

Young adults' experiences with flexitarianism: The 4Cs

Joya Kemper,

University of Auckland, New Zealand

j.kemper@auckland.ac.nz

Lecturer

Department of Marketing

12 Grafton Road, Auckland, NZ

Samantha White,

Lincoln University, New Zealand

Samantha.White@lincoln.ac.nz

Lecturer

Department of Agribusiness and Markets

Ellesmere Junction Road, Lincoln, NZ

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Abstract

Meat reduction has important implications for public health and the environment. With people more likely to reduce their meat consumption than eliminate it completely, there is increased interest in flexitarian (reduced meat) diets. Young adults in particular are transitioning towards a flexitarian diet, yet there is very little research on this crucial sub-set of the population. In this research, 23 interviews are conducted with young adults aged 18–35 in New Zealand to explore their lived experiences (i.e., motivations, strategies and barriers) towards flexitarianism. The research finds young adults are encouraged to transition towards flexitarianism due to increased control, through a transition away from home which is enabled through cooking strategies, social support and experimentation. Young flexitarians are motivated to reduce meat consumption due to concern about various individual (health, variety, price, reduce social unease) and altruistic (environment and ethics) motivations. Continued meat consumption is mainly driven by a need to compromise at social gatherings, and due to positive associations with variety, nutrients and fullness as well as taste due to cravings. The findings have several implications for social marketing and public health, particularly around supportive social settings, seeing flexitarianism as a ‘not all or nothing approach’ (one does not have to be a full vegetarian or a meat eater, but can instead be something in between), positive emotions such as pride associated with meat reduction, and that documentaries and social networks are key triggers for meat reduction.

Keywords

Meat reduction

Flexitarian

Meat consumption

Young adults

Transition

Vegetable consumption

1. Introduction

Increased food production, particularly in relation to increased demand for livestock products, is recognized by many as posing a threat to health, food availability, the planet and animal welfare (Dagevos & Voordouw, 2013; Lang & Barling, 2013). Meat in particular has a major environmental impact (IPCC, 2019) due to high water use, land pollution and greenhouse gas emissions (Carfora et al., 2019). Excessive red and processed meat consumption has also been linked to a number of health risks including increased likelihood of developing heart disease and cancer (Carfora et al., 2019). Consequently, consumers are able to reduce their environmental impact (Verain et al., 2015) and decrease their chance of getting non-communicable diseases by changing their food consumption (Zur & Klöckner, 2012).

A flexitarian diet is seen as a plausible and aspirational diet for many consumers as a means to reduce their carbon footprint and look after their health, with many more identifying as flexitarian (22.9%) than vegan (1.9%) or vegetarian (3.1%) (Veganz, 2020). Flexitarian, also referred to as semi-vegetarian (Derbyshire, 2017) or meat reducers in the literature, is an individual that reduces their consumption of meat (Dagevos & Voordouw, 2013; Verain et al., 2015) and can include those who avoid meat one or two days a week to those who only eat meat on occasion (Rosenfeld, 2018). A flexitarian diet is the third best diet (after veg*ism) for GHG mitigation potential (over and above a Mediterranean diet) (IPCC, 2019) and research suggests may even surpass a vegetarian diet due to non-substitution of animal products (Kim et al., 2019). In the case of a flexitarian diet, millennials are seen as one of the key drivers of a global shift away from the dominance of animal products (Rowland, 2018). Recent research suggests the 18–35 year age group are the biggest age group adopting a flexitarian diet (Bayer et al., 2019). Yet, they are a group which is not frequently researched in the (non) meat consumption literature (Beardsworth & Bryman, 1999; de Boer et al., 2017; Vergeer et al., 2020).

The young adult life-stage is characterized by higher levels of health-related risk-taking behavior (Hudson & Findlay, 2006) and establishment of poor dietary habits (McCracken et al., 2007) that can have lifelong implications after transitioning into adulthood (Park et al., 2014). Consumers aged 15–34 years are less likely than older cohorts to cook healthy meals or to cook their main meal themselves, opting for delivery or take-away meals, or dining out at restaurants (Bayer et al., 2019). As a result, young adults are more likely to identify the need to change their diet, such as the need to eat more fruit and vegetables and less meat; which may help explain why so many are trying to adopt a flexitarian diet (Bayer et al., 2019). Given the importance of this life stage and signs that they may be adopting flexitarian lifestyles at a faster rate than older cohorts, this research explores young adults' transition experience towards a flexitarian diet.

The research aims to explore young adults' motivations, strategies and barriers towards flexitarianism. Theoretically, this research can contribute to the literature about flexitarian identity (Rosenfeld, 2018; Rosenfeld et al., 2019), transitioning barriers and strategies (Kemper, 2020) and dig deeper into the cognitive, affective (Horgan et al., 2019; Stoll-Kleemann & Schmidt, 2017), social and environmental components (Furst et al., 1996) of food consumption. Many studies focus on vegetarianism and veganism, which examine only meat elimination rather than reduction (e.g., Forestell et al., 2012; Rosenfeld, 2018; Rothgerber, 2014a), with only a very limited focus on young adults (Beardsworth & Bryman, 1999; de Boer

et al., 2017; Vergeer et al., 2020; Von Essen, 2020). Additionally, recent research on flexitarianism and violation of vegetarian diets are quantitative studies (i.e., Cheah et al., 2020; Faber et al., 2020; Lentz et al., 2018; Rosenfeld et al., 2020; Rosenfeld & Tomiyama, 2019, 2020), and while informative, are unable to explore deeper meanings and lived experiences (Lincoln, 2005). These nuances in consumption experiences are important to enable the exploration of motivations, strategies and barriers towards flexitarianism (Kemper, 2020). A more thorough understanding of young adult flexitarians' journey, which includes the 'why' and 'how' of transitioning, can lead to a greater uptake of a reduced meat diet in this crucial sub-set of the population. Subsequently, research findings can be used to inform social marketing and targeted tertiary (i.e., on campus) campaigns which aim to influence young adults to make healthier and sustainable food choices.

1.1. Flexitarianism

Research has shown that people are more likely to reduce their meat consumption than eliminate it completely (Corrin & Papadopoulou, 2017; Faber et al., 2020; Graça et al., 2015; Lea et al., 2006a). For example, Corrin and Papadopoulou (2017) propose that health promotion plans that focus on flexitarianism instead of meat elimination enable a better transition towards sustainable diets. Yet, there are limited studies which have been conducted on the attitudes, perceptions and behaviors of flexitarian diets (Corrin & Papadopoulou, 2017; Rosenfeld, 2018).

Recent research on flexitarianism investigates consumer characteristics and predictors. Malek and Umberger (2021) found that self-identified meat reducers differed from unrestricted omnivores and meat avoiders by their meat consumption, beliefs surrounding the nutritional and food choice adequacy of meat-free diets and the relative importance placed on egoistic factors (i.e., taste, health, price, convenience). Similarly, Mylan (2018) found that the meat reduction experience relates to nutrition beliefs and depends on the activities of eating (in/out), cooking, and sourcing. Flexitarians also believe their diets as less central to their identity and are less morally motivated than vegetarians (Rosenfeld et al., 2020), while their levels of vegetarian identification depends on the centrality of diet to their identity and their beliefs about carnism (Rosenfeld et al., 2019). Research has also found that attitude toward reducing meat consumption are impacted by perceived social norms, health benefits and barriers (i.e., family, taste, habit), and positive environmental impact (Cheah et al., 2020).

Other research on flexitarianism examine motivations through quantitative studies. These studies indicate that those adhering to a flexitarian diet are mainly motivated by health concerns (Apostolidis & McLeay, 2019; de Backer & Hudders, 2014; Forestell et al., 2012; Hoek et al., 2004; Mullee et al., 2017). While flexitarians have been noted to care about environmental issues on par with vegetarians (de Backer & Hudders, 2015), awareness of the environmental impact caused by meat reduction is not widespread (Lentz et al., 2018) and may not motivate flexitarians to consume less meat (de Backer & Hudders, 2015). Similarly, ethical concerns also seem to differ between vegetarians, vegans and meat eaters, with non-meat eaters more ethically concerned (Lund et al., 2016). Rothgerber (2015) found that conscientious omnivorism (those that consume meat or fish only when it satisfies certain ethical standards) believed less in animal rights and were less disgusted by factory-farmed meat than vegetarians, while Rothgerber (2014a) also found that semi-vegetarians were less likely to dislike meat and find it disgusting than strict vegetarians. However, motivations for flexitarianism have been

found to vary at different family lifecycle stages; with health and the environment important factors for young adults (Kemper, 2020).

1.2. Flexitarianism and vegetarianism in young adults

Focusing on flexitarianism in young adults is especially important considering this life transition, such as moving away from home and going to university, results in a reevaluation of eating habits which often persist into later life (Poobalan et al., 2014). This age group (18–35 years old) is also the largest of any age group adopting a flexitarian diet (Bayer et al., 2019). Yet, most research on young adults and veg*ism are dietary food studies focused on nutrition and health outcomes such as iron levels, bone health and mental health (e.g., Baines et al., 2007; Haider et al., 2018; Movassagh et al., 2018) and research on flexitarianism in young adults has not been a main focus of study (e.g., de Boer et al., 2017; Kemper, 2020).

