



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Plant-based Meat Alternative Products versus Conventional Meat

Exploring the Construction of Consumers' Perception from a High
Meat-Eaters Perspective

by

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May 2022

Master's Programme in International Marketing and Brand
Management

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Abstract

Title: Plant-based Meat Alternative products versus Conventional Meat: Exploring the Construction of Consumers' Perception from a High Meat-Eaters Perspective

Course: BUSN39 Degree Project in Global Marketing

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Keywords: Consumer Perception, Sustainable Consumption, Meat Consumption, Plant-based Meat Alternative Products (PBMA), Plant-based diets

Purpose: The purpose of the study was to acquire an understanding of how consumers build their perception towards PBMA products from the viewpoint of high meat-eaters.

Methodology/Empirical data: The study is based on the foundation of social constructionism philosophy. The research design for this study is qualitative, and adopts an inductive approach to develop general concepts based on findings. The data is collected through 15 semi-structured interviews from high meat-eaters belonging to the young generations.

Findings/Conclusion: Findings in this study imply that the perception towards PBMA products is built upon three main contributors. First, the different identified reasons underlying the consumers' affinity towards the meat are found to be core contributors to the formation of perception towards PBMA products, which are culture and family habits, nutrition and health, taste and feeling, and convenience and availability. In addition, these reasons were found to affect the consumers' degree of openness and reluctance to meat reduction and PBMA acceptance. Second, the awareness of PBMA products, the previous experiences with these products as well as the preconceived notions and expectations related to these products, were also found relevant to the construction of consumer perception. Further, the level of curiosity for trying new types of food was found to affect consumers' willingness to try PBMA products. Lastly, it has been found that the perception also depends on consumers' personal views on sustainability.

Acknowledgements

We would like to express our deepest gratitude to all those who supported us throughout the writing of the final degree project of the Master of Science in International Marketing and Brand Management at Lund University School of Economics and Management.

First, we would like to sincerely thank our supervisor Hossain Shahriar for guiding us and giving us constructive and useful feedback during this thesis journey.

Secondly, we want to thank all the respondents that participated in the interviews. All the participants provided valuable inputs and meaningful information that enabled us to increase our knowledge and fulfill the research purpose of the thesis.

Last but not least, we want to thank our social circles for encouraging us to give our best during a tough and stressful time.



Akanshya Mishra



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Lund, Sweden, May 31st 2022

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1. Introduction

The first chapter presents the research domain and provides background information in relation to the environmental impact of the meat industry and the existence of plant-based meat alternatives products. Thereafter, the problematization and the research gap are presented, followed by the research purpose, the relevance of the study and the research contributions. Ultimately, an overview of the study structure is described in the thesis outline.

1.1 Background

During the last decade, there has been a high concern on sustainability and climate change which has led to an increasing consumer demand for sustainable products (Gershoff & Frels, 2014; White, Habib & Hardisty, 2019). In turn, many companies are incorporating sustainability practices in their agendas (Elg, Hultman & Welinder, 2021) and have recognized the urgency to change the way of doing business towards a more sustainable path (Gast, Gundolf & Cesinger, 2017). Particularly, the food industry has experienced a considerable growth of more sustainable food products due to the need to mitigate the environmental impacts of increasing food product demands (He, Evans, Liu & Shao, 2020). Food production systems contribute approximately a quarter of the total climate impact created by humans globally (Poore & Nemecek, 2018). For instance, animal farming is the second biggest contributor of human-made greenhouse gas (GHG), producing around 14,5% of global GHG emissions (Gerber, Steinfeld, Henderson, Mottet, Opio, Dijkman, Faluccci & Tempio, 2013), and is also the main source of deforestation, biodiversity loss, water, and air contamination (Climatenexus, n.d).

Due to consumer concerns regarding the environment, animal well-being and health issues related to the meat industry, the interest for plant-based diets has increased in recent years together with dairy and meat alternative products (Lonkila & Kaljonen, 2021; WHO, 2021). According to scholars within sustainability and food science, to confront the current environmental challenges and achieve a transition towards more sustainable diets, improvements are needed in both production and consumption side (Potter & Rööös, 2021) and a decrease of meat intake is necessary

worldwide (de Boer & Aiking, 2017; Graça, Godinho, & Truninger, 2019). However, while meat alternative products and plant-based diets have raised popularity in many developed countries as environmental concerns increase (Janssen, Busch, Rödiger, & Hamm, 2016), many consumers are not aware that food consumption is a meaningful behaviour in terms of the environment (Beverland, 2014). According to the European Consumer Organization (2020), some consumers are inclined to undervalue the environmental effect of their eating habits. Furthermore, some studies argue that many consumers do not have knowledge of the impact meat consumption has in the environment (MacDiarmid, Douglas & Campbell, 2016; Michel, Hartmann, Siegrist, 2021; Mylan, 2018), which makes it more challenging to promote a move towards a sustainable diet. According to FAO (2010), sustainable diets are defined as:

Those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.

