia, and Esther all refer to specific brands of meat substitutes:

The Sunfed chicken is usually cheaper than real chicken. (Bonnie)

So yeah, I'd say Quorn; Linda McCartney. (Emelia)

For example, I have really been wanting to try the Beyond Burger for quite a long time now because that's something that I have heard about for a long time; that was something that was in the larger press for a while as well. (Esther)

Similarly, Fern uses a brand name ('Tofurkey') to describe that she uses a plant-based meat substitute at Thanksgiving with her family:

I've got my Tofurkey—and now it's like this thing where I always have my Tofurkey at Thanksgiving, and everyone else is like just mowing down on a turkey, and I'm just like. (Fern)

This is consistent with findings reported elsewhere whereby consumers have been able to enumerate at least one meat substitute brand (Weinrich, 2018). This may indicate that some meat substitute brand names have entered consumer vocabulary whereby brand names have become synonymous with product categories (e.g., Tofurkey and turkey substitutes, Quorn and chicken

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substitutes). If this is the case, synonymity has been linked to brand leadership, where such brands are perceived as prototypical in the minds of consumers (Kumar & Jayasimha, 2019).

Moreover, brand names were considered important when giving and receiving recommendations for meat substitutes. This was also the case for advice regarding brands and products to avoid. Certain brands were perceived as being particularly good at producing specific types of products (e.g., sausages, patties etc.). In some instances, participants would recommend brands for a particular type of product and advise friends and family to avoid them for other types. For example, Esther reported that she would recommend specific brands to consumers new to meat substitutes as she personally considered this to be most helpful:

So I'd give a recommendation. I don't know what that would be right now; it might be as simple as the last one that I had tried just because that one would be front of mind if I enjoyed it, of course. But yea, I would probably try and give a recommendation of a brand.

(Esther)

Similarly, Kimberly received a brand recommendation from a friend when she first started her meat reduction journey—a brand that was recognised for performing well in a particular meat substitute category (e.g., alternatives):

I had a friend who was doing Veganuary, and we were actually saying, well, I'm trying to eat less meat, but I find that it's actually you're always hungry. She was saying, oh, we actually eat a lot of this brand, and they do really good fake chicken nuggets and things like that. (Kimberly)

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In Heather's discussion, the relationship between brand names and specific meat substitute categories can also be noted whereby she considers Bean Supreme to be a good producer of meat-free sausages and patties:

It's hard to say because I would recommend Bean Supreme as a brand because there are other sausages there that I've tried, and they look foul, and so if somebody says, what would be a good one to buy, then I would recommend that, but I'd also say about the patties because it was that brand of patties that did that. (Heather)

These findings indicate the strong relationship between brands and specific product types. Previous research has noted that this strong brand reputation among meat substitute companies is generally a benefit of first-mover advantage (Choudhary, 2020).

Finally, brand recognition and recall extended beyond brand names. Where participants were unable to recall a brand name, other branding indicators were perceived as prominent enough that they were able to indicate which brand they were referring to. Package design, in particular, was the most prominent indicator of branding (as opposed to the logo, for example) and was heavily relied upon in store for identifying and selecting products for purchase. This was the case for meat substitutes but also extended to other plant-based alternatives such as dairy-free cheese. For example, Cassie noted that while she could recall some brand names, she was more likely to recall the physical attributes of the product (e.g., packaging):

I also think of the Bean Supreme probably because it's one of the only ones that I really go for. I don't really know brands. I just know what they look like in the supermarket. (Cassie)

Similarly, Hazel and Isabelle were unable to recall some brand names and instead noted the importance of packaging in communicating to others which brands they were referring to:

I like those Quorn things, and the other green packets (Hazel)

The other brand—not Angel Food. Angel Foods are quite nice, but there’s the other brand—I can’t even remember their name; I just know what the packet looks like. (Isabelle)

Such findings may give insight into the types of heuristics employed by consumers of meat substitutes—namely, recognition. Previous research has indicated that recognition results in increased attention which subsequently leads to increased product preference (Shams, 2013). Perceptions of packaging are subsequently reported in the next section.

4.7.4 PACKAGING

The fourth product factor identified in the interview findings is that of packaging. Packaging was discussed by respondents in relation to product and brand recall, the use of plastic, and the labelling and language used. Apart from assisting in identifying and recalling products (as discussed in Section 4.7.3), other elements of packaging design were perceived negatively and, in some instances, acted as a barrier to the consumption of meat substitutes. First, in terms of plastic use, meat substitutes were perceived to be packaged using a large amount of plastic. Those participants who had reduced or eliminated their meat consumption for the environment considered this a significant drawback of using these products. For example, Cassie reported that many of the meat substitutes she was aware of were packaged in plastic which she found frustrating given that the reason for her removing meat from her diet was because of environmental concern:

Also, with lots more plastic packaging, because I went for environmental reasons, I try not to buy the vegan alternatives because they’re wrapped in plastic. (Cassie)

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Similarly, Heather also noted the volume of products that used plastic in their packaging, and Isabelle noted that she struggled to purchase meat substitutes that did not use some form of plastic:

They all have got far too much plastic packaging. (Heather)

So, virtually all the vegan things are still in the chiller—they're all in plastic packaging.

It's quite difficult to get away with. (Isabelle)

However, in most cases, participants still purchased the product regardless of the packaging. For those consumers who only purchased meat substitutes on occasion, they were happy to compromise on the plastic packaging because they knew they were not buying these products regularly. For example, Esther was annoyed with the use of plastic as she made a conscious effort to reduce her personal waste. However, as she only consumed meat products on occasion, she considered it to be less of an issue:

I just try and minimise the waste as a by-product of my consumption; admittedly, I am very selective sometimes with that. So that's why broadly not super selective in terms of meat substitutes because I eat them so rarely; it's one piece of packaging once every six months. It's not a huge consideration, but probably at the point of purchase, sort of as I am grabbing, I do think about it, but I still put it in the trolley. (Esther)

Second, in terms of labelling, some participants felt the use of 'meat words' was problematic. For those participants that still consumed varying amounts of meat, packaging that described meat substitutes in terms of meat were perceived as eliciting certain expectations regarding what a product was going to taste like. For example, Jasper expressed his frustration at

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products that used meat terms in their labelling, which he perceived to communicate that the product must taste like meat—though this was not the case:

I think I get a little bit frustrated when they try to say that they're something that they're not. I understand that they're a meat substitute, but it gets in your head that it's going to taste like that, and it doesn't taste anything like it... if you turn around and tell me it's going to taste like chicken, I'm going to expect it to taste like chicken, not like tyres, in some kind of teriyaki sauce that doesn't taste like teriyaki at all. (Jasper)

Consequently, respondents felt that if a product did not closely resemble meat in terms of taste, it was better to deprioritise such words on the packaging and instead opt for other terminology that better reflected the meat-like but unique taste of the products. For example, Elise indicated that unless products did, in fact, taste like meat, referring to products as vegan versions gave the wrong impression. Thus, products should focus on the actual attributes of the product:

I don't really love the idea of labelling it vegan chicken or whatever because, like—until it is pretty much identical, you're sort of setting yourself up for failure with that. If people are going into it expecting chicken then, it's probably not going to be a good time. But if they go in expecting a protein-rich, tasty, you know, meat substitute, and they haven't necessarily got this preconceived idea of this is exactly what is going to be like, it might be easier, I don't know (Elise)

This is consistent with previous research that has noted issues in relation to using wording inspired by meat (e.g., soy steak) as some consumers may not want to be reminded of meat (Weinrich, 2018).

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Another issue in relation to labelling focused on the ingredients used in products. Some participants expressed a desire for clearer labels on packaging that better communicated whether a product was vegan or not. Specifically, participants felt that a clear “vegan” label or certification on the front of the package would make selecting and purchasing meat substitutes easier and reduce the risk of inadvertently purchasing a product that contained animal products. For example, Caleb noted that large vegan labels made in-store purchasing decisions easier:

They need a big—well, not huge, but decent size logo so that you can just look at it straight away, and it's just like got the vegan sign on it. (Caleb)

Similarly, Maria noted that unless a product was clearly labelled as vegan, she was often sceptical as to what ingredients were used:

Yeah, so to be honest, I was a little bit sketched out, and I was like—I just like to see vegan very loud and proud on the packet. (Maria)

This is consistent with previous research that indicates that consumers rely on packaging information to determine whether meat substitutes are made from plant proteins (Martin et al., 2021). Consequently, consumers have been found to reject meat substitutes with a perceived lack of information on the packaging (Apostolidis & McLeay, 2016a; Elzerman et al., 2013). Moreover, other participants indicated that they would like brands to better communicate what ingredients were and where they were sourced from. Specifically, products being perceived as highly processed was considered a barrier for some participants, particularly those that were concerned about their health and/or the environment (as discussed in Sections 4.4.1.1 and 4.4.1.3). While participants understood that companies were required to disclose the contents of a product in the ingredients list, many brands use scientific jargon that is difficult to interpret by

most people. For example, Kimberly noted that she desired more transparency regarding the ingredients used by putting them in laymen's terms that the average consumer could understand:

I think maybe more transparency about how those things are actually done so that it doesn't feel that you're eating chemicals. When you—I mean, you know there's so much information and counter-information everywhere about this type of product that it's actually quite difficult to figure out what is in there, in the end, especially if you start looking at the ingredients. It's just like a lot of scientific terms that you might not know, and then it's actually just a scientific term for a plant, maybe but then it's just, can you just call it whatever it is, because it makes it inaccessible I think, to people, and then it's just, well if you don't fully grasp what all the terms are that you're actually trying to understand, then it just blocks you. (Kimberly)

Overall, much of the existing research on meat substitutes explores information presented on packaging both in relation to consumers' informational needs (Martin et al., 2021) and packaging claims made by brands (Curtain & Grafenauer, 2019). Consequently, the findings here in relation to packaging material, in particular, may highlight a new issue for markers of meat substitutes.

4.7.5 PRICE

The final product factor identified in the interview findings is related to the price. Issues regarding price have been noted by a number of studies in the context of meat substitutes (Bryant & Sanctorem, 2021; Castellari et al., 2018; Fox et al., 2021; Lemken, 2021; Ritchie et al., 2018). Price was identified by participants as a barrier to the consumption of meat substitutes. This resulted in limiting consumption for both new and previous purchasers of the products, as well

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as influencing perceptions of the products as ‘treats’ and perceived risk. Overall, meat substitutes were perceived to be priced too high. While many participants still purchased these products regardless of price, participants indicated that a high price impacted repeat purchase intentions and that they would likely purchase the products more frequently or in higher quantities if the price point was lower than the current average price. This is somewhat consistent with previous research that has indicated consumers are willing to pay a relatively higher price over conventional meat for meat substitutes (Bryant & Sanctorum, 2021; Tziva et al., 2019), though market share would increase with price reductions (Ritchie et al., 2018). For example, Esther noted that while she enjoyed consuming meat substitutes, the positive experience alone was not enough for her to overcome the perceived high price:

I haven't—so I'm pretty budget-conscious, often I haven't liked it enough. I have always had pretty positive experiences; I can't think of a negative one now, so I have enjoyed the taste; I've enjoyed the meal that I have been able to make with it. But I haven't liked it enough to probably spend that extra money. So it's probably more budget. (Esther)

Similarly, Bonnie reported the same sentiment whereby the price was the primary inhibitor to repeat purchase:

There have been a few different meat substitutes that I don't buy any more or wouldn't buy again, and that was because of the texture, or the price was ridiculous. (Bonnie)

Moreover, Alan indicated that price was one of the more important factors when making purchase decisions in-store. Though he would still make exceptions if he was buying them for his daughter, he personally considered the price to be a significant inhibitor:

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When I'm shopping for them, I don't like them to be too expensive. I probably would buy them if my daughter requests them, regardless of the price, but for myself, I think it doesn't have to be cheap—it doesn't even have to be as cheap as meat, but there's definitely a price element in there, I would say. (Alan)

Consequently, due to the high price, meat substitutes were often perceived as a 'treat' food. For some participants, this meant that they only purchased these products when cooking for others. For other participants, this meant that they purchased products infrequently to add variety to the diets as opposed to something that was consumed regularly. For example, Bonnie indicated that she primarily used meat substitutes as a treat for herself and for her friends due to the high price:

Also, I have quite a few friends that are like vegans or vegetarians, and I like to cook for my friends, and some of the meat substitutes are quite expensive, and because I am not eating them all the time, I buy them as treats or for my friends and cook them. (Bonnie)

Similarly, Sana also considered prices to be high but overcame this by justifying her purchase decision as a means of adding variety to her diet:

Although for some of the things I do think, "man, I'm paying a lot for this", but I still buy it. Probably just trying to get a mix of different types of products and eating too much soy, as I said. (Sana)

The high price was also perceived as a barrier that prevented new purchasers from trying meat substitutes. The high cost of a new product was perceived as a risk when there was no guarantee that they would like the product once they had tried it. Thus, participants were reluctant to trial new products and were inclined to stick to those products that they had already tried and

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enjoyed. For example, Calen explains that the high price made him wary of purchasing meat substitutes when he was not able to guarantee that he would enjoy them:

You see those prices, and so it makes you even warier of buying them. Then, if you do that, and then it doesn't taste good, then you're just off of trying other new things because you've just spent that money. (Caleb)

This is consistent with previous findings that have indicated that the price of meat substitutes is a considerable barrier to adoption and prevented consumers from acting on their health, environmental and ethical concerns (Fox et al., 2021). Thus, price adjustments may be important in eliciting demand from non-vegan and non-vegetarian consumers (Ritchie et al., 2018; Tosun et al., 2020). Particularly when the majority of meat-eating consumers indicate that they would continue to purchase meat if the price of meat and meat substitutes is the same (He et al., 2020). Similarly, some participants expressed frustration when they had spent a lot of money trying a new product, only for them to not enjoy it. However, some participants still felt compelled to finish eating the product because of the money they had lost in acquiring it. Other participants threw out these products but reported feeling resentful of the loss of money only for the products to end up in the rubbish. For example, Tanya, Maggie and Sana all had negative experiences with meat substitutes as they did not like the taste but made themselves eat them regardless because they did not want to waste the money they had spent purchasing them:

It was gross. I ate it anyway because it was very expensive, but that was nasty. (Tanya)

Money is the main one. Sometimes they're bad or gross, but then you just have to eat it because you paid for it. (Maggie)

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It's so foul. It was so expensive, and I cooked it up, and I'm like; it looks disgusting but I'm sure it's fine, and it was—one bite, my husband was like; you just cooked all this fake bacon, and it's really expensive—and I had to just throw it out it was so foul. But no horror stories, really, yea. (Sana)

Therefore, consistent with previous research, price becomes a more dominating factor when quality is not deemed appropriate (Weinrich, 2018).