The limited research conducted on young adults suggests various motivations for flexitarianism and veg*n. Previous research has shown that younger participants consider environmental improvement, animal welfare and improved overall health to be among the benefits of a low meat or meat-free diet (Corrin & Papadopoulos, 2017; Ensaff et al., 2015; Kemper, 2020; Lea et al., 2006a), whereas older consumers (60+) are more focused on the health-related benefits (Kemper, 2020). De Boer et al. (2017) found that young adult (18–35 years old) low and medium meat-eaters perceived health as a reason to eat meat but also saw this as a motivation to moderate/reduce meat eating. Forestell et al. (2012) also found food choices of female college flexitarians were motivated by weight control, whereas vegetarians' and pesco-vegetarians' food choices were motivated by ethical concerns. Animal welfare—and to a lesser extent, environmental sustainability—are considered front-of-mind issues for food choice for consumers aged 15 to 34, yet, price and convenience still take a precedence (Bayer et al., 2019). Beyond motivations for flexitarianism, the lived experience of flexitarianism in general deserves examination in young adults (Von Essen, 2020). Previous quantitative studies have failed to examine these experiences (i.e., de Boer et al., 2017) and previous qualitative research has only touched upon this age group (i.e., Kemper, 2020). Thus, this research explores young adults adopting a flexitarian diet.

1.3. Food choice and behavior change

In order to understand how changes in consumption patterns emerge and are maintained, there are several models which explain both food choice and behavior change. There are three common food choice models (a) economic models, (b) the theory of reasoned action/theory of planned behavior and (c) the food choice process model (Gorton & Barjolle, 2013). Economic models tend to be quantitative in nature and examine the relationships between key variables such as income, time and food choice, but do not take into account key psychosocial attributes such as culture (Gorton & Barjolle, 2013). The theory of planned behavior and behavior change theories in social marketing are commonly based on 'cognitive decision models' that assume humans are rational and actively take on board advice and information once it is presented (Brennan et al., 2014). As such, taking into account individual factors like knowledge, self-efficacy, skills, attitude, and perceptions. However, food consumption goes beyond rational behavioral determinants (Verain et al., 2015); eating can be both uncontrollable and unconscious (Moldovan & David, 2012), heavily influenced by the physical features of the eating environment (Wansink, 2004), ambient cues (Stroebele & De Castro, 2004), and social norms (Furst et al., 1996) and dependent on an individual's past experience with food (Devin

et al., 1998), values (Connors et al., 2001) and resources (Gorton & Barjolle, 2013; Verain et al., 2015).

Given the complex influences on food choice, the food choice process model takes into account the life course, influences and personal systems (Furst et al., 1996). The life course is based on past and current food experiences, anticipations of the future and changes in context, including trajectories (i.e., impact of family) and transitions (i.e., moving away from home) (Devin et al., 1998). Influences include ideals (i.e., social norms), personal factors (i.e., physiological, psychological/emotional, relational factors), resources (i.e., money, equipment, time, skills, help from others), social factors (i.e., roles, families) and contexts (i.e., physical surroundings, policies, climate) (Sobal et al., 2006). While the personal system includes values, taste, cost, convenience, health as well as strategies (i.e., negotiation/compromise, balancing) (Sobal et al., 2006). Similar socio-ecological models of behavior change (encompassing intrapersonal, interpersonal, community and macro levels) are also utilized by social marketers to understand behavior change (Brennan et al., 2014). Given the complex, multi-layered, multifaceted and psychosocial nature of meat consumption (Kemper & Ballantine, 2019; Rosenfeld et al., 2020) as well as the importance of young adults' life course (i.e., transitions), this research adopts the food choice process model as a framework to explore and further inform the experiences, specifically motivations, barriers, and strategies, of flexitarianism.

2. Method

The need to explore and understand the transition towards a reduced meat diet led itself well towards a qualitative, exploratory approach, seeking rich and in-depth insight (Malhotra, 2010). A key strength of qualitative research is the ability to explore values, beliefs, and attitudes, especially in cases where there is little prior research (Bamball & While, 1994). One form of qualitative research is the depth interview, where participants are encouraged as well as prompted to discuss a topic without the use of predetermined, focused or short-answer questions which enables the researcher to probe how their answers relate to the topic under exploration (Cook, 2008). The semi-structured interview allows some variation and direction led by the research objectives (i.e. allowance for probing questions and clarification of answers) allowing for structure and variation as well as more complete answers (Malhotra, 2010). The aim of the interviews was to reach sufficient data saturation (Palinkas et al., 2015), which occurred at 23 interviews.

2.1. Participants and recruitment

All participants were in the process of trying to reduce their meat consumption and lived in two major New Zealand cities (Auckland and Christchurch). All participants were focused on the reduction of red meat, some also reduced other meat such as chicken and pork. Red meat has the highest environmental impact (IPCC, 2019) and is a common staple in the New Zealand diet due to the high profile agriculture sector. Such meat reduction was at various stages, some were still eating red meat three to four times a week, while others were consuming red meat only in social settings. Participants had to be aged between 18 and 35 years old and individuals living in the same household were not permitted to take part (i.e., only one individual per household). Participants were self-selected (convenience sample) and recruited through posting on social media pages, including a local meat reduction page (Meat Free Monday NZ), an organic food company page, and a University alumni page. As compensation, participants were

offered a \$100 supermarket voucher. The interviews lasted between 60 min and 120 min. Table 1 displays the interview participants' alias and age.

Table 1. Participant characteristics.

	Age	Sex
Vanessa	22	Female
Elisa	29	Female
Daisy	26	Female
Lisa	24	Female
Joe	20	Male
Chloe	20	Female
Tom	35	Male
Joyce	22	Female
Kate	30	Female
Ava	33	Female
Kyla	27	Female
Leslie	28	Female
Lilly	28	Female
Mandy	24	Female
Amelia	28	Female
Dan	25	Male
Paul	18–35 ^a	Male
Steve	29	Male
Mike	23	Male
Sophia	24	Female
Zoe	20	Female
Mia	32	Female
Betty	29	Female

^a Did not wish to disclose.

2.2. Procedure

Interviews took place on two university campuses in an office or allocated teaching/study room. While information sheets and consent forms were sent before the interview, participants were given time to read and sign the consent form before the start of the interview as well as ask questions (if needed). An interview guide was used to allow for consistency between interviews. Participants were asked to record a visual diary of their food consumption over the seven days prior to the interview. Participants recorded their breakfast, lunch and dinner meals via photo and answered three brief questions: In what situation did you consume this food? Why did you choose that specific food (item) to eat? Was there any wastage of the food (i.e., did you throw anything out?). The diary was helpful in helping participants recollect their food intake and allowed for a greater inquiry into their food transition strategies. Thus, the diary provided a good talking point and allowed participants to remember what they ate in the course of the week. After the main part of the interview was completed, participants were asked to participate in a body mapping exercise. The exercise was based on the work of Bruckner (2018) and is a drawing and reflecting exercise, which elicits a non-representational take on emotional, visceral and sensory aspects of food relations that might not be accessible through verbal or text methods. As such, participants were asked to use different colored pens to annotate or sketch symbols or drawings that best represented what they were thinking onto an A3 paper. They first sketched a person, then considered their body in relation to their ingestion of meat before their flexitarian journey and then afterwards, followed by a reflection on the relationship between meat and the natural and social environment. The interview was audio recorded with permission and transcribed. While the food diary and body mapping exercise were visual elements, the discussions about these were captured within the transcription and analyzed as text.

The validity and reliability in qualitative research comes in an array of terminology, from trustworthiness to authenticity to credibility (Creswell & Miller, 2000). In semi-structured interviews, validity and reliability depend on the interviews conveying the same meaning (Bamball & While, 1994). Credibility was improved using triangulation (source triangulation using quotes from different participants) and member checks (allowing interview participants to read their transcripts allowed them to comment on their accuracy) (Creswell & Miller, 2000). Transferability was addressed through thick descriptions in the interview findings to increase the transferability of the findings to other contexts or individuals (Lincoln & Guba, 1985).

2.3. Analysis

Inductive thematic analysis was used to analyze the transcripts, grounding the analysis in the data (Clarke et al., 2015). The steps of thematic analysis were followed according to Clarke et al. (2015). NVivo 12 Pro was used to analyze the interviews with hand-drawn mind maps used as aids. Firstly, familiarization with the data occurred through the reading and re-reading of transcripts as well as note taking. Secondly, this was followed by coding which was an iterative process, where codes were created or modified throughout the analytical and reflective process. Specifically, the initial coding template is created through analysing a subset of the data which is then applied to the rest of the data and the template is revised, and then reapplied to the data (King, 2012). When no large sections of un-coded data remained, the analysis was considered complete (Brooks et al., 2015) and is considered the point at which data saturation is reached (Guest et al., 2006). Next, themes were created and reviewed through the process of reflection of the codes and their structure, and then clustering the like codes. In this case, hierarchical coding was used to group similar codes together and produce several higher level codes

(themes) (King, 2012). These code groupings (according to like topics) created four themes which emerged from the data. The themes are organized as the Four C's for flexitarianism in young adults: Control, Compromise, Cravings and Concern.