According to scholars within sustainability and food science, there are different ways to adopt a more sustainable diet from the consumer side (Aiking & de Boer, 2018): either by cutting completely the animal meat consumption (de Boer & Aiking, 2017) or by decreasing the amount of meat consumed (Aiking & de Boer, 2018; Dagevos & Reinders, 2018). The former relates to adopting a vegan or a vegetarian diet and the latter is related to a flexitarian diet. However, studies within the consumer research field argue that reducing or eliminating the meat intake is a big challenge since food consumption decisions are closely related to traditions, culture and identity (Beverland, 2014) and meat is considered a crucial element of human diets since the existence of humanity (Stanford & Bunn, 2001). Although modifying consumer food behavior and habits is a difficult task (Sanchez-Sabate & Sabaté, 2019; Klöckner & Verplanken, 2012), some authors argue that environmental concerns can influence consumer decisions (Joshi & Rahman, 2015). Therefore, being conscious of the environmental impact derived from the meat industry in terms of environment, health and animal well-being, could lead to a decrease of the meat consumption behavior (He et al., 2020; Whitmarsh & O'Neill, 2010) and could enable a transition towards a more sustainable diet (Niva, Vainio & Jallinoja, 2017).

In addition, scholars within food studies have argued that a key element to achieve a reduction of meat consumption is by substituting conventional meat with plant-based meat alternative (PBMA) products (Aiking & de Boer, 2018; Godfray, Aveyard, Garnett, Hall, Key, Lormer, Pierrehumbert, Scarborough, Springmann & Jebb, 2018; Willett et al., 2019). Plant-based protein products such as tofu, seitan and tempeh have been available in the market since decades ago and are considered to be the first generation of PBMA products (He et al., 2020; Jahn, Strassner and Furchheim, 2021). In recent years, a new generation of PBMA products (which can also be referred to as meat substitutes or meat analogues) has been introduced in the market and are meant to act as a replacement of conventional meat by imitating the form, taste and preparation of meat (Hoek, Luning, Weijzen, Engels, Kok & Graaf, 2011). This second generation of PBMA products comprise a variety of products such as burgers and sausages, and attempt to go beyond the green consumer segment (e.g. vegan and vegetarian) by attracting meat consumers and helping them to reduce the conventional amount of meat consumed (Hoek et al., 2011). Although the market of meat substitutes is increasing and has improved in recent years, PBMA products are not widely accepted by consumers for different reasons, which represents a big challenge to achieve a reduction of worldwide meat consumption and a shift towards a more sustainable diet (Jahn, Furchheim and Strässner, 2021; He et al., 2020). In order to promote a more sustainable diet and the consumption of PBMA products, it is important to understand how consumers construct their perception towards these new products, especially from the perspective of high meat-eaters since they frequently consume meat and animal-based products in their everyday diet.

1.2 Problematization

Over the last decade, some scholars within the food and sustainability field have studied consumers' understanding of plant-based diets and meat substitutes products. The existing literature covers a variety of aspects such as barriers and facilitators of meat substitute products adoption (Collier, Oberrauter, Normann, Norman, Svensson, Niimi & Bergman, 2021; Circus & Robison, 2019; Varela, Arvisenet, Gonera, Myhrer, Fifi & Valentin, 2022), consumer experiences of meat reduction and consumption of meat substitutes products (Elzerman, van Boekel & Luning, 2013; Mylan, 2018), as well as consumer awareness about environmental impacts of livestock

farming and willingness of reducing the meat intake (Collier et al., 2021; Macdiarmid, Douglas & Campbell, 2016).

A pattern of similarities and differences can be seen in the findings of previous research in relation to meat alternative products. The common barriers found in these studies to reduce meat intake and adopt meat substitute products are: uncertainty about the quality, production process, texture and taste (Collier et al., 2021; Havermans, Rutten & Bartelet, 2021; McBey, Watts & Johnstone, 2019), lack of information and high price (Elzerman, van Boekel & Luning, 2013; Havermans, Rutten & Bartelet, 2021), and the social norms and culture related with meat consumption (Collier et al., 2021; Jahn, Strassner & Furchheim, 2021; McBey, Watts & Johnstone, 2019; Mylan, 2018). Further, some of these studies have emphasized the lack of awareness of the association between meat consumption and climate change (Collier et al., 2021; Macdiarmid, Douglas & Campbell, 2016; McBey, Watts & Johnstone, 2019). Yet, the young generation is more knowledgeable about environmental and ethical issues in relation to meat consumption (McBey, Watts & Johnstone, 2019).