4.8 CHAPTER SUMMARY

The aim of this chapter was to present an overview of the findings from the semi-structured, in-depth interviews conducted for this study. This chapter discussed the five main groups of themes that emerged from the data using the attitude-behaviour gap framework. First, attitudes and behaviours regarding the consumption, reduction and substitution of meat were discussed as well political consumption. Second, individual factors were presented that influenced the attitudes and perceptions expressed by participants regarding both meat and meat substitutes. This included discussion of values (environmental, ethical, health), gender differences, skills and transition. Third, themes pertaining to social factors were explored, which also influenced attitudes and behaviours towards meat and meat substitutes. These themes included the normalisation of non-meat eating, the influence of culture and household composition, and online and offline social networks. Fourth, situational factors were explored that assisted or inhibited the consumption of meat and meat substitutes and included temporal, dining out, novelty-seeking, convenience and availability. Finally, those themes pertaining to product factors were discussed, including taste (product), promotion, distribution, branding, packaging and price.

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These factors were directly attributable to meat substitute products and were perceived as assisting or inhibiting their purchase and consumption. The next chapter discusses the findings in further detail.

5 DISCUSSION

5.1 OVERVIEW

This chapter aims to present an in-depth discussion of the findings presented in the previous chapter. Specifically, this chapter adopts social practice theory as a theoretical framework to discuss the materials, meanings and competencies that are embedded within the practices associated with plant-based meat substitutes. As in Chapter Four with the application of the attitude-behaviour gap framework, this framework was chosen after analysis as is appropriate for inductive research. While social practice theory does not capture the entirety of the findings and themes discussed in the previous chapter, it does provide a lens to understand a number of these findings, particularly those pertaining to the adoption of plant-based meat substitute acquisition, preparation and consumption as practices among individuals, information sharing, and social networks. Moreover, social practice theory enables key findings pertaining to social factors contributing to the attitude-behaviour gap (e.g., social norms, culture, social networks, conflict) to be explored in greater depth and through a new theoretical perspective to provide new insight into how these factors shape, and are shaped by, consumer practices. Thus, this chapter first provides an overview of social practice theory in conjunction with its applicability in exploring plant-based meat substitute consumption as a social practice. Then, the subsequent components of this practice are explored, namely materials, meanings and competencies.

5.2 SOCIAL PRACTICE THEORY

Social practice theory is adopted here as the chosen theoretical lens for this study and is used to frame and explore some of the findings presented in the previous chapter in greater depth. While early variants of practice theory were developed by the likes of Bourdieu (1977, 1990),

Giddens (1984) and Schatzki (1996), this research refers to more contemporary theorists in determining the specific analytical framework to be applied. Specifically, the present research draws on newer interpretations of social practice theory such as the works of Reckwitz (2002, 2003), Shove et al. (2012), Spaargaren (2003, 2011) and Warde (2005).

Reckwitz (2002) defines a practice as a type of routinised behaviour consisting of several interconnected elements. Practices are therefore considered to be repeated clusters or patterns of unique but connected elements and actions (Reckwitz, 2002), or networks of ‘doings’ and ‘sayings’ that are tied together by shared understanding, procedures and engagements (Castelo et al., 2021; Warde, 2005). Social practice theory, accordingly, explores how practices are performed in relation to their composing elements and the social, spatial and temporal settings in which they are enacted (Philip et al., 2019). In this view, practice elements form the basic links within and between practices. Practices thus evolve over time as the associations and combinations of these elements are performed repeatedly (Shove, 2014; Warde, 2005). However, as noted by Schatzki (2001), there is no single agreed-upon approach to the adoption of social practice in the research context. Within the body of social practice literature, some research is centred on the constituent components or elements of practices (e.g., Hargreaves, 2011; Reckwitz, 2002; Shove & Pantzar, 2005). Other works examine the links between these components (e.g., Warde, 2005), while others view social practices as ties between the lifestyles of individuals and wider systems (e.g., Spaargaren & Van Vliet, 2000) or explore the connections within and/or between social practices (e.g., Castelo et al., 2021; Niederle & Schubert, 2020).

Given the nature of the findings presented in the previous chapter—insofar that they are centred on *factors* related to plant-based meat consumption—such findings most appropriately lend themselves to an element-based approach to social practice theory. Proponents of this

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approach to social practice theory posit that practices are comprised of several subsequent elements. However, the operationalisation of this approach to social practice—and the specific elements that are used for analysis—varies from study to study (Castelo et al., 2021). According to Reckwitz (2002), social practice elements pertain to bodily and mental activities, knowledge (understanding, know-how, emotional, and motivational), as well as things and their uses. Schatzki (2002) framed these elements as rules, practical understanding, and teloaffective structures, while Warde (2005) characterised these as items of consumption, procedures, understandings, and engagements. Shove et al. (2012) consider practices to be defined by their interdependent relationships between elements of materials (things, technologies, tangible physical entities and the stuff of which objects are made), competencies (skills, know-how and technique) and meanings (symbolic meanings, ideas and aspirations).

This framework formulated by Shove et al. (2012) is perhaps the most widely utilised—though variation as to the elements included and how these are conceptualised is still present. For example, Hargreaves (2011) examine images (meanings, symbols), skills (forms of competence, procedures) and stuff (materials, technology) in an ethnographic case study of a behaviour change initiative inside a workplace. Similarly, Hennchen (2019) analyse meanings, competencies and materiality in the exploration of food waste in commercial kitchens, and O'Keefe et al. (2016) analyses the meanings, competencies and materials of future food-related practices. Twine (2017a, 2017b) also uses this typology in framing the practice of veganism and expands on the conceptualisation of these elements: meanings include symbolic meanings, ideas, norms, values, ethics and aspirations; materials include things, technologies and infrastructure; and competency includes knowledge, skills and techniques. At the same time, Philip et al. (2019) expand on this further to explore practices and their meanings, rules, materials and carriers in

relation to peer-to-peer swapping. For the purposes of this study, the original analytical framework of social practice that was developed by (Shove et al., 2012) and employed by others (Castelo et al., 2021; Hargreaves, 2011; Hennchen, 2019; Niederle & Schubert, 2020; O’Keefe et al., 2016; Twine, 2017a, 2017b) is adopted in the exploration of the practices pertaining to plant-based meat substitute consumption (see Figure 2).

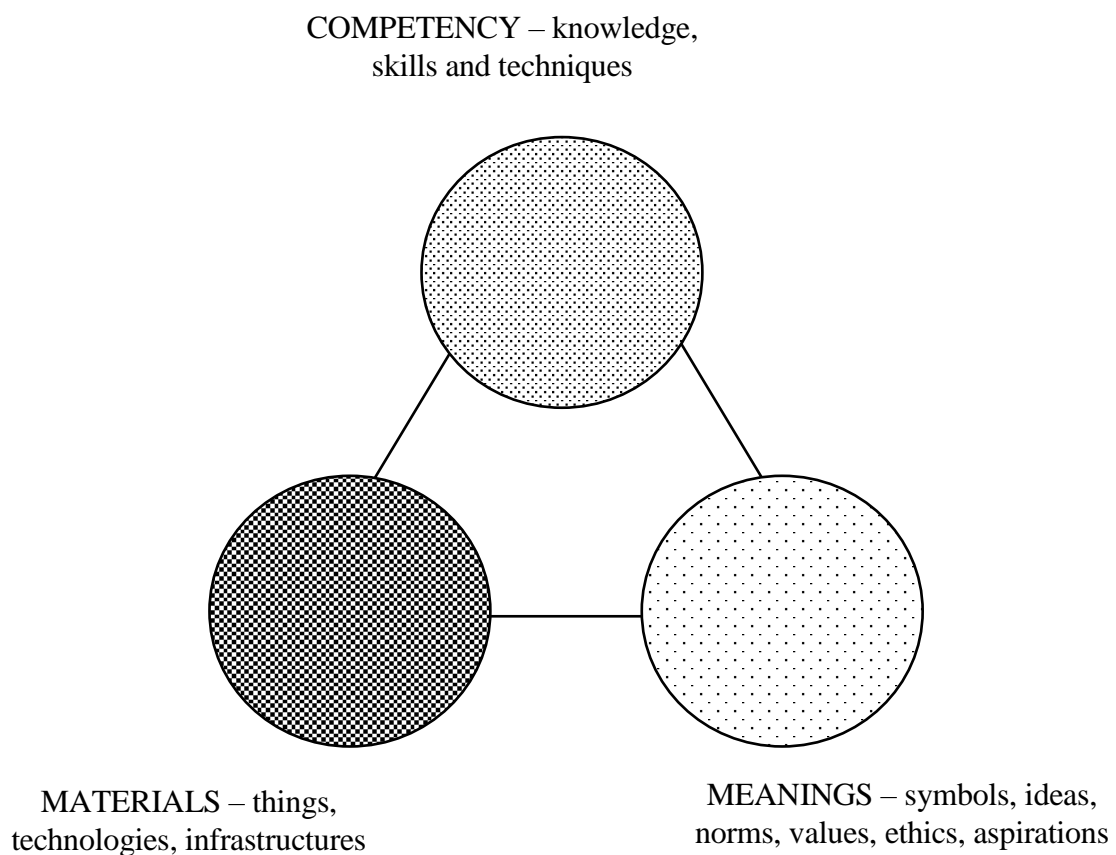


Figure 2. Social Practice Theory (adapted from Twine, 2017a)

There are a number of benefits of analysing plant-based meat substitute consumption through a social practice lens. Research exploring meat substitutes thus far has focused on individual decision making, with approaches to behaviour change relying on understanding and

changing individual consumption on the one hand (e.g., Apostolidis & McLeay, 2016b; Elzerman et al., 2021; Grote et al., 2016; Weinrich, 2018), and designing more environmentally-friendly products on the other (e.g., Joshi & Kumar, 2015; Smetana et al., 2015a). Such methods simply regard social relationships, contexts, and material frameworks as variables in the individual decision-making process rather than being fundamental to social practice performance (Hargreaves, 2011; Nye & Hargreaves, 2010; Shove, 2003; Southerton et al., 2004; Spaargaren & Van Vliet, 2000). In contrast, a social practice approach shifts away from individualised values, attitudes and processes of decision making (Hargreaves, 2011; Shove & Warde, 2002). However, that is not to imply that social practice diverges from an actor-centred analysis to the extent that agency and subjectivity are forgotten (Spaargaren, 2011). As Spaargaren (2011) explains, both purely individualistic and system or structuralist approaches have their limitations, and a balanced approach is needed, particularly in order to understand sustainable consumption. Instead, social practice theory transcends discursive/structural and empowered/disempowered consumer dichotomies and seeks a middle-ground between structure and agency (Fonte, 2013; Hennchen, 2019). In doing so, a social practice lens directs attention to the ‘doing’ of a practice—or the habits and routines of everyday life—where practices themselves become the central units of analysis, and the actors performing them are reframed as carriers (Castelo et al., 2021; Hargreaves, 2011; Hennchen, 2019; O’Keefe et al., 2016; Philip et al., 2019; Shove, 2014; Southerton et al., 2012). Thus, social practice theory acknowledges the economic, social and cultural aspects of everyday life and offer a conceptual approach that comprehends the socio-temporal nature of practices (Schanes et al., 2018).

In this view, instead of arising from the attitudes, values and beliefs of individuals who are constrained by contextual barriers, pro-environmental behaviour and sustainable patterns of

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consumption are considered to be “embedded within and occurring as part of social practices” (Hargreaves, 2011, p. 82; Warde, 2005). Therefore, encouraging pro-environmental behaviour is contingent not on the education or persuasion of individuals to make different choices but on the transformation of practices to make them more sustainable (Hargreaves, 2011; Southerton et al., 2004). In other words, the key to changing behaviour lies in developing practices (Warde, 2005). Thus, social practice theory is particularly useful in the exploration of pro-environmental behaviours as it allows for the decentralisation of individuals from analysis and for attention to instead be drawn towards the social and collective organisation of practices (Castelo et al., 2021; Hargreaves, 2011). In this vein, Fonte (2013, p. 232) contends that “practice theory provides stronger intellectual grounds for policy interventions designed to address systemic challenges such as the transition to a more sustainable model of food consumption”. Social practice theory, therefore, provides an approach that is not only more sensitive to the material frameworks and socio-contextual factors in which plant-based meat substitutes are acquired, prepared and consumed, but also provides a pathway for the development of policy interventions to transform food-related practices towards those that are more sustainable (Fonte, 2013; O’Keefe et al., 2016; Shove, 2014).

Social practice theory has been used in the analysis of a range of pro-environmental behaviours, including sustainable consumption and behaviour change more generally (Hargreaves, 2011; Sahakian & Wilhite, 2014) as well as more specific types of practice such as online swapping (Philip et al., 2019) and food consumption (Castelo et al., 2021; Fonte, 2013). Food consumption, in particular, has received a lot of attention in this space, with a range of food-related practices being explored, such as food waste (Hennchen, 2019), veganism (Niederle & Schubert, 2020; Twine, 2017a, 2017b), meat and cultured meat consumption (Bekker et al.,

2017), and wider food systems and practices (Castelo et al., 2021; Fonte, 2013; Jallinoja et al., 2016; O'Keefe et al., 2016). For example, Fonte (2013) explores cooperative ethical and environmental food purchasing, Bekker et al. (2017) conduct a cross-cultural investigation of the operationalisation of meat, and Castelo et al. (2021) propose an analytical framework for networks of practices using food-related practices as an example. Jallinoja et al. (2016) use social practice in the exploration of plant protein consumption (dried and canned beans). Thus, social practice theory provides a useful framework for exploring the consumption of plant-based meat substitutes.