3. Results

3.1. Control

The first of the four central themes is that of 'Control'. This theme pertained to a number of behaviors that centered on participants' autonomy with regards to their diet and food choices. Specifically, this theme encapsulates the experiences of participants as they explore and take control over the procurement and preparation of their meals (including meat) in a number of ways arising from their transition away from the parental home. Primarily, the theme of Control relates to participants' opportunity to regulate their own meat consumption. This resulted in various strategies for flexitarianism such as spreading meat over several meals (smaller portions), replacing or mixing meat with other ingredients (i.e., legumes) and shifting to eating more chicken and vegetables. More broadly, participants identified greater levels of control over their food choices relating to freedom to experiment and trial new products and cuisines, greater exposure to different eating and cooking styles, and improved synergy between diet and lifestyle.

In relation to meat consumption and reduction, participants exhibited various ways in which they strategized meat free cooking. Participants utilized different strategies based on their cooking skills (i.e., cooking chickpeas) and knowledge (or repertoire) of meat-free recipes. Most common amongst participants was to reduce portion sizes of red meat by spreading meat out over several meals, simply reducing the portions of meat bought in store and/or increasing their intake of vegetables. Interestingly, another strategy to reduce red meat consumption was to switch to other animal proteins, particularly chicken; this strategy was seen as a 'in between' (not consuming red meat but not sure how or not wanting to create vegetarian meals). Those participants who had more confidence and experience cooking substituted meat for legumes, lentils, or tofu in their diets. Conversely, those who were not as confident in the kitchen tended to rely either on vegetables to bulk up their meals or preferred meat substitutes such a vegetarian patties and sausages. However, similar across all participants, regardless of cooking ability, the most common meat-free meals were curries, followed by stir fries.

We still probably eat the same kinds of meat, more so chicken more now than red meat, but portion size of meat that we eat has decreased ... we're still getting enough protein and then we have vegetables which has more protein. So, yeah, I think we're even reducing our portion sizes of the meat we are eating (Vanessa).

In relation to dietary control more generally, young adults frequently talked about their transition from home life to student or flatting life, which they saw as a form of transition. This transition allowed a greater control over their food, usually for the first time. Typically, within the parental home they were not in charge of grocery shopping or cooking, and thus, a move to living with others (e.g., flatting) allowed an exploration of food choices. Such exploration encompassed a new ability to try new foods due to control of buying and cooking and engaging with different people and cuisines.

Yeah, I think the reason that this journey has kind of started this year was just because that's when I've started cooking for myself. It would've happened at some point, but it was just dependent on when I started cooking. (Joe)

Exposure to buying and cooking now allowed for greater confidence as well as a need to understand what was in food. Participants now had full control of buying groceries and cooking which allowed a greater exploration of food, its uses and nutritional content. The increase in awareness of food in general and greater involvement with food lead to a better understanding of food and its origins.

So, it was just something, you know, a package in the supermarket rather than a cow or a pig or whatever. And I didn't really question the way I consumed it, there was no conscious decisions about it. Whereas now hopefully I do have a more conscious process in place for whether I eat meat or what food in general I eat. (Ava)

Most participants were flatting and thus, were exposed to different cuisines and cooking habits. Living with others allowed for an ability to bond over shared cooking and recipes and learn from each other. Because many flatting with like-minded and similarly aged individuals, they felt everyone was very accepting of trying new things (i.e., reduced meat diet).

But yeah, it has been, generally pretty easy within a social environment that's accepting of that and willing to buy into it and everyone's on board. But I don't think that would've been anywhere near as easy at home. (Daisy)

The transition to food control and exposure to others allowed participants to explore their food (diet) options. Indeed, most participants were enthusiastic to try new foods and recipes. Participants were comfortable with giving things a try, especially vegetarian or vegan diets for a week. A few participants used the language of 'giving it a go'. The participants found other young adults, especially in their household, felt the same compared to parents who were seen as 'stuck' in their ways and hard to convince to try new things.

But then it's been like, oh shall we try this for a week? And then I think four of us can manage it for a week and then some of them have been like, oh that wasn't that hard, keep going. (Daisy).

The enjoyment of experimentation amongst some of the participants meant they either liked to try new recipes or simply see what was in the fridge and come up with a meal. The latter was frequently linked to food waste; participants who enjoyed experimentation mentioned they would search the fridge to see what needed to be used up.

But yeah, we're very conscious about food wastage and we try not to throw anything away. So that way we pretty much minimize anything that gets chucked. (Ava).

While the level of experimentation and confidence in their cooking ability differed between participants, all participants mentioned the need for cooking to be easy and timely. Considering most participants had busy lives, ease and convenience was key towards deciding what meals to make. Meal preps (preparing a meal for several days) and leftovers were common ways to reduce cooking time. However, building a new repertoire of recipes was seen as time consuming initially.

But it's not actually, once you do it, it's not actually that much more difficult and once you get a handful of five or six recipes you like and are easy, it's fine from then on. It's just getting to discover them in the first place. (Daisy).

A reduced meat diet also worked well within an unscheduled, busy lifestyle. For example, many didn't know what their week would look like with sports, work, education and social gatherings. So, the benefits of using less or no meat was the ability to store plant-based ingredients—like beans and tofu—for longer periods of time, which allowed participants to put together a meal without much planning.

3.2. Compromise

The second of the four central themes is that of 'Compromise'. This theme pertained to a number of behaviors that centered on participants striking a balance between meat consumption and avoidance. Specifically, this theme encapsulates the experiences of participants as they navigate and mitigate tensions arising from their flexitarianism. Primarily, the theme of Compromise describes participants' view of flexitarianism as not being an 'all or nothing approach'. Additionally, participants identified a number of challenges that arose from their decision to reduce their meat intake that required them to compromise on competing points of contention relating to social pressures, nutrition, taste preferences, price, convenience and variety.

First, participants believed compromise was possible and the journey towards a reduced meat diet was seen as easier and more 'doable' when one thinks of it as not an 'all or nothing' approach (i.e., don't have to be either a meat eater or vegetarian, something 'in-between' is fine); where 'slipups' were allowed, and variations from week to week (i.e., a meat heavy week) was accepted.

Sort of, yeah, and that's kind of why I haven't completely cut it off. Coz I believe in making small changes on a large impact, a large scale rather than being perfect, if that makes sense, yeah, I'm not perfect. (Chloe).

And I think that if everyone does a little bit, it's better than one person doing a lot. (Joe).

Most participants also did not want to compromise on other animal proteins such as cheese, eggs and milk. Milk was more commonly substituted due to availability of tasty, affordable substitutes, but cheese and eggs were not seen as easily substitutable. There were also several reasons against switching towards a fully meat-free diet. Some participants felt that meat meals were easier and more convenient, while others were concerned about nutrients, or variety in their diet (variety was also a reason for switching to a meat reduced diet). Therefore, these participants were unwilling to compromise on these perceived attributes of meat.

I guess when you eat more vegetarian food, you need to be a lot more mindful of where you're getting all your nutrients from. And I guess when you're just doing that maybe one or two meals, you don't have to be making sure I'm getting enough protein and making sure I'm getting that. But if it's predominantly, you know, vegetarian or vegan, you wanna just make sure you're trying to get all of those nutrients and potentially look at supplementing things if needed. (Mia).

A number of participants did not want to impose their reduced meat diet on others, and so didn't communicate this when going to social gatherings. For example, participants didn't want to feel like they were making a 'fuss'.

And it's similarly, like, going to other people's houses, I would never ask them to do, to change their ways for me. (Daisy).

The imposition of their diet on others was a concern for participants as well as their inability to justify or describe to their hosts their reduced meat diet. While they wanted to chat in general to friends and family, they didn't want to be perceived as judgmental. However, participants were more comfortable discussing their flexitarianism, perceiving it as less confronting to others than completely meat-free diets, such as vegetarian or vegan diets.

Or like yeah, it comes up and yeah, I think it's a much more approachable conversation to have when you say you're reducing your meat than I'm a vegan. People are like oh, they don't normally ask too many questions from when I've seen other people say that. (Leslie).

Some participants also felt much more confident and comfortable discussing their flexitarianism with friends rather than their family. This comfort was related to their perceived acceptance of a reduced meat diet. Such acceptance was seen less amongst family members and there was a reluctance to discuss due to being perceived as judgmental or offending their family members. Most participants were able to discuss in general, the impact of meat on the environment or health, but not necessarily about their own diets necessarily. They may for example exchange recipes but not discuss in depth their individual flexitarian journeys.

I feel like asking my mum, for example, or my aunt to maybe cut down on how much meat they use in their cooking, they'd just be completely taken aback and wouldn't know what to do. Or get angry, maybe (Zoe).