These studies have focused on different target groups based on a variety of variables such as personal factors i.e. gender, educational qualification, age, socio-economic groups and stage of life course (Havermans, Rutten & Bartelet, 2021; McBey, Watts & Johnstone, 2019; Macdiarmid, Douglas & Campbell, 2016). For example, Havermans, Rutten and Bartelet (2021) examined the intention of adopting a more plant-based diet among adolescents. A different perspective was taken in the study conducted by Macdiarmid, Douglas and Campbell (2016) which explored the public knowledge of the environmental impact of the meat industry and the intentions of reducing meat consumption among adults from a range of socio-economic groups living in both rural and urban settings. Some studies are based on the cultural context i.e. nationality (Collier et al., 2021; Mylan, 2018; Varela et al., 2022). For instance, Varela et al. (2022) focused on studying the perception of Norwegian and French consumers to shift diet from conventional meat to plant-based protein. Similarly, Collier et al. (2021) examined the perspectives of Swedish consumers' regarding meat reduction and consumption of meat alternative products. Likewise, Elzerman, van Boekel and Luning (2013) explored consumers' experiences and expectations of meat alternatives among the Dutch population. Additionally, there are few studies based on abstract theoretical studies with no specific target group i.e. general population (Circus & Robison, 2019; Mylan, 2018). For example,

Circus and Robison (2019) examined consumers' perception of sustainable proteins (i.e. lab-grown meat, edible insects, plant-based meat alternatives) among meat consumers, meat reducers and consumers following a plant-based diet.

Although there is some research done on consumers' understanding of plant-based diets and meat alternative products using different target groups (Circus & Robison, 2019; Collier et al., 2021; Elzerman, van Boekel & Luning, 2013; Macdiarmid, Douglas & Campbell, 2016; McBey, Watts & Johnstone, 2019; Mylan, 2018; Varela et al., 2022), these studies have not focused exclusively on high meat-eaters.

Within the consumer research field, scholars have studied various related concepts including consumer perception, sustainable consumption, plant-based diet, vegan diet, consumer risk perception and consumer food safety (Heiskanen & Pantzar, 1997; Ghaffari, Rodrigo, Ekinici & Pino, 2021). The existing studies on sustainability have mostly focused on consumer behavior, social influences and sustainability challenges in different industries (Boström & Micheletti, 2016; Nguyen & Jhonson, 2020). In relation to the concept of sustainable consumption, studies have focused on practices, perspectives and opportunities of sustainable consumption (Heiskanen & Pantzar, 1997; Schrader & Thøgersen, 2011). The existing literature in consumer perception within consumer research has mostly explored different product and marketing related aspects such as product packaging, price fairness, loyalty programs, product satisfaction, product labels, marketing campaigns, brand familiarity and brand trust (Bolton, Warlop & Alba, 2003; Drèze & Nunes, 2009). Few studies explored consumer perception of food related aspects within the consumer research field such as organic farming for improving sustainability in the food sector and health claims in food labels (Aschemann-Witzel & Zielke, 2015; Mazis & Raymond, 1997). However, consumer researchers have overlooked consumer perception relating to PBMA products. Thus, consumer research lacks a more specific perspective of consumer perception towards PBMA products.

To address the stated theoretical research gaps, the present paper intends to understand the way the perception is built towards PBMA products focusing exclusively on high meat-eaters from a consumer research perspective.

1.3 Research Purpose

This research intends to answer the following research question:

How consumers construct their perception towards PBMA products?

This study aims to explore the different ways consumers built their perception towards the second generation of plant-based meat alternative (PBMA) products, focusing specifically on high meat-eaters belonging to the younger generations. This study considers a high meat-eater as an individual that consumes a piece of meat 5 days or more per week. To study young people, the examination is done through the perspective of Millennials (1981-1996) and Generation Z (1997-2012).

This research studies young generations given that the younger generations are more knowledgeable about environmental and ethical issues in relation to meat consumption (McBey, Watts & Johnstone, 2019). Further, it is important to understand and analyze sustainable food choices, diets and consumption behaviors of the Millennials and Generation Z, as these will be the future guardians and parents, as well as the social, political, educational and financial elites that will shape the future of sustainable consumption and development policies of future societies (Kamenidou, Mamalis, Pavlidis & Bara, 2019).

1.4 Relevance of the Study and Research Contributions

Given that meat demand is increasing globally and the meat industry is one of the main reasons causing global warming, decreasing animal protein consumption is an important issue in regards to the environment, food security and public health (Sanchez-Sabate & Sabaté, 2019). In fact, some studies suggest decreasing animal-based protein consumption as one of the main solutions to reduce climate change (Beverland, 2014; Stehfest, Bouwman, Van Vuure den Elzen, Eickhout & Kabat, 2009). Thus, considering high meat-eaters are the ones that consume more animal-based products and one of the main target groups for the new generation of PBMA brands, understanding the way their perception is build towards these products might provide critical insights needed for

society to effectively encourage meat consumers to move towards a more sustainable diet and reduce the adverse effects on the environment caused by the animal meat industry.