Finally, the exploration of plant-based meat substitute related practices does raise some conceptual issues. Schatzki (1996) make a distinction between what they refer to as 'dispersed' and 'integrative' practices. Dispersed practices are those that cover a specific type of action, such as imagining, describing, and following rules. In comparison, integrative practices constitute sets of multiple activities grounded in a single domain of social life, such as transportation practices, cooking practices, and teaching practices (Schatzki, 1996). Furthermore, as noted by Twine (2017b), the practice of the consumption of food products (i.e., eating) intersects with a number of other practices such as the acquisition, transportation, storage and preparation of these products—not to mention the numerous production practices invisible to the consumer, and therefore many (if not all) of the participants in the present research. In this view, the consumption of plant-based meat substitutes is perhaps better articulated as a compound (Twine, 2017b) instead of an integrative practice (Schatzki, 1996). Thus, the discussion in the following sections explores the collection of interrelated practices associated with plant-based meat substitutes and their subsequent elements. Specifically, this chapter explores the acquisition,

preparation and consumption of plant-based meat substitutes and the materials, meanings and competencies associated with these practices.

5.3 MATERIALS

Within social practice theory, the conceptualisation of materials essentially captures all of the ‘stuff’ utilised by actors in the performance of a practice. Broadly, this refers to objects, things, technologies, and infrastructures as well as more specific tools and hardware, and even the body itself (Hennchen, 2019; Shove et al., 2012; Twine, 2017a). As noted by Shove et al. (2012), many practices, including those pertaining to plant-based meat substitutes, are dependent not only on the supply of durable objects (such as cooking implements, a kitchen, refrigerator, stove/oven) but also on access to consumables (such as the products themselves and other ingredients). Schatzki (2002) explains that practices are inherently connected to—and interwoven with—materials, and practices of acquisition, preparation and consumption of plant-based meat substitutes are no exception. Much of the discussion presented by participants in the present study gives credence to the level of importance materials play in these practices. Materials in this context include objects such as plant-based meat substitutes and their packaging, technologies such as appliances (refrigerators, freezers), and infrastructures such as distribution channels (retailers) and online social networks.

Perhaps the most important materials within the practices associated with plant-based meat substitutes are the substitutes themselves. Plant-based meat substitutes are the basis for which acquisition, preparation and consumption practices are grounded. While the level of consumption varied among participants, utilisation of products were often central to particular cooking practices (see Table 4).

Pseudonym	Quote
Mollie	<i>Well, I mean, when I first started off, I made my son one of those Quorn patty burgers, but I didn't tell him that it was anything other than—he thought it was just like a chicken patty, and he ate it. I said, oh, how was it? Oh, that was the best burger I've ever had, he said... So, we have the Quorn pieces or patties to make vegetarian hamburgers. I make vegetarian burgers and things like that.... But in the appropriate meals I'd use a meat substitute.</i>
Esther	<i>Burgers are my favourite meal, and so I struggle with the patty sometimes because it's usually like a legume-based thing. Requires a lot of work; it's not the same, often a bit mushy when you bite into it at least, it's not the same.</i>
Hazel	<i>I'm buying this because I miss meat and I want to eat a chicken substitute—I'm buying this because I'm making spag-bol, and lentils and mushrooms aren't going to cut it.</i>
Cassie	<i>I'm like, that's a bit funky, but then there are ones that are just extra protein which are the ones that I go for. Like, the Bean Supreme burger patties I really like because it's just something tasty with a bit of protein, but it's not like trying to be meat because no meat comes in the shape of a burger patty anyway.</i>
Cassie	<i>Maybe go at it with an open mind. I guess a lot of people I don't know the word for it, but just use it as you would meat but also don't expect it to be the exact same. I guess the point of it being a vegan alternative is that it is vegan food, and vegan food is different. I think, for me at least, when I approached things, not expecting them to taste like meat, I enjoyed them a lot more.</i>
Isabelle	<i>Don't expect it to taste like meat. Just expect it to be what it is, and give yourself a few tries before you give up because it takes a wee while sometimes to get used to new combinations of flavours, or a new flavour or new textures.</i>
Maggie	<i>I don't think a meat substitute has to taste meaty, but it has to taste like something.</i>
Alan	<i>If it's good, then I'll eat it. It doesn't matter to me that it's a meat replacement or something; if it fits the dish that I'm cooking and it tastes good, then I'll eat it.</i>
Fern	<i>Probably the shape and texture, like the way it looks—not necessarily the way it tastes because you can make tofu or soy protein taste delicious, and it couldn't look like meat—so for me, it's visual, and I guess the texture of how it resembles... Like are they flavourful? Do they pair well with what I already make? I already make a lot of rice and pasta and stir-fries and things like that, so being able to compliment what I cook normally</i>

Bonnie	<i>And being reasonably bland, so not coming with seasoning or flavour on it so that I can do it myself. So that I can buy one product for multiple meals rather than one product that only works for this flavour group, or to cook it this way.</i>
Constance	<i>The Beyond Burger, when they came out with that in Canada, he was so excited, and he just loved it. He was like, I can't even really tell the difference. So, for him, I think that was the big thing; it actually resembled what he once ate and really liked. He had that option; hey, I don't have to harm animals.</i>
Maria	<i>As far as faux meats, when I first went vegan on the farm, I couldn't bear the thought of them. I thought anything even resembling flesh was just repulsive to me.</i>
Tanya	<i>It's a little too meaty; it bleeds like a burger. They do that very intentionally, I think with beet extract or some sort of vegetable. It's got the texture of meat. It kind of grossed me out because it really tasted like a cow.</i>
Sana	<i>Like I don't have a desire to eat food that's like other food. I like the idea of sausage, but bacon seems like a step too far to me; I don't need to be eating fake bacon. It's quite bizarre. The thing I like about the sausages is a convenient package of food, but if it was flat and round—you know—I don't really care all that much.</i>
Esther	<i>That's probably been the biggest impact, I suppose it's not often, but I make a meal that I usually wouldn't be making if I was not using a meat substitute.</i>

Table 4. Materials: Products

Many products were perceived as essential in the preparation of particular dishes (e.g., burgers, spaghetti bolognese), and thus their absence prevented their preparation when readily available plant proteins (e.g., lentils) were not preferred. However, it is important to note that the relative centrality of plant-based meat substitutes to participants' preparation and consumption practices varied. For some participants, the use of these products was largely to add novelty or nutritional variety to their diets and thus less important to the maintenance of their wider meat-free food-related practices. For this reason, these participants did not consider certain product traits (e.g., meat similarity) to be an important factor, as their primary motivation for consumption was variety instead of meat substitution per se. In contrast, other participants, particularly those considered new actors in terms of meat-free practices, considered plant-based meat substitutes to be more crucial to their performance and maintenance of such practices. These participants often

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sought out more meat-like substitutes as their practices were more heavily focused on the *substitution* aspect of these practices.

The concept of transferrable skills discussed by Shove et al. (2012) may provide some explanation for the above-mentioned variations in material preferences. This concept denotes that skills or competencies mastered in one setting can be carried over and reproduced in others (Shove et al., 2012). In this vein, if a consumer predominantly engages in meat-related cooking practices and thus develops a set of competencies relevant to this type of practice, then perhaps they are more likely to seek out materials that enable them to more easily carry already established skills to this new domain. Similarly, if a consumer has developed a degree of competency in relation to meat-free cooking practices, then “meat-like” traits in materials are not needed in order for them to transfer these competencies to practices pertaining to plant-based meat substitutes. Competencies and their transference are discussed in more detail in Section 5.5. Moreover, access and use of plant-based meat substitutes enabled consumers to prepare and consume specific recipes and consequently exercise aspects of meaning (e.g., making a favourite dish, sharing food with friends/family) and competency (e.g., cooking skills, expertise with a particular type of cuisine). However, when consumers are unable to access these products, other elements of meanings and competency are largely side-lined, and the practices are unable to be enacted.

As Shove et al. (2012) explains, the elements relevant to a particular practice (or, in this case, a set of practices) need to co-exist if the practice(s) is to extend or endure. The elements of materials, meanings and competencies are often so intrinsically linked that if one element should be absent, then the others will remain dormant until they are all present and the practice can be restored (Shove et al., 2012). Therefore, consumers may have the technical skills and knowledge

to cook and serve a plant-based meat substitute (competence) and hold the belief that consuming them is better for the planet, their health and the animals than eating meat (meanings), but if they are physically restricted from acquiring the product (material), then the enactment of that practice is unable to come to fruition and will remain dormant until all elements are present. This poses an important implication if increased adoption of plant-based meat substitute consumption is the intended goal. If practices erode when links between materials, competencies and meanings are severed (Hargreaves, 2011), then ensuring increased access to and supply of these products is important in the uptake and maintenance of these practices.

As Shove et al. (2012, p. 40) articulates, “forms of (co)location, transportation and access are typically important for the diffusion of material elements”. In other words, the existence of appropriate infrastructures—such as transportation and retailers—determine the speed and intensity of circulation of materials (as well as competencies and meanings; Shove et al., 2012). Thus, technologies and infrastructures play an important role in the dissemination of plant-based meat substitutes and related practices. Therefore, not only is an investment in manufacturing and importing necessary to provide adequate supply, but so is establishing appropriate distribution strategies through channels such as in-store and online retailers. Inability to access plant-based meat substitutes was often cited as a barrier to consumption within the present study (see Table 5). Issues around access centred on two main problems: (1) inconsistency in distribution and (2) inconsistency in product placement. These issues pertained to the deviation between different retailers, but also within different stores of the same retailer.

Pseudonym	Quote
Constance	<i>I really didn't grow up eating meat substitutes; it was just not something that was readily available</i>
Bonnie	<i>They're not stocked everywhere. I found when I moved to Christchurch, it was really hard like a year ago, it's much better now, but it was really hard to find stuff that I was used to in Auckland... since moving to Christchurch, there is far less of that, and only certain supermarkets will stock that stuff that I'm used to buying... at the start of last year I would only shop at Countdown even though I don't like Countdown—I wasn't used to Countdown—because my flatmate shopped there and also because they had Sunfed chicken there.</i>
Natalie	<i>Some supermarkets have a good range of them—some of them don't. So, it can be quite annoying if you go to the shop, and they don't have what you're after. That's probably the main thing.</i>
Alan	<i>I guess availability can be an issue. We tend to shop at Pak'nSave, and I don't really want to go to lots of different stores. It's kind of a time thing, and Pak'nSave is not too bad, but for this kind of thing, Countdown is probably better. I don't want to shop at Countdown consistently because they're quite a bit more expensive.</i>
Kimberly	<i>I wouldn't even know—to be honest; here, I wouldn't even know where to find those products. Generally, in the supermarket, I wouldn't even know where to go.</i>
Fern	<i>Oh, ok. Well, there is no place in most of the stores that I have seen here; there are like tiny little sections. They're just randomly dispersed throughout the store, which I am getting used to, so you really have to look to see where these products are located.</i>
Rita	<i>They're often—in the supermarkets, sometimes they don't have them all together; they're sort of spread out throughout—supermarkets availability—I notice there's a big difference between the Countdown and the New World. We're near St Martin's New World, and that's got a really good selection, whereas the local Countdown is a bit difficult to find them.</i>

Table 5. Materials: Distribution Infrastructure

In addition to distribution infrastructure, information infrastructures were also crucial in the spread and performance of plant-based meat substitute related practices. Developments in information technology and the increased adoption of social media played a critical role within this context in a number of ways. However, where underdeveloped distribution infrastructure was perceived as hindering access, information infrastructure was perceived to facilitate access (see Table 6).

Pseudonym	Quote
Maggie	<i>Then the rest of it kind of just came as I became vegan. I joined the Facebook pages and stuff like that, and everyone posted; I learned so much from those pages, like just people are really passionate about sharing information on there.</i>
Sana	<i>There is a whole community of people who have tried everything and will give you a run down. There are the Christchurch Vegans and a page that has product listings of every kind of product on Facebook, which is great.</i>
Esther	<i>Interestingly recently, it has been Facebook groups. So less Facebook advertising, less so stuff on my Timeline as in friends posting about it, but I'm in a few groups a lot of those are localised, and some are international. But it's from the localised, and heavily localised the Christchurch ones' for example that's where I find out about it mostly.</i>
Bonnie	<i>Follow the Auckland vegans Facebook page that page even if you don't live in Auckland because that page was amazing. Whenever a new product comes out, they would post it, and people would go home and cook it and post all the tips. If you didn't know what to do with something, you could just follow that page and find the information on it.</i>
Esther	<i>So it's usually a brand name that I have heard before, but they're saying, hey, we found it in "Countdown Colombo" or whatever here. Everybody else, this is where it's at at the moment. This is where you can find it.</i>

Table 6. Materials: Information Infrastructure

Firstly, information infrastructure was considered a central element in spreading information about other material elements such as product information, new product launches, and product availability within stores. Secondly, such infrastructures were also central in spreading information related to the other practice elements, especially with regards to competencies. Community members were perceived by research participants to be a viable source of information on how to prepare certain products, which were especially important both in cooking new products and for new adopters of more established products.