Interestingly, the most (extreme) reduced meat eaters only ate meat when cooked by others, preferring not to buy or cook it themselves. This was seen as a personal choice, led by their morals, as they tried to avoid buying meat in the supermarket. A few participants also stopped cooking meat at home due to elements of disgust and inability to cook meat (well).

I guess it's just like, I don't know, it's kind of like, bad for the environment, I have, sort of, like, gotten it in my head that, like, I don't cook or buy meat, so when I do I'm like, I'm sort of breaking my morals, I guess. Not that I, like, strictly given it, like, myself a set of rules or anything, it's just generally try to tend to avoid it. (Mike).

The compromising of price, especially between organic and free-range meat was also a consideration. Some participants refused to compromise, while others were easily influenced by price. Commonly those who didn't buy organic or free-range food regularly mentioned they would buy these products later in life when they had more money. Due to NZ pricing, free-range eggs were consumed more regularly than free range chicken (i.e., less of price difference between cage, barn and free-range eggs).

3.3. Cravings

The third of the four central themes is that of 'Cravings'. This theme pertained to a number of behaviors that centered on participants' taste preferences and enjoyment of meat. Specifically, this theme encapsulates the experiences of participants as they reframe the status of meat in

their diet. Primarily, the theme of Cravings relates to participant's re-categorization of meat from a dominant dietary component to one of a 'treat' consumed selectively and in limited quantities. Moreover, this theme also captures participants' navigation of the positive and negative associations with meat that inhibit and encourage meat reduction—much like a dieter navigating conflicting associations with sweets or other 'treat' foods that lead to craving. Positive associations related to taste, social gatherings, satiation and fullness, and physical exercise. Negative associations related to bad digestion and aversion to cooking raw meat. Guilt was also a common emotion for meat-reducers when they did eat meat.

Taste, social gatherings, and bodily reactions associated with meat affected the transition towards a reduced meat diet. Firstly, enjoyment, taste and craving of meat was a key factor for continued consumption.

But yeah, it's tasty, it's got a good texture and it adds a lot to meals so that's why I'm not cutting it out completely (Joe).

As discussed before, eating out in a restaurant was also a place where most participants consumed meat, seen as a special treat and because there was a lack of good meat-free options. Within restaurant settings, some participants mentioned the better quality of meat within restaurants as some participants were uncomfortable or not used to cooking meat at home.

So, usually when I go out it's also, like, a special occasion, so I'll, like, wanna try something new, and sometimes their meat plant-based options aren't that great. (Chloe).

Bodily reactions were also discussed in both negative and positive associations with meat eating. Fullness and satisfaction were key descriptions used for meals which appealed to them – sometimes this was linked to meat, for more heavy meat eaters, and those who ate less meat usually described a bloated feeling or trouble with digestion. Some participants also reflected on having more energy when eating a reduced meat diet.

I had no energy before when I was eating meat. I didn't think about not eating meat. It didn't like, it didn't seem like a thing. Was no meat even an option? I didn't know that was a thing. Yes, I mean I felt gross, I was tired and lethargic and I did know that not eating meat with a thing. (Sophia).

Conversely, meat was still associated with physical exercise. Some participants described their need as well as desire for meat and its nutrients because they worked out or played sports.

Yeah, in particular I think I want to eat meat when, if I've been working out or something. So, I guess, you know, if I work out, I feel like I need to eat some kind of chicken or beef to just replenish my own body. (Dan).

Some participants also showed an aversion to some meats, especially an unease about handling raw meat. Others also discussed being fussy with meat, such as disliking handling meat or being specific about not eating fatty pieces, or avoiding tendons etc.

Yeah, I don't like it when there's fat or sort of weird bits on it. They have to be cut out (laugh). And with mince for example, yeah I don't like it when there's hard bits in it. That'll put me off. I might just not finish it if I come across anything like that. (Ava).

3.4. Concern

The fourth and final of the four central themes is that of 'Concern'. This theme pertains to the motivations for flexitarianism arising from the negative consequences of eating meat. Specifically, this theme encapsulates the experiences of participants manoeuvring behavioral change as they are exposed to information and increased awareness of the negative externalities of meat production and consumption. Primarily, the theme of Concern describes the means through which participants concerns are triggered and the key areas of these concerns including environmental, ethical and health domains as well as the resulting emotions experienced by participants. Additionally concerns for factors relating to price sensitivity and variety seeking were also discussed.

For most participants a trigger was through online exposure and documentaries, many mentioned Game Changers and Cowspiracy as sparking their concern and interest in flexitarianism. Although they acknowledge the views expressed online and in documentaries may be biased, most of the participants then did more research, especially through online fact checking and discussions with friends.

Well, it's interesting because, so initially, yeah, Cowspiracy sort of set it all off. But then with, there's just been a slue of documentaries coming out from different nutritional perspectives that, when I've sat down and watched some of them, regardless of which direction they're coming from, there are some parts that I feel are justified and others that don't stack up. (Joy).

Knowledge about food and its consequences was collected from social interactions (online and offline) and documentaries. In fact, documentaries were frequently mentioned as the first source of motivation to reduce meat, while social interaction and discussion allowed for a supportive environment to trialing flexitarianism.

Several motivations for flexitarianism were displayed and usually not a single motivator dominated, instead several motivations existed at the same time. This included (in no particular order), health, environment, ethics, variety and price. The individual motives for health and variety were usually interlinked and a key reason and motivation for a reduced meat diet. Variety was linked to a balanced meal and diet, and thus healthy. Moving beyond the traditional 'meat and three veg' meal they grew up with, participants were keen to have variety, which they saw vegetarian meals offering.

But I think it was more just variety and feeling like growing up, like, literally ate meat every day of the week. And feeling like you didn't need that. As I said, I don't mind eating meat, I think it tastes nice. But I feel like I should not have as much of it, yeah. (Mia).

Another individual motive revolved around price. Many participants, especially those younger and studying, discussed the cost of meat. While price was not the single driver for most, it was a secondary factor alongside more altruistic motives such as environmental or ethical concerns or egoistical, related to health factors. Mixed views about ethical considerations existed. For some it was one of the key drivers, for others it was not a factor at all, and for others it was more a consideration of where (i.e., home kill) and what (i.e., organic, free range) meat was bought.

So, I think the moral argument, like the treatment of animals and stuff like that, like, of course I want them to be treated well, but for me that's not a factor for cutting down on meat. I think people need to be aware of it and make sure that it's all coming from good sources. So, like, I

buy free-range eggs and chicken and stuff like that. But as long as the animal's been treated well, then I have no problem with them being eaten. (Joe).

For other participants a concern for the environmental impact of meat production and consumption was a key motivator for a reduced meat diet. Although all participants were able to reflect on meat productions' impact on the environment and thus knowledgeable (i.e., methane, water pollution), not all participants considered these their personal reason to reduce meat consumption.

However, the increased knowledge and awareness about the food system negatively affected the emotional state of participants. Many participants felt conflicted and/or guilty for continuing to eat meat, usually related to the environment or ethics.

I do, I guess it's one of those things that I feel kind of torn between, because I don't want to, I guess I don't necessary want to consume as much meat. And I want to eat probably less than I do, but I still like the taste of it. But I feel, I don't feel guilty when I eat it, but I would like to eat less of it. So, we tend not to cook red meat that often. (Mia).

However, a sense of pride and awareness about flexitarianism also resulted in participants feeling better about themselves.

I feel more guilt as every bit of meat I consume I think about where it's come from. In some ways I feel better when I eat it too, because it's rarely. I feel more aware of negative impacts on the animals and environment from the meat industry. And I feel a sense of pride when I have a healthy, filling meal without meat. So, pros and cons. (Kyla).

Being able to control consumption in general is seen as a sign of achievement; making a change makes participants see themselves in a favorable light.

I think if you even think about meat reduction or actually are aware of your food choices you're kind of a certain type of person. Like at least you're aware of, maybe you're a bit more empathetic I think. Whereas I think a lot of people just don't really think about it. Yeah, so yeah, I think if you're aware of it then you're probably a bit more of an empathetic person, yeah. (Dan).

For a few participants positive emotions related to consuming food (such as happiness, enjoyment and cravings), as well as emotional ties to food itself (such as family connection/history and sharing food with friends and family), brings a sense of pride.

And, and if there's a really nice social environment around it, then I can, or, yeah, or if it's a really significant or celebrating a success or something, if there's a really great emotional element around why I'm eating it, then I can kind of forego the guilt. Whereas, if I'm by myself, just eating lunch before work or during work or whatever, and I sort of add products, then I'm kind of like, oh, like, why did I even bother doing that? (Joy).

In relation to their concern for the environment, ethics or health, most participants felt their food intake didn't exactly define them. Considering that they didn't 'impose' their diets on others, it wasn't regularly communicated. However, they did believe it said something about the values they had, in a sense, 'practicing what they preach' (i.e., as a caring person for the environment or welfare of animals).