Through our research we aim to contribute to the existing literature in the research streams of consumer perception and sustainable consumption within the consumer research field by understanding how consumers build their perception towards PBMA products, as well as their views on sustainability issues, meat consumption and plant-based diets with a focus on high meat-eaters. We intend to do so by uncovering different aspects in relation to the way consumers make sense of aforementioned issues and how these meanings affect their perception regarding PBMA products. This research can provide insights on how consumers' perceptions are built with respect to different social, cultural and demographic environments. This in turn, can help to understand how consumers can be encouraged to adopt a more sustainable diet. Furthermore, studying sustainable consumption within consumer research can assist marketing, consumer researchers and public policy makers in addressing numerous sustainability challenges in a better way (Prothero, Dobscha, Freund, Kilbourne, Luchs, Ozanne and Thøgersen, 2011).

1.5 Thesis outline

The present study comprises six main chapters. In this first introductory chapter, an overview of the research area is presented in order to provide background information and allow the reader to have knowledge about the context of the study. Moreover, the research gap and the research purpose are described together with the relevance of the study and the research contributions. Thereafter, a literature review is presented in which five key concepts are described. At the end of the second chapter, there is a summary of the literature review highlighting the way these concepts are relevant and related to the research area. In the third chapter, the methodological approach followed in the research is presented by describing the research philosophy, the research approach, and the research design. Furthermore, the quality and trustworthiness of the research along with the research ethics is described. In the fourth chapter, the empirical findings based on the data gathered is presented thematically. In the fifth chapter, the empirical findings are analyzed and discussed along with the concepts presented in the literature review chapter. The sixth chapter is a concluding chapter in which a summary of the main research findings is presented, together with

the theoretical contributions and practical implications of the research. To finalize, the limitations of the research and suggestions for future research are described.

2. Literature Review

In the following chapter, five relevant concepts related to the thesis topic are presented, together with previous academic research in order to have a broader understanding on the subject studied. First, the concept of consumer perception is defined along with an explanation of the importance of consumer perception when it comes to food decisions. Second, an overview of sustainable consumption and the consumer perception of sustainable consumption is given since it can carry different meanings for different individuals and meat alternative products are a way of sustainable consumption. Third, an explanation of the consumer perception of plant-based diets is presented from consumers following different diets. Afterwards, a brief explanation of the different plant-based meat products is presented together with the main findings of the existing literature in relation to the consumers' perception towards these products. Lastly, a general outlook of important factors affecting consumer perception in relation to food safety and health are explained, which include consumer perception of food safety over animals, the consumer risk perception and the consumer perception of information.

2.1 Consumer Perception

2.1.1 An Introduction to Consumer Perception

From a biological perspective, perception is related to the five senses individuals' use to collect information from the environment (Taufique, Polonsky, Vocino & Siwar, 2019). However, from a consumer research perspective, perception goes beyond the human senses and has been widely studied by scholars within consumer behaviour for decades (Shiffman & Kanuk, 1987; Kotler & Keller, 2006). There are different definitions of consumer perception from a consumer behavior perspective. According to Shiffman and Kanuk (1987), perception refers to the way individuals “select, organize, and interpret information inputs to create a meaningful picture of the world” (p. 174). These authors highlight the subjective nature of perception as it is unique for each individual and varies depending on the individual's interpretation of the reality. Furthermore, there are different aspects that have an effect on perception and the way a person acts depends on the personal view of the situation (Kotler & Keller, 2006) as well as on their needs, expectations, past experiences and socio-cultural environment (Shiffman & Kanuk, 1987). In the marketing field, perceptions are considered more relevant than the reality itself, given that they have an impact on

the consumer purchasing behavior (Kotler & Keller, 2006) and are considered to have an important role in consumers' life (Agyekum, Haifeng & Agyeiwaa, 2015).

2.1.2 Consumer Perception regarding food choices

In the food domain, there are a variety of personal factors that have an impact on food choices and diet habits (Contento, 2016). These personal factors include perceptions, attitudes and beliefs, motivations and values, personal meanings, social and cultural norms as well as knowledge and skills. Individuals construct perceptions as well as expectations and feelings about food products (Contento, 2016). According to Rozin, Pelchat and Fallon (1986) (p. 30 as cited in Matsumoto & Otsuki, 2018) consumers' food decisions are greatly affected by perceptions of food product properties than the actual physical properties. However, sensory observations from product characteristics such as appearance and taste are also key to individuals' perception (Sitjsema, Linneamann, Van Gaasbeek, Dagevos & Jongen, 2002). Similarly, Bhuiyan and Rahim (2015) argued that consumers' sensory perception of food characteristics determine food choices. Thus, consumer perception is a complex process of the brain and the senses that depend on a variety of elements (Sitjsema et al., 2002) and that determines food preferences.