Pseudonym	Quote
Cassie	<i>Also, with lots more plastic packaging, because I went for environmental reasons, I try not to buy the vegan alternatives because they're wrapped in plastic.</i>
Heather	<i>They all have got far too much plastic packaging.</i>
Isabelle	<i>So, virtually all the vegan things are still in the chiller—they're all in plastic packaging. It's quite difficult to get away with.</i>
Caleb	<i>They need a big—well, not huge, but decent size logo so that you can just look at it straight away, and it's just like got the vegan sign on it.</i>
Maria	<i>Yeah, so to be honest, I was a little bit sketched out, and I was like—I just like to see vegan very loud and proud on the packet... because some of those—is it Linda McCartney?—have egg in them.</i>
Kimberly	<i>I think maybe more transparency about how those things are actually done so that it doesn't feel that you're eating chemicals. When you—I mean, you know there's so much information and counter-information everywhere about this type of product that it's actually quite difficult to figure out what is in there, in the end, especially if you start looking at the ingredients. It's just like a lot of scientific terms that you might not know, and then it's actually just a scientific term for a plant, maybe but then it's just, can you just call it whatever it is, because it makes it inaccessible I think, to people, and then it's just, well if you don't fully grasp what all the terms are that you're actually trying to understand, then it just blocks you.</i>
Constance	<i>Plus, anything that ever was was always soy.</i>
Maggie	<i>I also like to see on the front of the packet when it says like B12 and Iron and that stuff; I'm just a sucker for that stuff. It just grabs me; I'm like, I could use some of that.</i>

Table 7. Materials: Packaging

In addition to the aforementioned product and infrastructure components of materiality, other (albeit less significant) components also played a role in plant-based meat substitute related practices, namely, packaging and storage. Packaging was another material element also front-of-mind for some research participants (see Table 7). Issues of packaging related to two main issues: plastic use and waste, and labelling and ingredients. First, discussion around plastic use and waste centred on concern for environmental issues and therefore shows a connection between the materiality of packaging and the meanings associated with plant-based meat substitutes. Specifically, many participants were motivated to engage in plant-based meat substitute related

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practices for environmental reasons and felt that the meanings associated with their practice were to some extent counteracted by the material aspects of the product packaging: the use of plastic packaging detracted from the perceived environmental benefit of the product. While this was not a significant barrier to prevent performance of the practice, for those concerned participants, this appeared to detract from connected meanings associated with the environmental benefits of the practice and could act to weaken ties between materials and meanings in this context.

Second, participants also expressed concern regarding the nutritional content of the product as communicated by product labelling on the packaging. Participants relied heavily upon the nutritional information presented on packaging for a number of reasons. For some, they wanted a clear indication as to whether a product included any animal products and whether it could therefore be considered vegan. For others, they were more concerned about the health implications of the ingredients either because they were seeking specific macro- or micro-nutrients (e.g., protein, iron, B12) or because they had other concerns (e.g., a soy allergy) or did not want to consume products with too many “chemicals”. Thus, the packaging as material shows close ties with competency, particularly around nutritional and product knowledge. Several participants expressed a considerable amount of knowledge about the composition of specific products (e.g., whether they were vegan, contained soy, were heavily processed etc.), and the presence of certain product attributes (i.e., materials) could, in this way, inhibit practice performance. Nutritional and product knowledge is discussed in more detail in Section 5.5.

Pseudonym	Quote
Maggie	<i>We would spend a lot of time looking through the frozen section looking for things that he could eat, and then we saw them all in the freezer section. So we spent like \$70 on these meat substitutes and ate a lot of them in one night. There were some good ones and some bad ones.</i>
Maria	<i>Yeah, I probably would put it in the fridge and stuff and not worry too much about eating it a few days later. You know?</i>
Heather	<i>Yeah, and the other thing is if someone makes a pot of spaghetti Bolognese, then I'll eat some and put it in the fridge, and I'll be still eating that a week later, but I would never have done that if it was meat; would have chucked it out because I would have thought it was bad and everything, and it would have been I'm sure.</i>
Bonnie	<i>You can just keep it in the fridge or freezer, and it's just there. It's never going to go off. I left the mince free-mince stuff you get in the fridge by the actual mince; I left that in the fridge for like a week at work and completely forgot about it and then saw it and then cooked it up. I wouldn't do that with real mince!</i>
Fern	<i>I was in a store a few weeks ago when I first got here, and they had like veggie ground meat—fake meat or whatever—in the meat section. I'm like; I don't want to go in the meat—the whole point of me being vegan is to avoid all of that and to like to place it there thinking that people are going to with their carts with the meat section and be like; oh I'm going to get my veggie meat sitting right beside a T-bone steak. Like, come on—Like that's disgusting. I'm not gonna buy it just because of where they put it.</i>
Bonnie	<i>I usually have one in the freezer anyway. If it's on special, I will grab a couple, but if it's not unless I really want it for a particular meal, otherwise it's usually pretty cheap to have something else.</i>

Table 8. Materials: Appliances

Tangential to the acquisition, preparation and consumption of plant-based substitutes lie the practices of storage and the use of refrigerators/freezers (i.e., materials; see Table 8). This included both pre-acquisition within retailers, as well as pre and post-preparation in consumers' homes and workplaces. Storage practices of plant-based meat substitutes performed by both retailers and consumers reflect similar storage practices to meat-based products. While the transfer of practices and use of materials (e.g., appliances) from the domain of meat to plant-based meat substitutes in some regards are similar (e.g., storing in fridge pre- and post-preparation, purchasing in bulk and storing in freezer), some divergence was also evident as

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practices evolved to account for the nature of the products themselves. Specifically, post-preparation storage practices on the consumer end were reported by participants to be much less rigorous with regards to food safety than for similar meat-based products. Participants indicated that due to the perceived lower risk of food-safety related issues for plant-based meat substitutes, prepared food prior to consumption (e.g., leftovers) was stored for longer. This change in practice performance may be attributed to transformations of competency (e.g., knowledge about food safety) across domains (discussed further in Section 5.5). However, within the context of the retail environment, some retailers were noted to engage in the same storage practices for both meat and plant-based meat substitutes, whereby they were stored in the same chiller. While this practice enables the safe storage of both products and the direct transfer of competency, this practice highlights the divergence of meanings of consumers who consume either one or both types of products. For those who avoid meat, the proximity of products to animal flesh was highly undesirable largely due to the meanings attached to meat products (e.g., animal suffering, re-categorisation from food to flesh).

Finally, plant-based meat substitutes are an innovative and novel food technology (Adise et al., 2015; Choudhary, 2020; Hoek et al., 2013). Within the context of innovations in practice, innovation requires “novel combinations of new or existing elements” and establishing new links between materials, meanings and competency (Shove et al., 2012, p. 30). At the same time, in order for these new links to be established, previously important ties must also be broken (Shove et al., 2012). As Shove et al. (2012, p. 47) explain, “the arrival of new elements may lead to, and may, in fact, depend on, the demise of others”. Furthermore, the adoption of new technological innovations requires the disintegration of established competency and meanings (Shove et al., 2012).

Therefore, in order to shift consumers' diets away from meat consumption towards foods that are more sustainable, links between elements of meat-related practices must be disrupted. Plant-based meat substitutes may accordingly be considered an important factor in the process of severing these ties by providing innovative and novel alternatives to aspects of materials embedded within practices. However, broader and sustained adoption and integration into consumers food-related practices will to a large extent, depend on the demise of meat-related practices and establishing new meanings and competencies beyond just material elements. Moreover, new product developments in the market for plant-based meat substitutes (and other alternative proteins) will modify how these practices are enacted and may see new forms of practice emerge.

5.4 MEANINGS

With regards to social practice theory, Shove et al. (2012, p. 24) considers meanings to represent the “social and symbolic significance of participation at any one moment”. Meanings refer to the goals of certain practices as well as the symbolic values and emotions associated with these practices (Henichen, 2019). Specifically, meanings can refer to symbols, ideas, norms, values, ethics, and aspirations (Twine, 2017a). Moreover, Shove et al. (2012) contends that as individuals elect to participate in one practice over another, they are simultaneously changing or reaffirming their status within social hierarchies whilst also reproducing and sustaining the specific meanings of their chosen practice(s). In other words, practices are “automatically classified and classifying, rank-ordered and rank ordering” (Bourdieu, 1984, p. 223). Thus, meanings refer not just to the symbols and ideas embedded within a practice, but the meanings communicated by a practitioner choosing to engage in a practice and what that infers about their

relative position in the social order (Shove et al., 2012). Within the context of the acquisition, preparation and consumption of plant-based meat substitutes, engaging in such practices was considered by participants to communicate a number of meanings. These included values (health, environment, and animal welfare), social meanings (stigma and normalisation, social consumption), transition, and convenience.

Pseudonym	Quote
Fern	<i>I think individuals can vote with the money that they spend and what food they eat, and that will help the environment; that will help animal rights; that will help our health.</i>
Maria	<i>My partner's actually quite anti them because his veganism's far more about the environment, whereas mine is far more about animal liberty—liberation, sorry. So, yeah, probably just to bulk out the meal, really. We're certainly not eating them for our health.</i>
Mollie	<i>So, in the UK, it was definitely because of the cost of meat, and then second—because I think it's good to eat them—better for your health—good to try new things, and also we have friends and family who are vegetarian, so to save making two different meals—it's a combination of all those things... I've certainly made a much more conscientious effort to—probably more because I think, a) for health reasons, and b) environment and world reasons that I need to buy them more than what I did in the past.</i>
Cassie	<i>I went vegan for all the environment and animals and all that kind of stuff, but I also went vegan for the health, and rejecting how everyone eats like “we need to eat meat” and then they eat all this processed stuff... I was just like no, I just want to eat pure fruits and vegetables and that sort of stuff. So now it's like all the processed stuff is coming out; it's cool that it makes it more accessible, but I'm also like, this is the total opposite to why I went vegan.</i>
Heather	<i>I don't like the mozzarella, but I did like their cheddar one. So, I was really pleased that they did that because before that they sold one that came from overseas, and I hate—like, everybody says, oh because it's vegetarian or it's vegan or something like that, it doesn't matter where it comes from, but to me, it does.</i>
Isabella	<i>I like locally sourced stuff, if at all possible. So, I think locally-sources is number one, and even if there was a Christchurch company making good stuff, I would buy that in preference to an Auckland company.</i>

Table 9. Meanings: Values

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The most prevalent meanings ascribed to plant-based meat substitutes pertained to the idea that consumption of these products enabled consumers to perform their cooking and eating practices in a way that was aligned with their values (i.e., concern for the environment, human health, and animal welfare; see Table 9). In fact, for the vast majority of participants, these meanings were the primary motivating factor in driving their plant-based meat substitute practices. However, not all participants internalised all of these values, nor gave them equal weighting, and the combination of values tended to correspond to consumers broader food-related practices. Specifically, those who adopted wider meat-free practices were more often those that expressed concern for the environment, animal welfare *and* their own health. For these practitioners, the acquisition, preparation and consumption of plant-based meat substitutes not only enabled them to engage in practices that were aligned with their values but also enabled them to communicate their values within the context of broader social hierarchies (Bourdieu, 1984; Shove et al., 2012). Specifically, food-related practices for these individuals was inherently political. The products that they chose to purchase, and the brands and production practices they consequently supported, was a conscious choice central to the enactment of their practices. By choosing to engage in these practices, meat-avoiders simultaneously reaffirm their status and membership within the vegan/vegetarian community whilst also actively signalling their rejection of meat-centric practices and opposition to carnist ideology.

In contrast, those who still engaged in meat-based practices and only substituted on occasion generally placed more concern on their own health and the environment but not to such an extent that they would defect from meat-based practices entirely. This may be explained by ‘weaker ties’ between elements of meaning and materials of plant-based meat substitutes for these participants. As Shove et al. (2012, p. 56) explains, “for individual practitioners, defection

and continued participation are often in tension. The nature of this tension changes as critical thresholds are passed”. In other words, if the ties between practitioners values (meanings) and plant-based meat substitutes (materials) were stronger, and created enough tension to surpass some critical threshold, then practitioners may be triggered to defect from practices that contradict these values (meat consumption) and transition to practices related to plant-based meat substitute consumption that allows for greater alignment with core values and meanings. Shove et al. (2012) go on to further explain that in this vein, mass defection from one practice is, in fact, possible and likely when practices themselves are “not consistently internally rewarding, not laden with symbolic significance and not enmeshed in wider networks” (p. 59). Thus, mass recruitment must also be possible where the reverse is true: when practices *are* internally rewarding, *are* laden with symbolic significance, and *are* enmeshed in wider networks. Therefore, in order to encourage defection from meat-based practices, to those related to plant-based meat substitutes, work to strengthen the ties between rewards, meanings and networks must be undertaken, as well as to increase the salience of these ties within the wider market.

Expanding on the notion of social networks and social symbols, another recurring meaning present in the current study pertained to normalisation and stigma (see Table 10). Participants who regularly engaged in meat-free practices, particularly those who identified as vegan, acknowledged the stigma associated with such practices. Meat-free practices, as well as the practitioners themselves, were often perceived as existing outside the domain of what constitutes “normal” food-related practices. In other words, meat-free practices and their practitioners contrasted with the dominant food-related practices (and their meanings) of broader social contexts and were subsequently felt to be perceived negatively by the wider population. However, the emergence of plant-based meat substitutes (materials) and the practices enabled by

these products were considered to go a long way in reducing this stigma and normalising practices associated with plant-based meat substitutes and meat-free eating more broadly.

Pseudonym	Quote
Cassie	<i>When I was younger, there was a big stigma around people who ate stuff like that... It's less drama and less stigma. I think it's a lot easier nowadays with all the substitutes.</i>
Maggie	<i>I like to know that they're there, so people don't think that I'm like a total freak who eats nothing like what they eat. Whereas, if I just bring that to a BBQ, they're like, I get it. I think it's made being vegan a lot easier, just in general. And if you go to a potluck or family dinner or something, it makes choosing something to take a lot easier.</i>
Fern	<i>I knew I didn't want to eat meat, but I was also raised eating things that resembled a burger, so it wasn't so weird for me to go to a family BBQ and bring my veggie burgers because I still feel like I am not alienated in a group because; oh look, I've got my Tofurkey... It probably has just made it easier to fit in at like family functions. The only time I can think of when it really didn't, where it really helped would be at Thanksgiving where I have my own meal, and it mirrors what they're eating, and I don't feel like such an outsider that I a lot of the time eating vegan makes you feel like.</i>
Emelia	<i>It just makes it easier; people don't look at you sideways when you're eating a burger same as they are really... it normalises it</i>

Table 10. Meanings: Stigma & Normalisation

The increased availability and prevalence of these products were attributed to facilitating the transitioning of previously ‘fringe’ practices and their meanings into that of the dominant domain. Specifically, participants reported being able to participate in social spaces more easily, especially when those spaces centred on food. Broader social and cultural practices, such as barbeques, potlucks and holiday meals (e.g., Thanksgiving, Christmas), were now also considered more accessible to meat-free practitioners through the use of plant-based meat substitutes (see Table 11).