4. Discussion and conclusion

The objective of this paper was to explore the experiences of young adults' adoption of a flexitarian diet. These experiences included their motivations, strategies and barriers. The research finds four main themes related to a young adults' flexitarian experience. In contrast to Piazza's et al. (2015) four N's of meat eating, we present the four C's of flexitarianism. Young adults are encouraged to adopt flexitarianism due to Control through a transition away from home and enabled through cooking strategies, social support and experimentation (including variety seeking), and are motivated due to Concern about various individual and altruistic motivations. However, continual meat consumption is dominated by a need to Compromise at social gatherings, and due to positive associations with variety, nutrients and fullness as well as taste due to Cravings. The factors that affect food choice can be mapped onto the Food Choice Process Model to assess the benefit of the framework in explaining the overall process towards flexitarianism. The factors that affect flexitarianism can be placed across the life course, influences and personal food system (see Fig. 1).

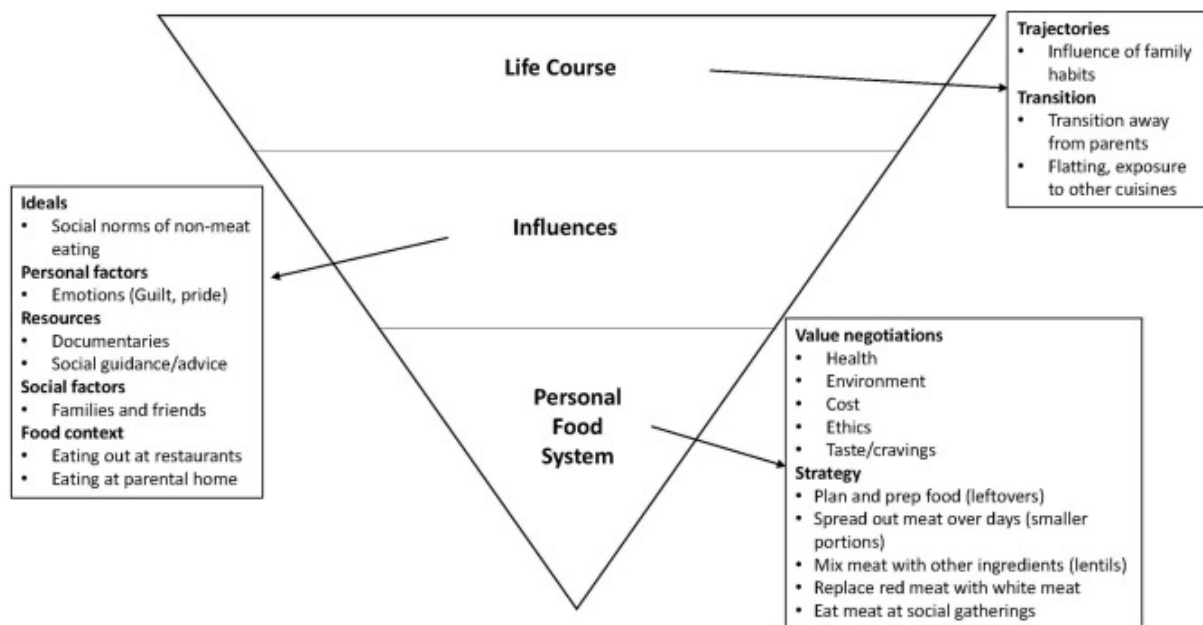


Fig. 1. The food choice process model for flexitarianism in young adults.

The findings contribute to the literature in several ways. Firstly, the research demonstrates that flexitarianism can be a part of a transition away from the family home. The food choice process model suggests that transitions are one aspect of the life course which provide turning points in food consumption (Devine, 2005). The present research adds to the discussion around young adults food choices in their transition away from the family home (e.g., how their diet changes, Beasley et al., 2004; Hilger et al., 2017; Piggford et al., 2008) by providing an in-depth exploration into why these changes occur. The present research indicates that increased control in food purchasing and cooking results in dietary changes, allowing more experimentation and learning as well as encouragement from others (i.e., flatmates). These findings demonstrate that eating habits change and are influenced by introduction to different cuisines and eating habits through flatting, highlighting the importance of exposure to new foods/recipes. Flatting is increasingly common as home ownership falls for young adults (Cribb et al., 2018); this

comradery in flatting allowed a joint journey towards 'giving things a go' and highlights the importance of social support and social learning in flexitarianism (de Backer et al., 2019). While other transitions for young adults such as starting a career or family, or buying a house, were not mentioned, such experiences would be interesting topics of conversation for future research.

Secondly, several strategies are revealed by participants. Eating strategies are rules, procedures, and techniques used for food choice within different contexts; past research has classified these as avoidance, limitation, substitution, routinization, modification, and replacement (Falk et al., 1996; Sobal et al., 2006). Flexitarian strategies include reduced portion sizes (limitation) and increased consumption of plant-based proteins and other vegetables (substitution) as well as other strategies such as spreading meat out over several meals (modification) and reducing the portions of meat bought in store (limitation). Participants also commented that they substituted red meat with other animal proteins such as chicken and fish. Similarly, Verain et al. (2015) found that all flexitarians preferred fish as a substitute to meat. However, in the current study, while meat substitutes were seen as a suitable way to reduce meat for some who didn't know how to cook vegetarian meals, quite a few participants indicated they would not personally eat them because of health concerns (perceived as ultra-processed). Interestingly, many participants mentioned that while the meat replicas were improving, and milk substitutes were most frequently used, cheese substitutes were entirely avoided due to bad taste replication.

Flexitarians who were more confident and experienced in cooking substituted meat for legumes, lentils and tofu, while those less confident in the kitchen utilized vegetables to bulk up their meals and meat substitutes. Previous research also shows that a lack of knowledge of how to prepare meat-free meals, and awareness of appropriate substitutes for meat, presents a strong barrier to change (i.e., low self-efficacy; Lea & Worsley, 2001; Lea et al., 2006b; Schösler et al., 2012; Tucker, 2014). This demonstrates the need to provide more cooking skills and information on plant proteins (i.e., in store, community classes). Considering most participants enjoyed curries and stir fry's, and meals which are easy, convenient and allow for longer storage (to account for unplanned schedules), can be used to promote a switch to a reduced meat diet in social marketing campaigns. The findings further highlight who the target market are for meat substitutes (i.e., less confident cooks) and communications may wish to appeal to these consumers in advertisements campaigns. Future research could examine the nuances of strategies in more depth between different types of flexitarians. For example, Verain et al. (2015) found that conscious flexitarians (lowest frequency of weekly meat consumption) and potential flexitarians (average meat consumption) compared to other flexitarian types use meat substitutes and leave meat out of the meal most often and they are also most open to consuming smaller meat portions.

Thirdly, increased knowledge as well as triggers for flexitarianism usually occurred through documentaries and social interactions (offline and online). Thus, the attaining of knowledge from documentaries and social support and guidance from friends and flatmates highlights the importance of resources in food choice (i.e., skills, help from others). Other research has shown an effect of parental diet on children's diet, especially after leaving home, which show a strong effect of modelling (i.e., model their parents own snack intake and emotional eating) (Dickens & Ogden, 2014) and thus, the importance of trajectories, especially upbringing (Devine et al., 1998). However, the present findings indicate a unique and conscious shift away from parents eating habits. Almost all participants grew up on a heavy meat diet, eating meat every day, but

it seems increased food knowledge, as well as triggers towards flexitarianism acquired by documentaries and social discussions spurs diet change. The prevalence of documentaries in influencing the adoption of meat-free diets has been reported in previous studies (Cooney, 2013; McCormick, 2019). The present research demonstrates that documentaries had an emotional and behavioral impact on participants, adding to the academic research on analyzing the social influence of popular media including documentaries (Janpol & Dilts, 2016; Lindenfeld, 2010) and books (Hormes et al., 2013). In addition, the findings highlight again the important social nature of food and the need for social discussion and support for flexitarianism to spur change in individuals. Social marketing campaigns may wish to utilize or promote social gatherings to advance flexitarian knowledge. Overall, the findings demonstrate the key importance of understanding how and where information is attained to enable behavioral change.

Fourthly, young adults still eat meat due to the attributes of taste, enjoyment, convenience, and perceived nutrients. These factors are held within the personal food system (Furst et al., 1996). Previous research has also shown the dominance of taste in meat consumption (Hebden et al., 2015; Tucker, 2014) and the enjoyment of meat is the strongest perceived barrier to meat reduction (Graça et al., 2015; Lea & Worsley, 2001; Lea et al., 2006b) with indications of meat cravings as an important inhibitor (i.e., de Backer et al., 2019; Kemper, 2020; Piazza et al., 2015). Yet, in previous research taste and cravings were only reasons for violating vegetarian diets in a small proportion of vegetarians (8% and 6% respectively), which may emphasize there are key differences in preferences for meat (i.e., taste) between self-identified vegetarians and flexitarians. Research has also shown that when young adults participate in a higher level of physical activity they placed greater importance on nutritional/health value of foods (Hebden et al., 2015). Similar to De Boer et al. (2017) and Kemper (2020), flexitarians in the present research perceived health/nutrient as a reason to eat meat but also as a motivation to moderate/reduce meat eating. However, participants didn't link meat reduction to weight control like Forestell et al. (2012) found in the motivations of (college) female flexitarians. This is likely due to young adults' health concern taking a secondary position to their concern for the environment and animal welfare (Pribis et al., 2010). Like the recent research by Bayer et al. (2019), while environmental sustainability was an important consideration, so were price and convenience. One avenue suggested by participants was to envision flexitarianism as not an 'all or nothing' approach and that something 'in-between' is fine, where one doesn't have to identify as a meat eater or avoider. The findings indicate that meat reducers don't really identify as 'flexitarian' but that their diet merely reflected their knowledge and values related to environmental and social/animal justice. Rosenfeld et al. (2020) also demonstrate that flexitarians see their diets as less central to their identity when compared to vegans and vegetarians. The 'not all or nothing' strategy could be utilized by social marketing campaigns—possibly creating more of a sense of a flexitarian identity. This strategy may be linked to the Rosenfeld and Tomiyama (2019) conceptualization of vegetarianism as a social identity which may welcome occasional dietary lapses.