Since consumer perception depends on the individual's interpretation of the reality and it is relevant when it comes to food decisions and diet practices, it is important to understand how consumers build their perception in relation to PBMA products and the reasons for having this perception.

2.2 Sustainable Consumption and Consumer Perception

2.2.1 An Introduction to Sustainable Consumption

During the last few decades, sustainable consumption has emerged as a leading field of research and practice. The social sciences, including economic aspects, sociology, anthropology, political theory, public strategy and consumer research, have been at the front of these developments. Sustainable consumption close by its kin, sustainable production and sustainable development are currently perceived as a significant field of interdisciplinary exploration connecting practically all

social scientific disciplines (Do, Almeida & Vieira, 2020). Consumer research studies in relation to sustainable consumption have found that there is a continued and well acknowledged gap between expected positive attitudes toward sustainability and people's actual consumption behavior (Prothero et al., 2011). Furthermore, several consumer research scholars have emphasized the need to understand the reasons consumers do not behave in accordance with their pro sustainability values (Prothero et al., 2011; Thøgersen, 2005). Although consumer researchers have identified several contributing factors such as consumers' "willful ignorance" of information about product ethicality (Ehrich & Irwin, 2005), and the pre-conceived notion of potentially inferior functional performance of sustainable products (Luchs, Naylor, Irwin & Raghunathan, 2010), more research is needed.

Sustainable consumption as an official concept comes from an international announcement named "the 1992 Rio Declaration", endorsed by 178 countries. Consumption, in its most straightforward sense, implies using up resources in order to carry on with our daily lives (Middlemiss, 2018). Researchers, policy-makers and practitioners working on sustainable consumption, would concur that high-consumption ways of life adversely affect the climate and other individuals (Jackson, 2006). Jackson (2006) studied the practical concerns of sustainable consumption which is about exploring the potential ways for people to consume less (i.e. decrease of resource intensity, longer product life, energy efficiency and adequacy) and consuming in a different way (i.e. sharing not owning, supplanting one practice with another) concerning the purchase, use and disposal of stuffs. The author also puts light on how important it is to understand the ways in which high-consumption lifestyle is embedded in the social, cultural, political and material world.

The research field on sustainable consumption has thrived in the 24 years since the Rio Declaration. States, communities, companies and people have become progressively mindful of the unsustainability of the present direction of human consumption patterns. An impressive corpus of empirical research has given irrefutable proof to the case that sustainable development can only be accomplished if consumption patterns undergo fundamental change (Ivanova, Stadler, Steen-Olsen, Wood, Vita, Tukker & Hertwich, 2016). Humankind consumes an excessive amount of natural resources and produces a lot of toxic material and hazardous waste. The effect of consumption over the long run has degraded essential 'ecosystem services', such as provision of fertile soil, fresh water, and a protective ozone layer for future generations (Do et al., 2020).

2.2.2 Consumer Perception on Sustainable Consumption

Sustainability is a basic issue in management and marketing, and consumer reactions to sustainable products (i.e. products that have a positive ecological and/or social impact since they are created with concern for people and natural resources, such as air, water, and land) are generally positive (Shrum, McCarty & Lowrey, 1995). Yet, these attitudes have not converted into comparing ways of behavior (Boulstridge & Carrigan, 2000; Carrington, Neville & Whitwell, 2010) because of different barriers such as cost, performance/quality, convenience, availability, or time needed to source sustainable alternatives (e.g., Gleim, Smith, Andrews & Cronin, 2013; Johnstone & Tan, 2015). These obstructions keep buyers from purchasing sustainable product alternatives (Liao, Lin & Liu, 2010). Further studies suggest that there is a discrepancy between consumer's positive attitudes towards a company's sustainability actions and its influence on their actual buying behavior (Elg & Hultman 2016; White, Habib & Hardisty, 2019). Furthermore, there is contradictory evidence concerning the willingness of consumers to pay a higher price or demonstrate preference for the products that include sustainable claims (Elg & Hultman, 2016). This suggests that the confusion created by this attitude-behavior gap stands as a big challenge in sustainable consumption.

Olsen and Tuu (2021) recommended that sustainable consumption could possibly reduce the ecological effect. Contrastingly, Potter and Rööös (2021) contended that sustainable consumption stayed neglected as buyers lacked sustainable perception and conduct because of failed communication from businesses. In addition, studies suggest that there is an absence of understanding of the impact of corporate communication on consumer perception and conduct (Dorce, da Silva, Mauad, Domingues & Borges, 2021). This shows that sustainable consumption evaluation requires a further investigation, especially from consumers perspective as their purchase decision is a result of many predictable and unpredictable variables.

There could be a variety of reasons that prevent consumers from buying PBMA products or reducing their meat consumption. Since one of the key ideas behind PBMA products is sustainability, it is important to uncover the reasons and the way consumers' construct their perception towards PBMA products that act as barriers to sustainable consumption and prevent consumers from adopting a more environmentally friendly diet.