In a sense, this is largely centred on the new meanings ascribed to these products. For meat-eaters, these products are literally symbolic of the foods they eat and thus perceived as more ‘normal’ and more readily assimilated into their own practices. For meat-avoiders, these products

symbolise inclusion and represent a means of accessing previously inaccessible (or undesirable) social spaces. Furthermore, Jallinoja et al. (2016) note practices become more normal when they are carried out by an increasingly large number of practitioners, which in turn enhances the practice as more people are recruited and engage in it. In this vein, the practices associated with plant-based meat substitutes and meat-free eating more generally will continue to become more normalised as more consumers are recruited into these practices.

Pseudonym	Quote
Fern	<i>Maybe like BBQ season, like when other people during the summer, which I guess is like summer here—which is so weird to me—like BBQ season, I would probably resort to eating like veggie dogs a lot more than I would like to say right now.</i>
Mollie	<i>Probably more over summer when we have friends and relatives stay, or you're with them who—like, I've got a niece who's vegetarian and stuff like that, so I'd have more of them in the summer just because I've got people staying who I need to cater for, but we use them throughout the year.</i>
Bonnie	<i>You can just have it, and when you have a vegan friend coming around, you don't have to think about what am I going to cook for you?</i>
Cassie	<i>I don't buy it for myself, but a couple of weeks ago, I got invited to a BBQ, and it was so much easier to pick up a packet of vegan sausages than me try to make something at home and bring, it just gets awkward... Sometimes it's just convenient to just be able to whip up something that people recognise; people recognise a burger patty.</i>
Sana	<i>You know, it's like a part of New Zealand culture to have a BBQ, so it's quite nice to be able to participate in that stuff and feeling like I can have a sausage and bread like everyone else. Being able to go to a BBQ and bring my own food but still participate in the BBQ.</i>

Table 11. Meanings: Social Consumption

Moreover, within the context of social spaces, plant-based meat substitutes were also often perceived as a means of facilitating shared consumption (see Table 11). That is, they symbolised a bridge between participants own private meat-free practices and the meat-based practices of their friends and family. The availability and use of these products enabled both meat-eaters and meat-avoiders to engage in shared consumption experiences despite their contending practices

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and views. On the one hand, meat-avoiders could consume products and engage in a practice that aligned with their health, environmental and/or animal welfare concerns (meanings). On the other hand, meat-eaters could consume products that were meat-like in taste and functionality and still reflective of the meat-based practices they routinely engaged in. Both participants that identified as meat-avoiders and meat-eaters reported that plant-based meat substitutes were something they more often purchased when they were going to be sharing food with those with meat-related food practices that contrasted their own, even when they did not purchase these products normally.

Another meaning ascribed to plant-based meat substitutes by research participants was that of transition (see Table 12). Plant-based meat substitutes were perceived as being a fundamental tool in facilitating consumers to transition their wider food-related practices from those that included meat to those that were meat-free. Due to the tangible qualities of the products being similar to meat (materials) and thus requiring minimal changes to established cooking skills (competencies), plant-based meat substitutes were perceived to symbolise the transformation of meat-related practices. However, for some participants, the implication of this was that the links between the products (materials) and transition (meanings) were very strong, and thus products were sometimes perceived as being predominantly for consumers transitioning their practices, and less for those who had surpassed this stage in their journey to meat-free eating.

Finally, plant-based meat substitutes were strongly perceived as a product of convenience (see Table 13). The implications of this were two-fold; first, for some participants, convenience foods were an important component of their busy lifestyles. In contrast, for other participants, convenience was in some ways synonymous with being a ‘treat’ or ‘sometimes’ food as opposed to a staple component in their regular food-related practices. Therefore, as above, while plant-based meat substitutes may be key in facilitating dietary transformation towards low and meat-

free practices, long-term adoption and integration into wider plant-based practices may not be sustainable. Conversely, more research may be needed to determine how the market for plant-based meat substitutes is segmented based on behavioural and practice-based factors.

Pseudonym	Quote
Maria	<i>When we left the farm, my partner went vegan, like the day he walked off the farm, and he used them a bit as a transition for his dietary stuff... I want them quite obviously fake, to be honest. My partner would probably be the opposite, though.</i>
Cassie	<i>I think to me, I kind of think they are great for people that are finding the transition kind of hard and need something that replicates the traditional like—you have your meat, your potato and your vegetables on your plate—you know?</i>
Constance	<i>I really like that they're available, especially to people who are trying to transition from eating meat; it just makes the transition a lot easier for them, or that's what I've noticed with my husband anyway, but yeah.</i>

Table 12. Meanings: Transition

Pseudonym	Quote
Cassie	<i>Probably convenience. Just as I said before, it's just a lot easier. I don't have to put as much time into preparing, like I used to prepare all my own patties by hand, which takes a long time when you have to cut up all the veggies and blend them all together, and then bake them.</i>
Constance	<i>I like how convenient it is; as I said, if I'm in a hurry and I just want to fry up a burger, or something like that, it's really easy.</i>
Hazel	<i>So, that's probably when I'll have the meat substitute; it's convenience food. It's more for convenience food than something that I'll normally have for my meals.</i>
Mollie	<i>How convenient they are is just fantastic, because as I said, I have a pretty busy life, and just being able to grab them at the supermarket just makes it so much easier. So, I think the convenience of them is really great.</i>

Table 13. Meanings: Convenience

5.5 COMPETENCY

Finally, competency concerns what Giddens (1984) refers to as practical consciousness or deliberately cultivated skills. Essentially, competency refers to know-how, background knowledge and understanding (Shove et al., 2012). It deals with both the skills and inherent

know-how required to perform a practice well and to do so in accordance with certain social rules (Hennchen, 2019). Thus, competency also includes shared understandings of what constitutes *good* or appropriate performance by which specific enactments of practice are judged (emphasis added; Shove et al., 2012). However, as Shove et al. (2012) explain, being able to evaluate a performance does not require the same degree of competence as possessing the skills needed to perform the practice. This highlights an important distinction between understanding and practical knowledgeability (Shove et al., 2012). While some proponents of social practice note that some situations garner such distinctions (e.g., Warde, 2005), Shove et al. (2012) choose not to incorporate this distinction in their writings, and the present discussion consequently adopts this same approach.

Furthermore, given that the present research aims to understand not only the consumption practices of plant-based meat substitutes but also the *knowledge* that enables such practices, knowledge—and therefore competency—is of particular importance. However, attention must also be given to the role of knowledge in relation to meanings and materiality, as well as competency. As Hennchen (2019, p. 677) explains, knowledge “is not understood as a purely cognitive entity but is rather seen as contextualised and rooted in social practice”. In the framework presented by Shove et al. (2012), knowledge largely resides within the element of competencies. However, Hennchen (2019) suggests a move beyond a compartmentalised view of knowledge and contends that knowledge is also present in meanings and materiality. Specifically, Hennchen (2019) proposes two categories of knowledge: ‘meaningful knowledge’ where knowledge and meanings are intertwined, and in ‘materiality of knowledge’ that recognises knowledge as “incorporate and materialised, or generated, conditioned and shaped by new technologies, infrastructures and body routines” (Hennchen, 2019, p. 677). Thus, in this

view, knowledge is considered a much more integral part of social practices where it is a collectively shared resource rather than something attached to individuals (Hennchen, 2019). For this reason, the discussion in the preceding sections overlaps with the discussion presented here and vice versa. In relation to plant-based meat substitutes and their related acquisition, preparation and consumption practices, competency refers to a range of skills and knowledge. These include product and nutritional knowledge, cooking skills (general, meat-free), and food safety.

Participants in the present study reported a great deal of product knowledge in relation to plant-based meat substitutes, including nutritional information (see Table 14). General awareness and knowledge of specific products were highest amongst those who regularly engaged in plant-based meat substitute related practices. Much of this knowledge was acquired through the practice of trialling, whereby participants acquired, prepared and consumed a range of different plant-based meat substitutes. This practice enabled participants to determine which specific products (materials) performed the best and resulted in the expansion not only of their knowledge of the products (competency) but also the labels (meanings) they could ascribe to different products (e.g., easy to cook, tastes good, meal suitability, appropriate for social consumption etc.). High performing products were subsequently integrated into regular practice performance. Similar to storage practices discussed in Section 5.3, trialling practices reflect another set of performances tangential to the more central plant-based meat substitute practices discussed in this chapter. In this instance, trialling practices are positioned as a significant source of both understanding and practical knowledgeability (Shove et al., 2012). Additionally, this highlights an important implication for marketers and policymakers who wish to encourage product adoption. Namely, trialling products can be viewed as an effective way to increase both product

knowledge and provisional performance of plant-based meat substitute related practices (e.g., consumption).

Pseudonym	Quote
Constance	<i>I would advise them to try a few different products, until they found something that they like, because there's definitely good ones and bad ones out there.</i>
Sana	<i>Because I like a bit of research, I just went and tried all of them, I tried everything—and some of them are not good. Just to see what I like and what I don't like and then kind of have settled on a set of things that I like to eat.</i>
Cassie	<i>Yup. It definitely made me start actually purchasing them because I knew what they were like, and I knew they could be good. Before that, I didn't know that they were good and then I had them, and I was like, oh, it's actually quite nice being able to have some sausages—when I haven't had in so long. So on occasion, I will.</i>
Alan	<i>I'd still look at the ingredients list; what's actually in there? Just because it's not meat does not necessarily mean it's healthy, and there might be other nasty stuff in there, and I don't really know that stuff. Definitely look at the ingredients list—what else they've actually put in there. I guess the shorter the list, the better, for me, just in general.</i>
Tanya	<i>Also, there's a lot of additives that - when I read labels, I read them carefully, so all the added sugar and salts, sometimes I worry about that.</i>
Isabelle	<i>I just check that there's no GE ingredients because soy can be GE, and a large percentage of the world's soy—about 80 per cent of the world's soy is GE, and most of it is used for animal feed, which is really unfortunate, because it's not beneficial to the animals at all, and that's why they tend to kill the animals young. So, I always check that—not just because of the health implications, but because of the broader implications; you don't want to support it anyway. I prefer to buy organic wherever possible, and I'll buy that in preference to non-organic, and I'll pay a bit more for organic because I think that's—you're not just doing that for your health—you're doing that to benefit the farmers who are doing their bit to clean up their soil.</i>

Table 14. Competency: Product and Nutritional Knowledge

With regards to nutritional knowledge, some participants demonstrated considerable awareness and concern for not only the composition of the products themselves but also the wider impacts of production processes. This ties in with the earlier discussion on consumer values, whereby participants who were concerned about health, the environment and animal welfare (meanings) also had an awareness of production processes and nutritional composition

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(competency) in relation to plant-based meat substitute products (materials). For some participants, their knowledge of specific ingredients (e.g., additives, GE ingredients), and the perceived impact of these ingredients on their health, animals and the environment, was sufficient for them to avoid products that contained these components. In this instance, the strength of the ties between consumer knowledge (competency) and values (meanings) may act to deter consumers from products (materials) if incongruency is present. Therefore, in order to prevent defection, producers may need to revise the composition of products and look to reduce or avoid the use of ingredients that arouse consumer concern. This would strengthen ties between materials, meanings and competencies and encourage recruitment (and protect against defection) into plant-based meat substitute related practices (Shove et al., 2012).

Perhaps the most significant competency reported by participants pertains to cooking skills (see Table 15). In the context of plant-based meat substitute related practices, cooking skills referred to both general cooking competency as well as competency and knowledge of plant-based cooking practices. Plant-based meat substitutes were perceived to be a useful tool for those wishing to reduce their meat consumption but who lacked either the general cooking skills or more nuanced knowledge of plant-based eating. Specifically, due to plant-based meat substitutes being designed to facilitate the practice of direct substitution, they enable consumers to carry over existing competencies from related practices, such as cooking and preparing meat-based foods. As Shove et al. (2012) note, competencies can only be transferred effectively in certain circumstances, and the capacity of an individual to make this transfer is based on previous practice-based experience. Moreover, some types of knowledge and skill can only be transferred if there is a foundation of existing competence on which to build (Shove et al., 2012). Thus, consumers who have a wider range of experiences in broader food-related practices may be better

situated to transfer these skills to new food-related domains. This perhaps provides further insight as to why these products are strongly perceived as a transitional tool (meanings) for those new to meat-free cooking practices. Furthermore, due to strong perceptions of convenience (meanings), these products are also perceived as appropriate for consumers who lack general cooking skills, regardless of experience with plant-based practices (or lack thereof).