Fifthly, the findings link to previous research demonstrating the importance of social situations of meat eating. The research highlights the concept of compromise for flexitarians, a willingness to eat meat outside the home, especially to prevent awkward social situations (i.e., bothering or burdening hosts, and avoiding conflict with family; de Backer et al., 2019). Thus, viewing meat consumption differently across different surroundings and situations (Mylan,

2018). The strategy of negotiation and compromise is a part of the food choice process model (Sobal et al., 2006). In this case, both the idea of 'bothering' family and friends and being seen as 'different' were inhibitors to flexitarianism (i.e., eating meat out). Social factors are also an important influence in the food choice process model (Sobal et al., 2006) and the present findings further the understanding of family roles in this regard as participants didn't want to be rude about their moms' (meat) cooking. For example, Rosenfeld and Tomiyama (2019) also found that vegetarians are most likely to eat meat at family gatherings and on special occasions in order to make social situations flow smoothly. Similarly, Biermann and Rau (2020, p. 104730) found that 59% of flexitarians eat more meat at restaurants. Such concern for offending also reflects the importance of social norms (or ideals) in food choice (Furst et al., 1996) and flexitarianism (Cheah et al., 2020). For example, vegetarian women experience disapproval or hostility from male omnivore family members (Merriman, 2010). However, recent research suggests that meat eating is becoming more frowned upon and unrestricted meat-eaters are the minority in Germany (Bryant et al., 2020). Therefore, (perceived) social support should be an important aspect of flexitarianism social marketing campaigns. Future research may also be interested in meat consumer perceptions of social pressure to eat less meat or transfer from a flexitarian to a vegetarian diet considering the popularity of non-meat diets.

Lastly, the findings suggest that not a single motivator dominates, as suggested by other studies examining flexitarian motives (e.g., Verain et al., 2015), instead several motivations exist at the same time such as health, environment, ethics, variety and price. Such interaction of values demonstrates that most people use a combination of strategies for making food choices, whether simultaneously, sequentially or situationally (Falk et al., 2001). For example, one person may focus on health in all settings, whereas another person may focus on health during the work week but emphasize variety and ethics on the weekend (Sobal et al., 2006). As previously mentioned, health was both a motivator of meat reduction and continued consumption (Kemper, 2020). This is consistent with findings from previous studies that found that concerns over animal welfare and health concerns dominated followed by environmental concerns and wanting to eat more cheaply (Lentz et al., 2018; Tucker, 2014; YouGov, 2019). Indeed, previous research has found that health was the most common reason amongst semi-vegetarians and omnivores to eat more vegetarian meals, but this is followed by favorable taste and the environment for semi-vegetarians while for omnivores, this was followed by discovering new tastes and reducing weight (Mullee et al., 2017). Similar to the findings of Kemper (2020) and Mylan (2018), ethics were mostly verbalized as a consideration of where (i.e., home kill) and what (i.e., organic, free range) meat was bought, with a concern about animal suffering rather than a questioning of animal slaughtering. This may suggest a dissonance reducing strategy (Rothgerber, 2014b). The need for experimentation and variety is also seen as a key motivator for trying vegetarian meals (de Boer et al., 2014; Schösler & de Boer, 2018; Schösler et al., 2012), particularly in young adults (de Boer et al., 2017; Kemper, 2020).

Overall, the increased knowledge and awareness about the meat and the food system affected the emotional state of participants. Such emotional affect and attachment result from personal values and as a result, certain foods are chosen because of emotional cues, moods and feelings (Furst et al., 1996). While feelings of guilt about meat eating have been examined in research (de Backer et al., 2019; Piazza et al., 2015; Rothgerber, 2014a, 2015; Wang & Basso, 2019), such negative emotions haven't been discussed in much depth within the food choice process

model. In this research participants are able to balance and reduce their feelings of guilt with perceptions of food waste (i.e., it's already been cooked, so why not eat it), not being perceived as rude or inconsiderate (i.e., being fussy or rejecting family/friend meals) and the idea of meat flexitarianism as not an 'all or nothing' approach (a balance and 'allowance' of meat consumption). Interestingly, it was not only negative emotions that were exhibited by reducing meat but also positive in relation to pride and a sense of achievement that one was able to reduce their meat. Overall, meat consumption was also still associated with happiness and enjoyment when eating meat-based meals with friends and family. Social marketing campaigns may wish to focus on these positive emotions about reducing meat (i.e., pride) in their communications. These findings also emphasize the importance of emotions within the food process model, especially its ties with personal values and social influences/implications.

As discussed above, the research findings contributions to the literature results in several implications for social marketing. Yet, there are a few limitations of this study, which could provide directions for future research. Firstly, interviews were heavily skewed towards white female participants which decrease the broader applicability of results. Such a limitation is present in other qualitative (i.e., Costa et al., 2019; Markowski & Roxburgh, 2019) and quantitative plant-based diets research (i.e., Haverstock & Forgays, 2012). Yet, a more diverse discussion with different ethnic and religious groups may be of benefit in future research, as well as a focus on males building on recent studies on masculinity (i.e., De Backer et al., 2020). While we focus only on New Zealand, which has rich economic history with animal agriculture, research may wish to focus on other nations which have not typically been involved in meat reduction studies such as Asia. While flexitarianism is a rapidly expanding field of study, most meat reduction/consumption studies have taken place in Europe (particularly the Netherlands) and the U.S (Neff et al., 2018), so we add to the limited research base outside of these nations. While we utilize the food choice process model as a framework (Sobal et al., 2006), future research should also consider the role of other behavioral models in flexitarianism such as the Ecological Model of Health Behavior.

The findings highlight the transition away from home, such as starting university, as an ideal time to educate and introduce plant-based meals. Overall, the research explored in-depth individual experiences and practices in flexitarian young adults, giving a nuanced view and personal reflection of meat reduction (Kemper, 2020), highlighting the importance of social situations (Rosenfeld & Tomiyama, 2019), and emotional connections to meat reduction (i.e., guilt, pride, connection to family). Importantly, the research demonstrates the importance of messaging around meat in social settings and eating out, providing suggestions and direction for flexitarianism social marketing campaigns.

Ethical statement

This research was approved by the University of Auckland Human Participants Ethics Committee. All participants gave informed consent before taking part in the study.

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References

- Apostolidis, C., & McLeay, F. (2019). To meat or not to meat? Comparing empowered meat consumers' and anti-consumers' preferences for sustainability labels. *Food Quality and Preference, 77*, 109–122.
- Baines, S., Powers, J., & Brown, W. J. (2007). How does the health and well-being of young Australian vegetarian and semi-vegetarian women compare with non-vegetarians?. *Public Health Nutrition, 10*(5), 436-442.
- Bamball, K. L., & While, A. (1994). Collecting data using a semi-structured interview: A discussion paper. *Journal of Advanced Nursing, 19*, 328-335.
- Bayer, New Zealand Nutrition Foundation, & AUT. (2019). *The Bayer food focus project*. https://nutritionfoundation.org.nz/sites/default/files/Bayer_Survey%20Report_v10.pdf
- Beardsworth, A., & Bryman, A. (1999). Meat consumption and vegetarianism among young adults in the UK. *British Food Journal*.
- Beasley, L. J., Hackett, A. F., & Maxwell, S. M. (2004). The dietary and health behaviour of young people aged 18–25 years living independently or in the family home in Liverpool, UK. *International Journal of Consumer Studies, 28*(4), 355-363.
- Biermann, G., & Rau, H. (2020). The meaning of meat:(Un) sustainable eating practices at home and out of home. *Appetite, 104730*.
- Brennan, L., Binney, W., Parker, L., Aleti, T., & Nguyen, D. (Eds.). (2014). *Social marketing and behaviour change: Models, theory and applications*. Edward Elgar Publishing.
- Bryant, C., van Nek, L., & Rolland, N. (2020). European markets for cultured meat: a comparison of Germany and France. *Foods, 9*(9), 1152.
- Bruckner, H. K. (2018). Beyond happy meat: Body mapping (dis) connections to animals in alternative food networks. *Area, 50*(3), 322-330.