2.3 Consumer perception of plant-based diets

There is some controversy in relation to whether or not animal products are banned in a plant-based diet. According to Ostfeld (2017) a plant-based diet “consists of minimally processed fruits, vegetables, whole grain, legumes, nuts, seeds, herbs, and spices and excludes all animal products, including red meat, poultry, fish, eggs, and dairy products”. Yet, there are some other plant-based diet definitions which specify the intake of plant-based foods is increased (such as vegetables, grains, and legumes) but animal products are not excluded instead are reduced (Aschemann-Witzel, Gantriis, Fraga & Perez-Cueto, 2020). Taking into account this perspective, several types of diets can be distinguished based on the magnitude of animal-based products exclusion such as vegan, vegetarian and flexitarian diets. Given the variety of diet styles (vegan, vegetarian, flexitarian and omnivor), the perception of plant-based diets varies depending on the diet followed by consumers as well as the understanding of plant-based diets. Not surprisingly, Povey, Wellens and Conner (2001) found that consumers have more positive attitudes with respect to the diet followed and more negative attitudes towards the diets that are more different from their own diet.

Although there is research done on the perception of plant-based diets from individuals that have banned their meat intake and the reasons causing a shift towards plant-based diets, actual meat eaters' perception of plant-based diets is less explored. Nevertheless, similarly to the findings of the perception of PBMA products, Aschemann-Witzel et al. (2020) summarized that plant-based diets are perceived by meat consumers as not convenient, not enjoyable, more expensive, challenging to prepare as well as difficult to find the ingredients in conventional supermarkets. Furthermore, some studies have found that individuals regard plant-based diets having a nutrients deficiency (de Bakker & Dagevos, 2012; Wyker & Davidson, 2010) and regard meat as a crucial fountain of nutrients and a necessary element of a meal (Pohjolainen, Vinnari & Jokinen, 2015). Yet, MacDiarmid, Douglas and Campbell (2016) found that consumers related eating meat with pleasure, and described social, personal and cultural values about consuming meat suggesting that eating meat is much more beyond nutritional need. According to Piazza, Ruby, Loughnan, Luong, Kulik, Watkins and Seigerman (2015) a major part of the arguments given by consumers for consuming meat are the belief of meat being *natural*, *normal*, *necessary* and *nice* (4Ns theory). *Natural* and *normal* refers to the fact that humans have been eating meat since our ancestors and

that meat is and needs to be part of our diet. *Necessary* is understood that a healthy diet requires meat and *nice* means that meat is regarded as the most tasty part of a meal.

Despite the different justifications given for eating meat, plant-based diets are seen as more healthy and environmentally friendly by some meat consumers (Aschemann-Witzel et al., 2020; Alcorta, Porta, Tárrega, Alvarez & Vaquero, 2021). In addition, some studies argue that there is a perceived unhealthiness of meat products and a consciousness of animal welfare from meat consumers point of view (Holm & Møhl, 2000; Salonen & Helne, 2012). Nevertheless, the negative perceptions of plant-based diets act as barriers to adopt a more plant-based diet for individuals that usually consume animal-based products.

On the other hand, consumers that have reduced gradually or banned their meat intake have a different perception of plant-based diets. Several studies have studied the different motivations for adopting a meat-free diet and shifting towards a plant-based diet (Beardsworth & Keil, 1991; Bryman, 2008; Larsson, Rönnlund, Johansson & Dahlgren, 2003; Fox & Ward, 2008). According to these studies, the reasons to reduce or cut meat products can be grouped into health concerns, animal welfare, environmental issues, or a combination of all these reasons. Yet, the most important reasons reported to shift diet in these studies are health concerns and animal welfare. In parallel, several reviews highlight that environmental concern is the reason less reported or the one with less importance by consumers to reduce their meat consumption (Fehér, Gazdecki, Véha, Szakály & Szakály, 2020; Janssen et al., 2016). Thus, according to these studies, some vegetarian and vegan individuals' perceive plant-based diets mainly as more healthy and ethical than omnivore diets.

To sum up, the way plant-based diets are perceived depends on the lens and the diet followed by consumers (Povey, Wellens & Conner, 2001). Given that PBMA products can potentially act as a replacement of meat for some consumers and are closely related with plant-based diets, to obtain a more holistic view of the manner consumer perception is constructed around PBMA products, it is important to comprehend the way these diets are perceived by high meat-eaters.