Pseudonym	Quote
Constance	<i>My husband is pickier, I guess, and not as into just eating vegetables, so I have to be a little bit more creative, and I do all the cooking at home.</i>
Bonnie	<i>I am also a terrible cook and only know how to cook a certain way because that's how I was taught how to cook, so it's like an easy way to substitute that in without having to change the meals or having to Google heaps.</i>
Constance	<i>He probably eats more of it when I'm away—if I'm not around because it's convenient for him to just—he's not much of a cook, but I would say it's pretty steady overall. It's just kind of incorporated as part of our weekly food.</i>
Maggie	<i>It's because my flatmate at the time, who I had convinced to go vegetarian, he didn't know how to cook at all, so he just liked things from the frozen section, and he loved frozen pizzas and all that kind of stuff. We would spend a lot of time looking through the frozen section looking for things that he could eat, and then we saw them all in the freezer section.</i>
Maria	<i>If my partner is home, and he generally doesn't really cook them—I probably cook them more because I'm not the best cook. Yeah, so I don't think there's an answer to that one.</i>
Emelia	<i>My dad; he went vegan for health reasons. Well, I kind of forced him to—educated him. It's just been great for him, now he's into it, but he buys a lot of meat substitute products because he's had a lifetime of eating meat. So, when we go over for dinner, it's usually like a tuna bake, but it's like a fake tuna in a tin.</i>
Elise	<i>I think that goes right down to the product being the same, and then there is no learning curve.</i>
Fern	<i>I probably depended on them a lot more when I was younger and new to vegetarianism and veganism. Now I'm probably a lot more confident in cooking where I don't really rely on them so much, but they are still something that I use kind of regularly, but it's not so much of a necessity as before because I was conditioned, I guess to eat meat-based meals so when you transition it's nice having something in that place, but now that I'm kind of more getting a global diet I guess it's not so dependent.</i>
Hazel	<i>I think all those meat substitute products, I think are perfect for someone who's transitioning from being a meat-eater to a vegan; I think that is where they're really good, because you are a bit desperate to know what the hell you're doing, and they're quite good as convenience products, because they</i>

	<i>replicate meat or mince or whatever, and so it's easy to cook—you feel like you've got something that you can cook.</i>
Kimberly	<i>Yeah, and from seeing when you're trying to eat less meat, how complex it is to figure out how to cook everything, because you don't know any other ingredients, and so when you think of the time of cooking and things like that, you're just like—I get it—it's easier. It's a lot easier, but yeah.</i>
Natalie	<i>I guess you grow up having certain meals, so it's quite nice to be able to still cook in that same way.</i>
Kimberly	<i>No. It was actually quite similar to cooking normal chicken chunks.</i>
Bonnie	<i>I prefer to cook meat substitutes. If you compare the mince, it's not too different; you just put it in some water, and you've got basically the same thing and cook it the same way.</i>

Table 15. Competency: Cooking Skills

Understanding and practical knowledge of food safety and appropriate food preparation practices were also discussed in relation to plant-based meat substitutes (see Table 16). Food safety was discussed previously in Section 5.3 in the context of materials, namely, in relation to food storage practices. However, it is interesting to note that the loosening of food safety practices was also apparent in food preparation as well as storage. Thus, it would seem that as consumers translate their food safety practice from the domain of meat-based cooking to that of meat-free cooking, concern for and subsequent performance of food safety diminishes. This stemmed from knowledge about the relative risks of plant-based meat substitutes, in contrast to their meat-based predecessors. Namely, that plant-based meat substitutes carry a substantially lower risk in relation to food-borne pathogens and thus warrant less stringent preparation and storage practices. For some participants, this was a significant appeal and was subsequently a motivating factor in their own recruitment into meat-free and subsequently plant-based meat substitute, related practices.

Pseudonym	Quote
Heather	<i>If I'm doing spaghetti Bolognese, you have to brown the mince and all that, so that takes a long time, but you don't really need to do that with the TVP. So, that's easier. The other thing I feel about it is I can't make a mistake and undercook it and get sick. So, I don't feel that it's as crucial to cook it the same amount of time. Well, I don't cook it the same amount of time. I just like it to be a bit browned or something. With meat, you've got to make sure it's all cooked.</i>
Rita	<i>Well, chicken, I'm quite aware of the need to be quite careful and wash before and after, and that sort of thing, but I wouldn't be particularly worried about it with Quorn.</i>
Bonnie	<i>I just trust it to last longer. Also, it's easier; you don't have to—I don't know—I find it easier to just sort of chuck it in there and heat it through; you don't have to check that it's cooked completely like chicken.</i>
Cassie	<i>I think it's way easier. I don't have to worry about, for example, cooking chicken; you have to be really careful about how you cook chicken because you can get sick really easily. But you don't have to worry about that. With vegan things, vegetables and stuff like that, you are pretty safe with just standard hygiene; you'll be all right, which is pretty cool.</i>
Isabelle	<i>Just the fact that suddenly there it is; you've got it right there—it's already done—you don't have to really do anything—you just cut it up into cubes and throw it in a stir-fry, and you just put a slab of it in your bread roll, or your piece of bread—have a lettuce leaf and a piece of tomato, and wow that's nice. You know? It's so quick. There's nothing in it that you need to worry about.</i>
Natalie	<i>So, yeah, pretty good, especially the Fry's ones; they hold their shape really well and can chuck them on the barbecue or anything, really. So, yeah, they tend to cook very quickly, as well. You have less of a concern that you're going to get food poisoning or something, too.</i>

Table 16. Competency: Food Safety

Similar to how Shove et al. (2012) describe the abstraction of competence of effective management and financial control from the world of work to the domain of the home, the competence consumers hold regarding the preparation of meat can be abstracted, codified and reversed into the domain of plant-based meat substitutes. This is evident both above in terms of food safety but also cooking competencies more generally. In this context, having mastered skills required for food preparation in one setting, such competencies can be carried over and reproduced in others (Shove et al., 2012). However, this process of carrying competencies from

one practice to another does not always involve recognisable stages of abstraction and codification, as is evident here. Instead, Shove et al. (2012) explains “specific competencies are transferable because they are *common*, or at least common enough to a number of different practices” (emphasis original; p. 42). These common competencies are largely evident here in the present context. Beyond cooking competency, other general skills such as research and purchasing products, preparing food items, storing and consuming them are likely acquired in other related practices (e.g., meat-based, plant-based, and general food practices) and enacted in the new domain. Moreover, elements of competency and knowledge are known to be modified, reconfigured and adapted as they migrate from one domain to another (Shove et al., 2012). This provides an explanation as to how and why some competencies, as reported here, were recognised to change as actors reconfigured their skills from meat-related practices to plant-based meat substitutes.

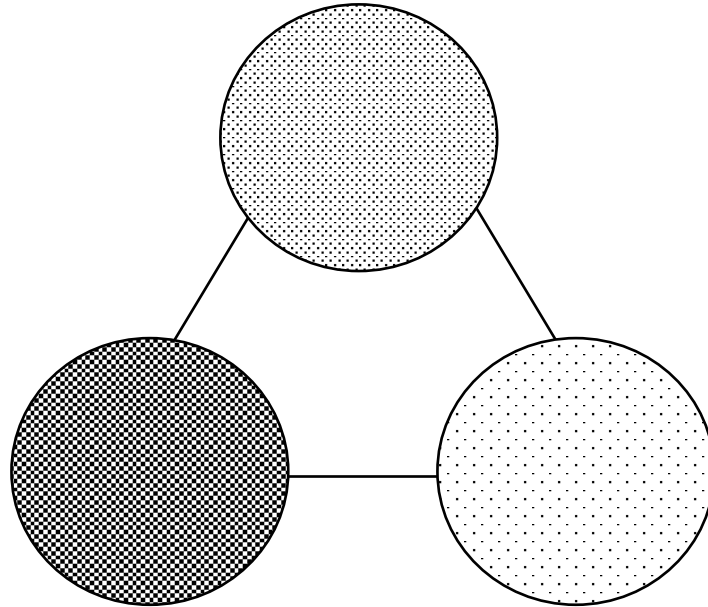
5.6 CHAPTER SUMMARY

This chapter aimed to present an in-depth discussion of a selection of findings presented in the previous chapter. This chapter provided an overview of social practice theory, its components and its appropriateness in framing plant-based meat substitutes as a social practice. Social practices involve the active integration of elements and include materials, objects and infrastructure, forms of competence and know-how, images and meanings (Shove, 2014). Subsequently, the comprising elements of the practices of acquiring, preparing and consuming plant-based meat substitutes are discussed in detail. Essentially, meat substitutes (materials) are perceived as a healthy, more ethical, and environmentally friendly alternative to meat (meaning), so consumers find ways to incorporate these into their diet through established and acquired

cooking skills (competencies). A conceptualisation of plant-based meat substitutes as a social practice is presented in Figure 3. The practices related to plant-based meat substitutes included acquisition, preparation and consumption but also extended to practices of storage, substitution and food safety, as well as linked to broader practices such as meat-based, meat-free, plant-based and, social and cultural practices. Thus, it may be more apt to view plant-based meat substitutes existing within a network of practices (Castelo et al., 2021).

Furthermore, it is clear from the discussion in this chapter that the elements of materials, meanings and competency are not independent but highly integrated and become more so as they are assembled together through repeated performance and routinised behaviour (Philip et al., 2019; Shove, 2014). However, actors are recruited into, and defect from, practices based on the relative strength of the ties between these elements (Shove et al., 2012). Thus, in order to create more sustainable patterns of consumption and to encourage consumer adoption of plant-based meat substitutes, we must focus on how practices surrounding these products are formed, reproduced, maintained, stabilised, challenged and eroded (Hargreaves, 2011). Moreover, as Twine (2014, p. 627) explains, the “dynamism of these connections between elements of a practice is importantly played out through our social relationships and networks that bring us into proximity with new meanings, materials and competencies”. In this vein, social relationships may play a significant role in how these practices recruit and retain practitioners and how the ties between materials, meanings and competencies are created, carried and maintained.

COMPETENCY – product knowledge,
nutritional knowledge, general cooking skills,
plant-based cooking skills, food safety



MATERIALS – products, packaging,
distribution infrastructure, information
infrastructure, storage appliances

MEANINGS – health, environment,
animal welfare, stigma/normalisation,
social consumption, transition,
convenience.

Figure 3. Plant-Based Meat Substitutes as Social Practice (adapted from Twine, 2017a)

The next chapter concludes this thesis and presents a discussion of the implications and contributions of the present research, as well as outlining research limitations and directions for future research.

6 CONCLUSION

6.1 OVERVIEW

This chapter presents the conclusion to the present research. Specifically, a summary of the research is presented, including a review of the aims of the study and the identified gap in the extant literature. A discussion of the implications and contributions of the research follows. Finally, limitations of the present study are identified as well as areas for future research.

6.2 RESEARCH SUMMARY

This thesis aimed to understand the knowledge and consumption practices of plant-based meat substitutes. Specifically, this research sought to discern the attitudes, knowledge and behaviours consumers held and engaged in with regards to plant-based meat substitutes, as well as to identify motivating and inhibiting factors that encouraged and/or prevented consumption. In order to achieve these research aims, 24 semi-structured qualitative interviews were conducted in Christchurch, New Zealand, between August 2018 and March 2019. Research participants were varied both in terms of dietary preferences (i.e., vegan, vegetarian, flexitarian, and omnivore), the frequency of which they used meat substitutes, and key demographic variables (i.e., age and gender).

This study went beyond previous research, which has thus far primarily focused on sensory characteristics and preferences (e.g., Elzerman et al., 2015; Elzerman et al., 2013), the importance of product information (e.g., Martin et al., 2021), situational appropriateness (Elzerman et al., 2021), consumer acceptance (e.g., Hoek et al., 2013; Onwezen et al., 2021; Tosun et al., 2020) and the health and environmental concerns of consumers (e.g., Hoek et al., 2004; Hoek, Luning, et al., 2011) in relation to meat substitutes. The majority of studies conducted regarding

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understanding consumer adoption of plant-based and other meat substitutes are predominantly quantitative in nature, such as experimental approaches (e.g., Hoek et al., 2013; Martin et al., 2021; Vainio et al., 2018) and surveys (e.g., Elzerman et al., 2021; Gómez-Luciano et al., 2019). Those studies adopting qualitative approaches such as focus groups (e.g., Weinrich, 2018), case studies (e.g., Tziva et al., 2019) or interviews (e.g., Bekker et al., 2017; Johansson & Gustafsson, 2018) are conducted in Europe and/or address products such as insect-based proteins and cell-based meat. Thus, this research provides a unique cultural perspective within the New Zealand context whilst addressing plant-based meat substitutes specifically, which are currently the predominant form in the marketplace and thus readily available to consumers (Bashi et al., 2019).

Research findings centred on five central themes pertaining to attitudes and behaviour and individual, social, situational and product factors. These themes were framed using the attitude-behaviour gap framework and subsequently explored attitudes towards plant-based meat substitutes (as well as meat), and were found to influence perceptions and inhibit or drive consumption of these products. Furthermore, an in-depth exploration of a portion of these findings was conducted through the lens of social practice theory whereby the materials (products, packaging, infrastructure), meanings (values, normalisation, social consumption, transition, convenience) and competencies (general and meat-free cooking practices, product and nutritional knowledge) embedded within practices associated with plant-based meat substitutes were discussed. Such practices included acquisition, preparation and consumption of plant-based meat substitutes, which were embedded within a larger network of practices that included practices of storage, substitution and food safety, as well as broader meat-based, meat-free, plant-based and, social and cultural practices.

6.3 RESEARCH IMPLICATIONS AND CONTRIBUTIONS

The findings from this research provide a number of theoretical and practical implications and contributions. These are presented and discussed here.

6.3.1 THEORETICAL CONTRIBUTIONS

Theoretically, this research contributes to the growing body of literature on plant-based meat substitutes, the attitude-behaviour gap, and social practice theory. While related consumer behaviours such as veganism, meat consumption, and sustainable eating have been framed using either one or both of these lenses (e.g., Niederle & Schubert, 2020; Twine, 2014, 2017a; Twine, 2017b; Vermeir & Verbeke, 2006), this study is the first to apply these frameworks to the consumer behaviour related to plant-based meat substitutes.

First, through the adoption of the attitude-behaviour gap framework, this research identifies four major factors that contribute to the breakdown between consumer attitudes and their actual behaviour with regards to plant-based meat substitutes. These included individual, social, situational, and product-related factors. These findings contribute to the existing research on the attitude-behaviour gap in a number of ways. First, while the attitude-behaviour gap framework has been applied to sustainable food (Yamoah & Acquaye, 2019), animal welfare (Vigors, 2018), and other ethical and sustainable consumption practices more generally (Carrington et al., 2010; Papoikonomou et al., 2011; Shaw et al., 2016), the present research is the first to apply this framework to the consumption of plant-based meat substitutes. Second, the present research extends the frameworks proposed by Terlau and Hirsch (2015) and others (Carrington et al., 2010; Vermeir & Verbeke, 2006). These frameworks include individual, social and situational

factors to explain the attitude-behaviour gap (Carrington et al., 2010; Terlau & Hirsch, 2015; Vermeir & Verbeke, 2006). The present research confirms that such factors are applicable to a new consumption context (i.e., plant-based meat substitutes) and also adds to our understanding of the composition of these factors. For example, the individual factors proposed by Terlau and Hirsch (2015), such as personal values, socioeconomic characteristics, lifestyle and skills, are also evident here. Similarly, Terlau and Hirsch (2015) also identify the importance of social norms and media in relation to social factors, as well as availability, occasion and price in relation to situational factors. Such factors have also been identified by previous studies (Carrington et al., 2010; Vermeir & Verbeke, 2006), all of which were found to also arise in the context of plant-based meat substitute consumption.