- Carfora, V., Bertolotti, M., & Catellani, P. (2019). Informational and emotional daily messages to reduce red and processed meat consumption. *Appetite, 141*, 104331.
- Cheah, I., Shimul, A. S., Liang, J., & Phau, I. (2020). Drivers and barriers toward reducing meat consumption. *Appetite, 149*, 104636.
- Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (pp. 222-248). SAGE Publications.
- Cooney, N. (2013). Which factory farming video is more effective? *Humane League Labs*.
<https://osf.io/fyaq9/>
- Connors, M., Bisogni, C. A., Sobal, J., & Devine, C. M. (2001). Managing values in personal food systems. *Appetite, 36*(3), 189-200.
- Cook, K. (2008). In-depth interview. In *The SAGE encyclopedia of qualitative research methods* (pp. 423-423). SAGE Publications.
- Corrin, T., & Papadopoulos, A. (2017). Understanding the attitudes and perceptions of vegetarian and plant-based diets to shape future health promotion programs. *Appetite, 109*, 40-47.
- Costa, I., Gill, P. R., Morda, R., & Ali, L. (2019). "More than a diet": A qualitative investigation of young vegan women's relationship to food. *Appetite, 143*, 104418.
- Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice, 39*(3), 124-130.
- Cribb, J., Hood, A., & Hoyle, J. (2018). *The decline of homeownership among young adults* (IFS Briefing note BN224).
<https://www.ifs.org.uk/uploads/publications/bns/BN224.pdf>
- Dagevos, H., & Voordouw, J. (2013). Sustainability and meat consumption: is reduction realistic? *Sustainability: Science, Practice and Policy, 9*(2), 60-69.

- de Backer, C. J., Erreygers, S., De Cort, C., Vandermoere, F., Dhoest, A., Vrinten, J., & Van Bauwel, S. (2020). Meat and masculinities. Can differences in masculinity predict meat consumption, intentions to reduce meat and attitudes towards vegetarians?. *Appetite*, *147*, 104559.
- de Backer, C. J., Fisher, M. L., Dare, J., & Costello, L. (Eds.). (2019). *To eat or not to eat meat: How vegetarian dietary choices influence our social lives*. Rowman & Littlefield.
- de Backer, C. J., & Hudders, L. (2014). From meatless Mondays to meatless Sundays: Motivations for meat reduction among vegetarians and semi-vegetarians who mildly or significantly reduce their meat intake. *Ecology of Food and Nutrition*, *53*(6), 639-657.
- de Backer, C. J., & Hudders, L. (2015). Meat morals: Relationship between meat consumption consumer attitudes towards human and animal welfare and moral behavior. *Meat Science*, *99*, 68-74.
- de Boer, J., Schösler, H., & Aiking, H. (2014). “Meatless days” or “less but better”? Exploring strategies to adapt Western meat consumption to health and sustainability challenges. *Appetite*, *76*, 120–128.
- de Boer, J., Schösler, H., & Aiking, H. (2017). Towards a reduced meat diet: Mindset and motivation of young vegetarians, low, medium and high meat-eaters. *Appetite*, *113*, 387–397.
- Derbyshire, E. J. (2017). Flexitarian diets and health: a review of the evidence-based literature. *Frontiers in Nutrition*, *3*, 55.
- Devine, C. M. (2005). A life course perspective: understanding food choices in time, social location, and history. *Journal of Nutrition Education and Behavior*, *37*(3), 121-128.
- Devine, C. M., Connors, M., Bisogni, C. A., & Sobal, J. (1998). Life-course influences on fruit and vegetable trajectories: qualitative analysis of food choices. *Journal of Nutrition Education*, *30*(6), 361-370.
- Dickens, E., & Ogden, J. (2014). The role of parental control and modelling in predicting a child’s diet and relationship with food after they leave home. A prospective study. *Appetite*, *76*, 23-29.
- Ensaff, H., Coan, S., Sahota, P., Braybrook, D., Akter, H., & McLeod, H. (2015). Adolescents' food choice and the place of plant-based foods. *Nutrients*, *7*, 4614-4632

- Faber, I., Castellanos-Feijóo, N. A., Van de Sompel, L., Davydova, A., & Perez-Cueto, F. J. (2020). Attitudes and knowledge towards plant-based diets of young adults across four European countries. Exploratory survey. *Appetite, 145*, 104498.
- Falk, L. W., Bisogni, C. A., & Sobal, J. (1996). Food choice processes of older adults: a qualitative investigation. *Journal of Nutrition Education, 28*(5), 257-265.
- Falk, L. W., Sobal, J., Bisogni, C. A., Connors, M., & Devine, C. M. (2001). Managing healthy eating: definitions, classifications, and strategies. *Health Education & Behavior, 28*(4), 425-439.
- Fischer, C. G., & Garnett, T. (2016). *Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: A state of play assessment*. Food and Agriculture Organization of the United Nations.
- Forestell, C. A., Spaeth, A. M., & Kane, S. A. (2012). To eat or not to eat red meat. A closer look at the relationship between restrained eating and vegetarianism in college females. *Appetite, 58*(1), 319-325.
- Furst, T., Connors, M., Bisogni, C. A., Sobal, J., & Falk, L. W. (1996). Food choice: a conceptual model of the process. *Appetite, 26*(3), 247-266.
- Gorton, M., & Barjolle, D. (2013). Theories of food choice. In Barjolle, D., Gorton, M., Milošević Đorđević, J., Stojanović, Ž. (Eds.), *Food consumer science* (pp. 15-26). Springer, Dordrecht.
- Graça, J., Oliveira, A., & Calheiros, M. M. (2015). Meat, beyond the plate. Data-driven hypotheses for understanding consumer willingness to adopt a more plantbased diet. *Appetite, 90*(1), 80-90.
- Haider, L. M., Schwingshackl, L., Hoffmann, G., & Ekmekcioglu, C. (2018). The effect of vegetarian diets on iron status in adults: A systematic review and meta-analysis. *Critical Reviews in Food Science and Nutrition, 58*(8), 1359-1374.

- Haverstock, K., & Forgays, D. K. (2012). To eat or not to eat. A comparison of current and former animal product limiters. *Appetite*, *58*(3), 1030–1036.
- Hebden, L., Chan, H. N., Louie, J. C., Rangan, A., & Allman-Farinelli, M. (2015). You are what you choose to eat: Factors influencing young adults' food selection behaviour. *Journal of Human Nutrition and Dietetics*, *28*(4), 401-408.
- Hilger, J., Loerbroks, A., & Diehl, K. (2017). Eating behaviour of university students in Germany: Dietary intake, barriers to healthy eating and changes in eating behaviour since the time of matriculation. *Appetite*, *109*, 100-107.
- Hoek, A. C., Luning, P. A., Stafleu, A., & de Graaf, C. (2004). Food-related lifestyle and health attitudes of Dutch vegetarians, non-vegetarian consumers of meat substitutes, and meat consumers. *Appetite*, *42*(3), 265-272.
- Horgan, G. W., Scalco, A., Craig, T., Whybrow, S., & Macdiarmid, J. I. (2019). Social, temporal and situational influences on meat consumption in the UK population. *Appetite*, *138*, 1-9.
- Hormes, J. M., Rozin, P., Green, M. C., & Fincher, K. (2013). Reading a book can change your mind, but only some changes last for a year: food attitude changes in readers of *The Omnivore's Dilemma*. *Frontiers in Psychology*, *4*, 778.
- Hudson, M. M., & Findlay, S. (2006). Health-risk behaviors and health promotion in adolescent and young adult cancer survivors. *107*(S7), 1695-1701.
- IPCC. (2019). *IPCC Special Report on Climate Change, Desertification, Land Degradation, Sustainable Land Management, Food Security, and Greenhouse gas fluxes in Terrestrial Ecosystems*. Retrieved from IPCC website:
<https://www.ipcc.ch/site/assets/uploads/2019/08/Fullreport.pdf>
- Janpol, H. L., & Dilts, R. (2016). Does viewing documentary films affect environmental perceptions and behaviors? *Applied Environmental Education & Communication*, *15*(1), 90-98.

- Kemper, J. A. (2020). Motivations, barriers, and strategies for meat reduction at different family lifecycle stages. *Appetite*, *150*, 104644.
- Kemper, J. A., & Ballantine, P. W. (2019). Targeting the structural environment at multiple social levels for systemic change. *Journal of Social Marketing*. *10*(1), 38-53.
- Kim, B. F., Santo, R. E., Scatterday, A. P., Fry, J. P., Synk, C. M., Cebren, S. R., ... Bloem, M. W. (2019). Country-specific dietary shifts to mitigate climate and water crises. *Global Environmental Change*, 101926.
- King, N. (2012). Doing template analysis. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges*. London, UK: SAGE Publications, Ltd.
- Lang, T., & Barling, D. (2013). Nutrition and sustainability: An emerging food policy discourse. *The Proceedings of the Nutrition Society*, *72*(1), 1-12
- Lea, E. J., Crawford, D., & Worsley, A. (2006a). Public views of the benefits and barriers to the consumption of a plant-based diet. *European Journal of Clinical Nutrition*, *60*(7), 828-837
- Lea, E., Crawford, D., & Worsley, A. (2006b). Consumers' readiness to eat a plant-based diet. *European Journal of Clinical Nutrition*, *60*(3), 342-351
- Lea, E., & Worsley, A. (2001). Influences on meat consumption in Australia. *Appetite*, *36*(2), 127-136.
- Lentz, G., Connelly, S., Miroso, M., & Jowett, T. (2018). Gauging attitudes and behaviours: Meat consumption and potential reduction. *Appetite*, *127*, 230-241.
- Lincoln, Y. S. (2005). Context, lived experience, and qualitative research. In R.A. Swanson, E.F. Holton, *Research in organizations: Foundations and methods of inquiry*, 221-232. Berrett-Koehler Publishers: San Francisco, California.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: SAGE Publications, Ltd.