2.4 Plant-based Meat Alternative (PBMA)

2.4.1 Introduction to PBMA products

Plant-based protein products such as tofu, seitan and tempeh, have been in the market since ancient times in Asian countries such as China and India (He et al., 2020; Wild, Czerny, Janssen, Kole, Zunabovic & Domig, 2014). On the other hand, in Western countries these products can be considered a contemporary development, which started to be present in the market around 1960s with the introduction of textured vegetable protein (TVP) (Wild et al., 2014). In the existing literature, these products made mainly from soy, are considered to be the first generation of PBMA (He et al., 2020; Jahn, Strassner & Furchheim, 2021), which have been consumed mainly by vegetarians and vegan individuals who do not search for products that resemble conventional meat (Wild et al., 2014). However, on the contrary to Asian consumers, some Western consumers perceive soy products negatively and many meat consumers are not attracted by them (He et al., 2020; Wild et al., 2014). Recently, a new generation of PBMA has been developed to satisfy the sensory experience of meat consumers through the imitation of meat (He et al., 2020; Jahn, Strassner & Furchheim, 2021). These products are made of distinct ingredients and tend to be processed since intend to mimic the meat by copying the appearance, taste, nutritional content, preparation method (He et al., 2020; Jahn, Strassner & Furchheim, 2021) as well as the fibrous texture of meat (Wild et al. 2014). This second generation of PBMA comprises a variety of products such as burgers, sausages, mince, nuggets, etc.

2.4.2. Consumer perception of PBMA products

With PMBA products becoming a new trend of sustainable consumption, a growing number of studies within the sustainability and food science fields are trying to explore consumers' understanding of PBMA products and plant-based diets. Past studies have shown that consumers do not fully understand the huge effect that meat consumption has on the environment and human health, instead they see most meat production methods as ethically unmerited (Hartmann & Siegrist, 2017). Nevertheless, existing studies show consumer understanding of PBMA products differ according to their nationality, culture, age, education, social influence, diet followed and other variables, which will be discussed further in this chapter.

In the study conducted by Collier et al. (2021) which aimed to understand Swedish consumers' perspectives concerning meat reduction and consumption of meat alternatives products, the authors found that consumers were unwilling to reduce their meat intake and consumers manifested an uncertainty with the quality and ingredients of meat substitutes. They expressed that instead of consuming meat alternative products, they would be more favorable to eating meat produced locally or reducing the amount of meat consumed stating the enjoyment and familiarity associated with meat. Besides a perceived lack of skills to prepare meat substitutes, these products were also viewed as high priced, processed, and unhealthy. In addition, consumers' manifested the difficulty of reducing meat intake given that it forms part of their culture and highlighted the importance of having freedom and control of food decisions.

Similarly, Varela et al. (2022) studied the perception of Norwegian and French consumers including attitudes, barriers and opportunities to raise the chances of a shift in diet, more specifically from meat protein to plant-based protein. The study found that, while consumers were curious about plant-based protein, hedonics, convenience and lack of knowledge regarding preparation of plant-based meals stood as major barriers creating a difference in their desired behavior (meat reduction, balancing nutrition) and actual behavior (meat is very important and menu is often organized around it). Further, supporting Collier et al. (2021) study, it also found that consumers perceive the alternative sources of protein as highly processed, hence they do not relate it to health.

In contrast, the study conducted by Elzernan, Van Boekel and Lunig (2013), in which consumers' experiences and expectations among the Dutch population were explored in relation to meat substitutes, consumers expressed a more positive view about these products. The positive attributes mentioned by consumers' were related to health, the easiness of preparation, and some sensory aspects such as tastiness. However, some negative aspects similar to the ones found in Collier et al. (2021) study were also mentioned such as the high price, the unfamiliarity when cooking, and the missing information of ingredients. Nevertheless, the Dutch participants from the study manifested an inclination and found it appropriate to substitute conventional meat with meat substitutes.

There are an unpredictably large number of reasons how perception of consumers gets influenced. Jahn, Strassner and Furchheim (2021) explored the motivational barriers of adopting PBMA products, categorizing it into three major sections namely, food neophobia, social norms and rituals, and differing eating goals that prevent consumers from switching into a plant-based diet. Authors found that, in the short run, the innovative nature of PBMA products along with its restricted demand, resulted in them being perceived somewhat costly. Further, it was found, considering that PBMA are significantly new to numerous consumers, food neophobia, which means an overall hesitance to try novel food sources, can go about as a barrier to those consumers that consider the product to be too unfamiliar.

2.5 Consumer Perception over Food Safety and Health

2.5.1 Consumers' Perception of Food Safety over Animal Diseases

Recent flare-ups of infectious animal borne illnesses, for example, bovine spongiform encephalopathy (BSE) also known as the 'mad cow illness', and the foot-and-mouth disease (FMD) have increased public concerns and awareness about the possibly crushing effects of consuming these animals in daily food diet (Han & Choi, 2018, p. 24 as cited in Matsumoto and Otuski, 2018). For sure, the event and the widespread occurrences of FMD, BSE, and other animal borne illnesses have had a huge adverse effect not just on the significant business sectors and industries, yet additionally human wellbeing, which have brought about extensive financial and social costs (Beach, Poulos & Pattanayak, 2007). According to the World Organization for Animal Health (OIE), 60% of the pathogens that affect people are known to start from animals. As animal health problems are firmly connected to food safety as well as human wellbeing, animal borne illnesses have raised customers' interests and concerns about food risks. This has prompted tremendous changes in consumer perception of food-related risks and their buying behavior (Han & Choi, 2018, p. 24 as cited in Matsumoto & Otuski, 2018).