However, the present study also identifies new components such as the role of household composition, social networks, and conflict (social factors) as well as variety seeking, ease of use, timing and convenience (situational factors). Moreover, similar to the work of Park and Lin (2020), the present research presents an additional fourth factor pertaining to product/marketing factors that may also contribute to this gap. This factor included issues such as taste (product), promotion, branding, and packaging. While this factor may not be applicable to behaviours outside of the context of marketing and product use (e.g., recycling, exercise), it does provide important insight for those behaviours linked to products and consumption (e.g., organic foods, sustainable clothing, and sustainable tourism). Moreover, studies that have included product factors in the exploration of the attitude behaviour-gap have been largely quantitative (Park & Lin, 2020; Yamoah & Acquaye, 2019). Thus, this research provides a unique perspective by exploring such factors qualitatively.

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Second, through the adoption of social practice theory, this research contributes to the existing literature on social practice in a number of ways. First, social practice theory has been applied to a number of pro-social and sustainable practices such as online swapping (Philip et al., 2019) and food consumption (Castelo et al., 2021; Fonte, 2013), including those such as veganism (Niederle & Schubert, 2020; Twine, 2017a, 2017b), meat and cultured meat consumption (Bekker et al., 2017), and plant protein consumption (Jallinoja et al., 2016). However, this is the first study to apply this theoretical lens to the consumption of plant-based meat substitutes. Thus, this research expands on perspectives of how plant-based meat substitutes are adopted by consumers in the marketplace and provides further insight into how these may be viewed as a part of a range of practices. Second, the present research reinforces findings of previous studies indicating that practices do not exist in isolation but rather in clusters or networks of practices (e.g., Castelo et al., 2021). Namely, plant-based meat substitute practices largely centred on acquisition, preparation and consumption, but could also be extended to a larger network of practices, including storage, substitution and food safety. Moreover, the findings indicate that these practices also overlap to a great extent with those pertaining to meat-based and plant-based eating and broader social and cultural practices.

The present research is built on the conceptualisation of social practice theory proposed by Shove et al. (2012) and used by Twine (2014, 2017a, 2017b). Specifically, the exact nature of the materials, meanings and competencies pertaining to plant-based meat substitute use were identified and explored. Namely, materials include products, packaging, and infrastructure; meanings include values, normalisation, social consumption, transition, and convenience; and competencies include general and meat-free cooking practices, product and nutritional knowledge. It is anticipated that such findings are not only applicable to meat substitutes derived

from plant-based ingredients but could also be useful in the exploration of cultured meat and meat substitutes derived from other novel ingredients (e.g., insects).

Third, the present research contributes to the extant research on plant-based meat substitutes—and meat substitutes more generally—in a number of ways. Recent systematic reviews of the research on meat substitutes (e.g., Hartmann & Siegrist, 2017; He et al., 2020; Onwezen et al., 2021) have identified a number of gaps in extant literature. Onwezen et al. (2021), for example, suggest a number of areas for further exploration, including cultural lenses, the role of social norms in influencing consumer behaviour, and alternative proteins not already covered extensively (e.g., insects, algae). Thus, the present research contributes by exploring consumer knowledge and consumption practices in a new cultural and geographical context that is currently underexplored. As New Zealand has both strong economic, structural and cultural ties to animal agriculture (Ministry for Primary Industries, 2018), exploring how products that oppose these ties are adopted here provides interesting insights from a consumer behaviour perspective. Consumers, in particular, are required to overcome significant social barriers (i.e., stigma) if they wish to avoid consumption of animal-based products (Potts & White, 2008), and while plant-based meat substitutes present direct competition to those produced in animal-based agricultural systems, these products were found to help breakdown cultural and social barriers to eating practices that reject these systems. This also illustrates the important role of social norms in encouraging consumer acceptance within the New Zealand context. Social norms were identified as a key theme in both the application of the attitude-behaviour gap as well as social practice theory. These norms not only play a role in facilitating or inhibiting the discrepancy between consumers attitudes and actual behaviour, but also in the wider practices in which plant-based meat substitutes are included and how actors maintain and recruit into these practices.

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This research also contributes to the wider meat substitute research by exploring plant-based meat substitutes specifically. Where specific meat substitutes such as those derived from insects (e.g., Caparros Megido et al., 2016; Gumussoy et al., 2021; Johansson & Gustafsson, 2018; Svanberg & Berggren, 2021; Tucker, 2013; Verbeke, 2015), algae (e.g., Weinrich & Elshiewy, 2019), and cultured meat (e.g., Bekker et al., 2017; Bryant & Sanctorem, 2021; Siegrist & Hartmann, 2020; Wilks et al., 2021) benefit from focused attention, plant-based products specifically also garner a significant research focus, especially given their larger market significance (Markets and Markets, 2020a, 2020b, 2020c). Moreover, He et al. (2020) assert that further research is needed to understand the barriers to consumer acceptance and food safety issues. The present research identified a number of barriers, as operationalised using the attitude-behaviour gap framework and social practice theory. These included infrastructure and skills. Issues around food safety were also explored.

Finally, this research can contribute to the wider ethical and sustainable food consumption literature through the exploration of consumer adoption of novel and innovative food products in this space. This has particular relevance to the growing literature on the protein transition and the call for systems-level change to address sustainability and social issues in existing food systems (Aiking & de Boer, 2020; Tziva et al., 2019). Such transitions are in part believed to be facilitated through food innovations, including those that are vegan or plant-based (Dedehayir et al., 2017). The present research contributes to this by showing that there are a number of factors that impact consumers' decisions to purchase novel, innovative food products that offer ethical and sustainable benefits at both the micro- and macro-level. Specifically, adoption can be encouraged or inhibited by individual factors (e.g., taste preferences, price sensitivity, values, and cooking

competency) through to systems and social level factors such as distribution infrastructure and social networks.

6.3.2 PRACTICAL IMPLICATIONS

Practically, this research aimed to understand the knowledge and consumption behaviours of consumers in relation to plant-based meat substitutes. Consequently, the findings of the present study give rise to a number of practical implications.

First, this research assists marketers by identifying the diverse range of factors that encourage and inhibit consumer adoption of plant-based meat substitutes. This study revealed that a number of individual, social, situational and product factors might account for the gap in consumers' attitudes towards plant-based meat substitutes and their reported consumption behaviours. While many of these factors are beyond the control and influence of marketers, those pertaining to the product may be useful in the development of marketing strategies. Specifically, this research identified taste, promotion, branding and packaging as influencing consumer behaviour. Other factors, such as pricing and availability (i.e., distribution), are also within the scope of marketers to control. Thus, it is recommended that such factors be considered when developing marketing strategies for plant-based meat substitutes.

Second, the research highlights the diversity of the market for plant-based meat substitutes and the importance of market segmentation. While segmentation was beyond the scope of the present research, it does highlight some additional considerations for marketers. Namely, the different product attributes sought by consumers at different stages of the meat reduction or avoidance transition. Those that are not attempting to reduce their meat consumption or who are newly transitioning to a low or meat-free diet (especially men) tended to report favouring

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products that are more similar to meat than those consumers that are further along in their meat-free journeys (and women). Such values could be leveraged by marketers through promotional messaging and packaging labels.

Third, the present research also highlights how the values consumers held regarding health, environmental concern, and animal welfare also influenced product attitudes and attributes sought. Those consumers who were more concerned about their health reported being more likely to seek products that were perceived as less processed. Conversely, consumers who were more concerned about animal welfare (such as those that identified as vegan or vegetarian) were less concerned about products being highly processed. At the same time, those concerned about the environment found issues around packaging and ingredients to be more salient, particularly in regards to the use of plastics and GE ingredients. These considerations may assist marketers in product development and market segmentation.

Fourth, the importance of assisting consumers in the development of cooking skills is also highlighted here. Through both the attitude-behaviour gap framework and the social practice theory lens, competency in cooking were consistently identified as a barrier to consumption as well as an influence on product preference. Specifically, consumers who were considered themselves to lack general cooking skills, as well as those who were new to meat-free eating (and subsequently lacked knowledge and skills in plant-based cooking practices), often reported more reliance on convenience products. Therefore, social marketing campaigns that aim to reduce meat consumption may need to develop strategies to improve knowledge and skills in the context of meat-free eating and/or position plant-based meat substitutes (and perhaps meat substitutes more generally) as a transitional tool. One way of achieving this may be through the utilisation of social media influencers and online video content, which have been noted to play a role in

increasing awareness of pro-environmental behaviours and products (Johnstone & Lindh, 2017), as well as facilitating cooking-related skill development (Bramston et al., 2020).

Fifth, access to—and the ability to trial—products was also perceived as important. Moreover, research shows that people can be nudged into new behaviours through the prominent positioning of products in-store (Wilkinson, 2012). Thus, marketers may wish to incorporate product trailing into wider marketing strategies in order to encourage purchase behaviour. One way of implementing this recommendation may be through in-store sampling supported by sales promotions (e.g., coupons, in-store discounts), as the price was also considered to be a barrier to consumption. Moreover, another barrier to consumption, as mentioned above, was related to a lack of knowledge of how to prepare these products. Thus, in-store sampling, as well as the utilisation of foodservice retailers as channel members, may be fruitful, enabling consumers to try and purchase prepared foods before embarking on preparation at home.

Finally, the present study highlights the importance of social structures in the adoption of plant-based meat substitutes and their related practices. Thus, marketers and policymakers looking to encourage product adoption and shift consumer behaviour towards eating practices to those that are more sustainable should consider the means through which these practices are formed, reproduced, maintained, stabilised, challenged and eroded. Social relationships have been identified here to play an important role in how meanings, materials and competencies are transferred between actors in the recruitment and maintenance of practices. Thus, social factors may be critical in encouraging wider recruitment into the practices associated with plant-based meat substitutes, as well as meat-free eating more generally.

6.4 LIMITATIONS AND FUTURE RESEARCH

There are several limitations to the present research that should consequently be considered when interpreting the findings of this thesis. These include limitations of research design, sampling procedure, and the product focus of the research. Based on the findings presented and discussed in Chapters Four and Five, respectively, as well as the limitations identified, a number of directions for future research have been identified.

First, due to the exploratory, qualitative nature of this research, the broader generalisability of the findings is unable to be determined. Though the research has been able to provide an understanding of the knowledge and behaviour of plant-based meat substitutes, including the nature of this knowledge and how it spreads between consumers, and the motivating/limiting factors that impact consumption, the extent of these findings in the wider population is unclear. Moreover, in the time taken to conduct the present study, the market for plant-based meat substitutes has grown considerably, and product range, availability, awareness and consumer perspectives may have changed with them. Therefore, due to the cross-sectional (as opposed to longitudinal) design of the present research, changes and trends in consumer behaviour over time have not been captured. Thus, while there are a number of studies capturing consumer acceptance and attitudes at a single point in time (including this one), researching exploring how meat substitutes are received and adopted by consumers over time would be beneficial. Such research may shed light on how the market (e.g., product innovation, marketing activities), social (e.g., norms), and policy changes (e.g., regulation) influence consumer behaviour in the medium to long-term with respect to these products. Research in this area may also enable the identification of which market, social, and policy levers to pull in order to facilitate wider product adoption.

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Quantitative research to determine the extensiveness of the phenomena presented in the present study in the wider population (both in New Zealand and abroad) would also be advantageous. Specifically, future research could quantitatively capture attitudes and behaviours, as well as the influencing factors identified in Chapter Four and explore the relative weighting of these different factors in influencing consumer behaviour. Such research would be able to give more specific recommendations for marketers and brand managers and retailing and hospitality businesses as to how to encourage adoption and repeat purchase. Moreover, additional research may also assist in modelling social practice (e.g., Higginson et al., 2014). In doing so, the practices related to plant-based meat substitutes (as well as other sustainable consumption practices) may be analysed and possible interventions identified.

Second, the present research is based on a small, New Zealand based sample, recruited through a highly engaged online community and their colleagues, friends and/or family members. Specifically, participants were recruited through the Christchurch Vegans Facebook Group (see Appendix C), and further recruitment beyond this was carried out through snowball sampling. Thus, there is not only the issue of self-selection bias within this sample, but the relative size and composition of this sample further limit the extent to which the results can be generalised. Though consideration was taken to ensure a level of diversity with respect to both demographic (e.g., age, gender) and consumption factors (e.g., dietary preferences, consumption frequency of plant-based meat substitutes), all participants did come from an already highly engaged community, or were known to those community members. Therefore, the applicability of the findings to the general New Zealand population and less engaged or invested consumers is unclear and impacts the overall generalisability of the results. Moreover, though one of the main contributions of this research is extending the body of literature on plant-based meat substitutes

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outside of Europe, New Zealand is economically and culturally invested in animal agriculture and animal-based products (including meat) and therefore provides an interesting, though perhaps differing, the context in contrast to the wider global consumer population. Future research may benefit from sampling methods different to those adopted here by adopting a different sampling method that does not rely on a convenience sample to the same extent as the present research. Further studies capturing members of the wider population who are less connected to established communities (e.g., online vegan communities) may yield differing results, particularly in relation to the reliance on networks and the significance of social factors identified here.

Finally, the present study focuses on plant-based meat substitutes only, and the findings can therefore not be relied upon for other types of meat substitutes such as blended products (i.e., a combination of plant-based and meat-based ingredients), cultured meats (i.e., lab-grown, cell-based), or products derived from insects. A conscious choice was made in the research design to exclude these latter products from the study due to them not being available in the New Zealand market, and therefore beyond the lived experiences of the targeted research participants. As the market for meat substitutes more broadly grows, further insight is needed into other products such as blended, cell-based and insect-based. While existing research on these areas does exist (e.g., Bekker et al., 2017; Caparros Megido et al., 2016; Verbeke, 2015), this again is based outside of New Zealand. Thus, future research on these products and the knowledge and consumption practices held and adopted by consumers in New Zealand would be beneficial. Especially given the significance of meat production within the New Zealand context economically and socially.