- Lindenfeld, L. (2010). Can documentary food films like Food Inc. Achieve their promise? *Environmental Communication*, 4(3), 378-386.
- Lund, T. B., McKeegan, D. E., Cribbin, C., & Sandøe, P. (2016). Animal ethics profiling of vegetarians, vegans and meat-eaters. *Anthrozoös*, 29(1), 89-106.
- Malek, L., & Umberger, W. J. (2021). Distinguishing meat reducers from unrestricted omnivores, vegetarians and vegans: A comprehensive comparison of Australian consumers. *Food Quality and Preference*, 88, 104081.
- Malhorta, N. K. (2010). *Marketing Research: An applied orientation* (6th ed.). Prentice Hall.
- Markowski, K. L., & Roxburgh, S. (2019). "If I became a vegan, my family and friends would hate me:" Anticipating vegan stigma as a barrier to plant-based diets. *Appetite*, 135, 1–9.
- McCormick, B. (2019, March 4). Why people go vegan: 2019 global survey results. *Vomad*.
<https://vomadlife.com/blogs/news/why-people-go-vegan-2019-global-survey-results>
- McCracken, M., Jiles, R., & Blanck, H. M. (2007). Health behaviors of the young adult US population: Behavioral risk factor surveillance system, 2003. *Preventing Chronic Disease*, 4(2).
- Merriman, B. (2010). Gender differences in family and peer reaction to the adoption of a vegetarian diet. *Feminism & Psychology*, 20(3), 420-427.
- Moldovan, A. R., & David, D. (2012). Features of automaticity in eating behavior. *Eating Behaviors*, 13(1), 46-48.
- Movassagh, E. Z., Baxter-Jones, A. D., Kontulainen, S., Whiting, S., Szafron, M., & Vatanparast, H. (2018). Vegetarian-style dietary pattern during adolescence has long-term positive impact on bone from adolescence to young adulthood: a longitudinal study. *Nutrition Journal*, 17(1), 36.

- Mylan, J. (2018). Sustainable consumption in everyday life: a qualitative study of uk consumer experiences of meat reduction. *Sustainability*, *10*(7), 2307.
- Mullee, A., Vermeire, L., Vanaelst, B., Mullie, P., Deriemaeker, P., Leenaert, T., De Henauw, S., Dunne, A., Gunter, M.J., Clarys, P. & Huybrechts, I. (2017). Vegetarianism and meat consumption: A comparison of attitudes and beliefs between vegetarian, semi-vegetarian, and omnivorous subjects in Belgium. *Appetite*, *114*, 299-305.
- Neff, R. A., Edwards, D., Palmer, A., Ramsing, R., Righter, A., & Wolfson, J. (2018). Reducing meat consumption in the USA: A nationally representative survey of attitudes and behaviours. *Public Health Nutrition*, *21*(10), 1835–1844.
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, *42*(5), 533-544.
- Park, M. J., Scott, J. T., Adams, S. H., Brindis, C. D., & Irwin, C. E. (2014). Adolescent and young adult health in the United States in the past decade: little improvement and young adults remain worse off than adolescents. *Journal of Adolescent Health*, *55*(1), 3-16.
- Piazza, J., Ruby, M. B., Loughnan, S., Luong, M., Kulik, J., Watkins, H. M., & Seigerman, M. (2015). Rationalizing meat consumption. The 4Ns. *Appetite*, *91*, 114-128.
- Piggford, T., Raciti, M., Harker, D., & Harker, M. (2008). The influence of residence on young adult attitudes toward healthy eating. *Social Marketing Quarterly*, *14*(2), 33-49.
- Poobalan, A. S., Aucott, L. S., Clarke, A., & Smith, W. C. S. (2014). Diet behaviour among young people in transition to adulthood (18–25 year olds): A mixed method study. *Health Psychology and Behavioral Medicine: An Open Access Journal*, *2*(1), 909-928.

- Pribis, P., Pencak, R. C., & Grajales, T. (2010). Beliefs and attitudes toward vegetarian lifestyle across generations. *Vegetarian Nutrition*, 2(5), 523-531.
- Rosenfeld, D. L. (2018). The psychology of vegetarianism: Recent advances and future directions. *Appetite*, 131, 125-138.
- Rosenfeld, D. L., Rothgerber, H., & Tomiyama, A. J. (2019). Mostly vegetarian, but flexible about it: investigating how meat-reducers express social identity around their diets. *Social Psychological and Personality Science*, 11(3), 406-415.
- Rosenfeld, D. L., Rothgerber, H., & Tomiyama, A. J. (2020). From mostly vegetarian to fully vegetarian: Meat avoidance and the expression of social identity. *Food Quality and Preference*, 103963.
- Rosenfeld, D. L., & Tomiyama, A. J. (2019). When vegetarians eat meat: Why vegetarians violate their diets and how they feel about doing so. *Appetite*, 143, 104417.
- Rosenfeld, D. L., & Tomiyama, A. J. (2020). Taste and health concerns trump anticipated stigma as barriers to vegetarianism. *Appetite*, 144, 104469.
- Rothgerber, H. (2014a). A comparison of attitudes toward meat and animals among strict and semi-vegetarians. *Appetite*, 72, 98-105.
- Rothgerber, H. (2014b). Efforts to overcome vegetarian-induced dissonance among meat eaters. *Appetite*, 79, 32-41.
- Rothgerber, H. (2015). Can you have your meat and eat it too? Conscientious omnivores, vegetarians, and adherence to diet. *Appetite*, 84, 196-203.
- Rowland, M. P. (2018, March 23). Millennials are driving the worldwide shift away from meat. *Forbes*.
<https://www.forbes.com/sites/michaelpellmanrowland/2018/03/23/millennials-move-away-from-meat/#1a7c5bc7a4a4>
- Schösler, H., & de Boer, J. (2018). Towards more sustainable diets: Insights from the food philosophies of “gourmets” and their relevance for policy strategies. *Appetite*, 127, 59–68.

- Schösler, H., de Boer, J., & Boersema, J. J. (2012). Can we cut out the meat of the dish? Constructing consumer-oriented pathways towards meat substitution. *Appetite*, 58(1), 39–47.
- Sobal, J., Bisogni, C. A., Devine, C. M., & Jastran, M. (2006). A conceptual model of the food choice process over the life course. *Frontiers in Nutritional Science*, 3, 1.
- Stoll-Kleemann, S., & Schmidt, U. J. (2017). Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: a review of influence factors. *Regional Environmental Change*, 17(5), 1261-1277.
- Stroebele, N., & De Castro, J. M. (2004). Effect of ambience on food intake and food choice. *Nutrition*, 20(9), 821-838.
- Tucker, C. (2014). The significance of sensory appeal for reduced meat consumption. *Appetite*, 81, 168-179
- Veganz. (2020). Veganz nutrition study 2020. <https://vegan.com/blog/vegan-nutrition-study-2020/>
- Verain, M., Dagevos, H., & Antonides, G. (2015). Flexitarianism: a range of sustainable food styles. In L.A. Reisch & J. Thøgersen (Eds.), *Handbook of research on sustainable consumption*. Edward Elgar Publishing.
- Vergeer, L., Vanderlee, L., White, C. M., Rynard, V. L., & Hammond, D. (2020). Vegetarianism and other eating practices among youth and young adults in major Canadian cities. *Public Health Nutrition*, 23(4), 609-619.
- Von Essen, E. (2020). Young adults' transition to a plant-based diet as a psychosomatic process: A psychoanalytically informed perspective. *Appetite*, 157, 105003.
- Wansink, B. (2004). Environmental factors that increase the food intake and consumption volume of unknowing consumers. *Annual Review Nutrition*, 24, 455-479.
- Wang, F., & Basso, F. (2019). “Animals are friends, not food”: Anthropomorphism leads to less favorable attitudes toward meat consumption by inducing feelings of anticipatory guilt. *Appetite*, 138, 153-173.

YouGov. (2019). *Is the future of food flexitarian? YouGov analysis of Britis' dietary habits and attitudes to meat consumption.* <https://campaign.yougov.com/rs/060-QFD-941/images/Is%20the%20future%20of%20food%20flexitarian.pdf>

Zur, I., & A. Klöckner, C. (2012). Individual motivations for limiting meat consumption. *British Food Journal*, 116(4), 629-642.