6.5 FINAL SUMMARY

In summary, this research aimed to understand the knowledge and consumption practices of plant-based meat substitutes. This research went beyond previous research on meat substitutes and offered a number of contributions to both theory and marketing practice. Theoretical contributions included contributing to the literature on the attitude-behaviour gap, social practice theory, plant-based meat substitutes, and ethical and sustainable food consumption, as well as addressing a number of gaps identified by recent systematic reviews on research in this space. Practically, this research provides valuable insights for marketers in identifying factors that impact product purchase and consumption, highlighting the importance of market segmentation and product trialling, the impact of values and social structures on product adoption and product attribute preferences, as well as issues that need to be addressed through social marketing initiatives (e.g., skills development). Such contributions and insights will be beneficial in facilitating a protein transition in New Zealand and abroad and assisting global dietary shifts towards those that are better for the planet, the people, and the animals.

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APPENDIX A: INTERVIEW GUIDE

INTRODUCTION

Welcome

- Thank you for your time, make yourself comfortable, can I offer you tea/coffee/water?
- Indicate location of bathrooms
- Please put your phone on silent/turn it off
- This session will take about one hour, let me know if you need a break

Project Background

- Today's session is being conducted for my PhD research
- I am going to ask you some questions about meat substitutes (meat alternatives, fake meat, faux meat, mock meat etc.)
- This is a judgement free zone, please go into as much detail as you are comfortable
- An audio recording will be taken (with your permission) so that I can transcribe it later.
If you wish, I can send this to your to review.

Confidentiality

- Your identity will remain anonymous, after the session I will allocate you with an alias which will be assigned to your audio file and transcript.
- Anything you say will be confidential and therefore anything that I use as a part of my dissertation or publication of the research will not be traceable back to you.
- Do you have any questions?

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BACKGROUND TOPICS

Personal background

- Can you tell me a bit about yourself? How do you spend your spare time?
- How would you describe your diet? Are you vegan/vegetarian? Do you eat meat?
- What are your eating and cooking habits like? What does a typical meal look like? Who cooks/buys groceries? Who cooks at home?

Defining Meat-Substitutes

- When I say ‘meat substitute’, what immediately comes to mind? What does that mean for you? Probe for purpose/use, defining features etc.
- How would you describe/characterise a meat substitute? What would it look/taste/smell like? How would you use/cook it?

Initial Experience

- How did you first find out about meat substitutes? Can you describe this experience? What had you heard, or did you know, about meat substitutes before you tried them?
- What motivated you to try meat substitutes? What was going on in your life at the time that you decided to give meat substitutes a try? Where were you? What kind did you try? Probe for circumstances, external motivators/influences, dietary changes, catalytic experiences.
- Have you bought/eaten meat substitutes since you first tried them? Yes—go to Section 3; No—go to Section 4.

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ADOPTION

General Experience

- How often do you buy/eat meat substitutes? When was the last time you had one?
- Are there times when you buy/eat more or fewer meat substitutes? How do you feel at these times? Any patterns in consumption, what causes these fluctuations?
- What are the primary reasons you buy/use these products? What purpose do they serve? What are the benefits sought?
- Has using these products had any impact on your life? Is cooking meat-free easier? Are they more inclined to eat less meat? Has using meat substitutes had any impact on family mealtime?

Purchasing Experience

- What are the most important things you look for when shopping for meat substitutes? Taste, use, price, quality, variety, similarity to meat, availability etc.?
- Are there any challenges you come across when shopping for these products? How are these overcome?
- Do you feel that your approach to buying these products has changed over time? What has/hasn't worked, reliable approaches, factors that facilitate/inhibit purchase?

Consumption Experience

- How does your experience cooking these products compare to your experience cooking other foods? How does it compare to cooking meat?

APPENDICES

- What do you enjoy the most/least about using meat substitutes? What are the payoffs/benefits/barriers/pitfalls?
- Do you think the way you cook/use meat substitutes has changed over time? Probe for trial and error, lessons learnt, development/evolution of use and experience.
- Have you (or someone you know) had any horror stories when buying/using these products? E.g. when they have tried cooking, and it has turned out horribly. Either own stories or those heard from friends/family. Did they/others manage to remedy the situation/save the meal?
- Have these stories/experiences changed your approach to buying/using meat substitutes? Probe for techniques used to manage risk
- What advice would you give to others who are thinking about trying meat substitutes for the first time?
- Do you think you will continue to buy/use these products in the future? Why/why not? If not, is there anything that would make them change their mind?

REJECTION

- Why have you not purchased meat substitutes again? What was it about the experience that put them off?
- Do you think you would reconsider purchasing these products? Why/why not? If not, is there anything that would make them change their mind?

APPENDICES

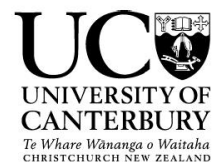
CLOSING QUESTIONS

- What should I have asked you about your experiences with meat substitutes that I did not? Is there anything else that you would like to share?
- Do you know anyone else who has tried meat substitutes recently? Follow-up on potential future informants.

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APPENDIX B: ETHICS

ETHICS APPROVAL



HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2018/99

3 October 2018

Samantha White
Management, Marketing and Entrepreneurship
UNIVERSITY OF CANTERBURY

Dear Samantha

The Human Ethics Committee advises that your research proposal "Understanding Attitudes Towards Meat Substitutes" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 1st October 2018.

Best wishes for your project.

Yours sincerely

R. Robinson
pp.

Professor Jane Maidment
Chair
University of Canterbury Human Ethics Committee

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INFORMATION SHEET

Information Sheet

University of Canterbury
Department of Management, Marketing and Entrepreneurship
samantha.white@canterbury.ac.nz
11 December 2018



Understanding Attitudes Towards Meat-Substitutes Information Sheet for Participants

My name is Samantha White and I am a PhD student in the Department of Management, Marketing and Entrepreneurship at the University of Canterbury, New Zealand. Due to a number of issues including population growth, resource scarcity and environmental degradation, food security is an increasingly important issues, particularly around the provision and consumption of meat. Therefore, I am conducting research that aims to understand the attitudes, perceptions, motivations and barriers associated with the consumption of meat substitutes.

If you choose to take part in this study, your involvement in this project will involve an interview where you will be asked some questions about what you eat, your behaviour regarding cooking and purchasing food, as well as discussing meat-substitutes. You will also receive a \$20 voucher as a thanks for your involvement. The interview will take approximately one hour to complete. An audio recording will be taken with your permission, which will be used only to assist with the accurate transcription of your interview. You may review the transcript of your interview if you wish (please indicate on consent form).

Participation is voluntary and you have the right to withdraw at any stage without penalty. If you withdraw, I will remove information relating to you. However, once analysis of the interview data starts on February 1 2019, it will become increasingly difficult to remove the influence of your data on the results.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation: your identity will not be made public. To ensure anonymity and confidentiality, you will be assigned an alias and no mention of your identity will be present in any published reports or documentation. Only my supervisors and I will be aware of your identity. The interview data will be kept safely and then destroyed after 10 years of the PhD research being completed. A thesis is a public document and will be available through the UCLibrary.

Please indicate on the consent form if you would like to receive a copy of the summary of results of the project.

The project is being carried out as a requirement for the degree of Doctor of Philosophy in Marketing by Samantha White under the supervision of Professor Paul Ballantine and Associate Professor Lucie Ozanne, who can be contacted at paul.ballantine@canterbury.ac.nz or lucie.ozanne@canterbury.ac.nz respectively. They will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and you should address any complaints to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form and return to samantha.white@canterbury.ac.nz.

Samantha White
Doctoral Candidate
Department of Management, Marketing and Entrepreneurship
University of Canterbury
Email: samantha.white@canterbury.ac.nz

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CONSENT FORM

Consent Form



Department of Management, Marketing and Entrepreneurship
Telephone: +64 27 306 1682 Email:
samantha.white@canterbury.ac.nz

Understanding Attitudes Towards Meat-Substitutes Consent Form for Participants

- I have been given a full explanation of this project and have had the opportunity to ask questions.
- I understand what is required of me if I agree to take part in the research.
- I understand that participation is voluntary and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify the participants. I understand that a thesis is a public document and will be available through the UC Library.
- I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after ten years.
- I understand the risks associated with taking part and how they will be managed.
- I understand that my interview will be transcribed and a third-party may be engaged to facilitate this process.
- I understand that any third-parties will be required to sign a confidentiality agreement.
- I understand that I will be given the opportunity to review my transcript should I wish to do so (as indicated below)
- I understand that I can contact the researcher Samantha White (samantha.white@canterbury.ac.nz) or supervisors Paul Ballantine (paul.ballantine@canterbury.ac.nz) or Lucie Ozanne (lucie.ozanne@canterbury.ac.nz) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)
- I would like a summary of the results of the project
- I would like to review the transcript of my interview
- I consent to the audio recording of my interview
- By signing below, I agree to participate in this research project.

Name: _____ Signed: _____ Date: _____

Email address (for report of findings): _____

Please return to samantha.white@canterbury.ac.nz before the commencement of the interview.

Samantha White

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APPENDIX C: RECRUITMENT

INITIAL RECRUITMENT MESSAGE

Research Participants Wanted

Have you (or someone you know) eaten a meat substitute in the last three months? (i.e., meat-free sausages, burgers, mince etc.)

I am a PhD candidate at the University of Canterbury and I am conducting research on why people choose to consume meat substitutes.

I need to talk to all kinds of people, not just vegans and vegetarians but also flexitarians and omnivores. So if you have a friend or family member who has tried these products then I would love to hear from them too.

Your involvement would just require an informal chat in-person (up to an hour) on your experience in mid to late January 2019. You will receive a \$20 Westfield voucher for your time.

If you are interested in participating or would like more information please comment below or email me at samantha.white@canterbury.ac.nz

APPENDICES

RECRUITMENT REMINDER

*****Research Participants Wanted*****

Have you (or someone you know) eaten a meat substitute in the last three months? (i.e., meat-free sausages, burgers, mince etc.)

I am a PhD candidate at the University of Canterbury and I am conducting research on why people choose to consume meat substitutes.

I have conducted my first round of interviews and am now seeking more participants for the next round. I need to talk to people with all kinds of diets and am particularly interested in the following three groups:

- People who are strict vegans/vegetarians
- People who predominantly eat meat
- People in between who have a more varied diet

If you have a friend or family member who has tried these products then I would love to hear from them too.

Your involvement would just require an informal chat in-person (approx.. 30 minutes) on your experience in February/March. You will receive a \$20 Westfield voucher for your time.

If you are interested in participating or would like more information please comment below or email me at samantha.white@canterbury.ac.nz

It would also be incredibly helpful if you could indicate your diet (e.g., whether you are vegan/vegetarians or if you eat meat and how often).

APPENDIX D: CODING TEMPLATES

INITIAL CODING TEMPLATE

1.0 General

- 1.1 Attitudes & Perceptions
- 1.2 Barriers
- 1.3 Buying Behaviour
- 1.4 Motivations

2.0 Meat Avoidance

- 2.1 Ethics
- 2.2 Political Consumption

3.0 Misc.

- 3.1 Gender
- 3.3 Homemade
- 3.4 Seasonality

4.0 Product

- 4.1 Availability
- 4.2 Brand
- 4.3 Definition
- 4.4 Food Miles
- 4.5 Ingredients
- 4.6 Nutrition
- 4.7 Packaging
- 4.8 Price
- 4.9 Taste

5.0 Social

- 5.1 Dining Out
- 5.2 Information
- 5.3 Stigma
- 5.4 Upbringing

6.0 Usage

- 6.1 Competency
- 6.2 Convenience
- 6.3 Food Safety
- 6.4 Non-Use
- 6.5 Novelty
- 6.6 Risk
- 6.7 Transition
- 6.8 Trial

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INTERMEDIATE CODING TEMPLATE

1.0 Meat & Substitution	2.13 Trial
1.1 Meat Avoidance	2.13.1 Experimentation
1.2 Meat Consumption	2.13.2 Rejection
1.3 Meat Reduction	3.0 Social
1.4 Meat Similarity	3.1 Gender
1.5 Motivations	3.2 Online Communities
1.5.1 Environmental Concern	3.3 Normalisation & Stigma
1.5.2 Ethical Concern	3.4 Family & Upbringing
1.5.3 Health Concern	3.5 Relapse
1.5.4 Political Consumption	3.6 Shared Consumption
1.6 Non-Substitution	3.7 Social Barriers
2.0 Product	3.8 Social Learning
2.1 Availability	4.0 Usage
2.2 Advertising & Promotion	4.1 Cooking Competency
2.3 Attitudes	4.2 Convenience
2.4 Brand	4.3 Food Safety
2.5 Definition	4.4 Meal Suitability & Familiarity
2.6 Dining Out	4.5 Novelty & Variety Seeking
2.7 Food Miles	4.6 Preparation & Ease of Use
2.8 Ingredients	4.7 Transition
2.8.1 Avoidance & Allergens	
2.8.2 Nutrition & Health	
2.8.3 Process & Production	
2.9 Packaging	
2.9.1 Labelling	
2.9.2 Waste/Plastic	
2.10 Price	
2.10.1 Risk	
2.11 Shopping Behaviour	
2.11.1 Store Navigation	
2.11.2 Store Selection	
2.12 Taste	

FINAL CODING TEMPLATE

1.0 Attitudes and Behaviours

- 1.1 Substitution Practices
- 1.2 Meat Substitutes
- 1.3 Meat Consumption
- 1.4 Meat Reduction
- 1.5 Meat Avoidance
- 1.6 Political Consumption

2.0 Individual Factors

- 2.1 Values
 - 2.1.1 Environmental Concern
 - 2.1.2 Animal Welfare Concern
 - 2.1.3 Health Concern
- 2.2 Gender
- 2.3 Skills
- 2.4 Transition

3.0 Social Factors

- 5.1 Social Norms
- 5.2 Culture
- 5.3 Household Composition
- 5.4 Social Networks
- 5.5 Conflict

4.0 Situational Factors

- 4.1 Temporal
- 4.2 Dining Out
- 4.3 Novelty Seeking
- 4.4 Convenience
- 4.5 Availability

5.0 Product Factors

- 5.1 Taste
- 5.2 Promotion
- 5.4 Brand
- 5.5 Packaging
- 5.6 Price