In like manner, there has been a developing body of exploration researching buyer reactions regarding consumer awareness and purchase behavior connected with creature animal borne disease and analyzing consumers' inclinations for food safety (Han & Choi, 2018, p. 24 as cited in Matsumoto & Otuski, 2018; Beach, Poulos & Pattanayak, 2007). While risk of animal borne

diseases is one of the most discussed concerns for consumers, there are few other important players which can't be ignored like chemical risk and technological risk, which will be explained further in the next section.

2.5.2 Consumer Risk Perception

The idea of perceived risk is often used by consumer researchers, defining it as a risk in terms of the consumer's perceptions of the adverse consequences and uncertainty associated with buying a product or service (Dowling & Staelin, 1994). Consumer's risk perception is a significant component to influence the perspectives and purchase behavior of consumers (Gstraunthaler & Day, 2008). There are various sources of risk and the investigation of hazards related with food safety starts with the identification of sources of food risks (Yeung & Morris, 2001). Yeung and Morris (2001) categorizes the food related risks according to their sources of origin namely, microbiological, chemical and technological risks.

Microbiological risks related to food are caused by bacteria, which can cause food spoilage and even food poisoning for the consumer, ultimately having adverse effects on health directly or indirectly (Yeung & Morris, 2001). Chemical risks are related with the utilization of synthetic chemical additives, processes and controls in the food industry. Chemical use incorporates the utilization of agri-chemical compounds, growth control hormones and antibiotic medicines to increase or safeguard food of both plant based and meat based products (Yeung & Morris, 2001). Supporting the relevance of chemical risk perception, previous studies have suggested that consumers might not be willing to try PBMA products, as they perceive it highly processed (Collier et al. 2021, He et al., 2020; Jahn, Strassner & Furchheim, 2021).

Technological risks allude to the conceivable adverse consequences of technological advancements in food items, like genetic modification of food and food irradiation (Yeung & Morris, 2001). While technology has contributed various advantages regarding food handling and increased food availability. In any case, it is typical for people in general to show their concerns about new technological advances. Clarke and Moran (1995) argue that technological advancements are typically controversial and it is hard to anticipate how customers will perceive them.

Considering PBMA products are relatively new, it is safe to assume that consumers might have different perceptions on risks associated with these products. Thus, in order to comprehend the way the perception of PBMA products is built, it is important to understand the different types of risks consumers might think are exposed to by consuming these products as well as meat.

2.5.3 Consumer Perception on Information

Information is one more significant variable to impact consumer perception since the accessibility of information has become easier, yet it is hard to distinguish which information is right (Swinnen, McCluskey & Francken, 2005). Numerous studies evaluated the determinants of food consumption through analyzing how information and risk perception influence food decisions of consumers (Gstraunthaler & Day, 2008; Jahn, Strassner & Furchheim, 2021; Yang & Goddard, 2011). For instance, Gstraunthaler and Day (2008) explored the drivers of poultry consumption change in the UK. Their results showed that the food consumption change was essentially associated with three fundamental determinants which were: information, evaluation of the potential risks and past food-related experiences. The outcomes uncovered were that the more information buyers had, the less likely they were to change their behavior. Contrastingly, Jahn, Strassner and Furchheim (2021), elaborated package information might affect consumer perception and behavior positively.

Supporting the findings Jahn, Strassner and Furchheim (2021), Mcbey et al. (2019) argues that the way information regarding ethicality and nutrition of a product is framed, may be a key factor in the success of environmental labeling and promotion of sustainable products. Considering PBMA products are introduced in the market as healthier and sustainable choices, it is important to understand how consumers perceive the different information regarding these products.

2.6 Summary of literature review

According to Prothero et al. (2011) there is a well-acknowledged gap between positive sustainability values of consumers and their actual consumption behavior within consumer research studies. With sustainability being an emerging field of study along with its kins sustainable consumption, sustainable production and sustainable development, several scholars have considered this attitude-behavior gap as a key issue (Prothero et al., 2011; Thøgersen, 2005)

and have highlighted the need to understand the various underlying reasons attached to it. According to Shrum, McCarty and Lowrey (1995), consumers generally have a positive reaction to sustainable products which come with a concern towards the wellbeing of human and environmental health (Shrum, McCarty, & Lowrey, 1995). Yet, this is not reflected in their actual buying behavior (Boulstridge & Carrigan, 2000; Carrington, Neville & Whitwell, 2010).

Several studies have highlighted plant-based food being perceived healthier and environment friendly (Aschemann-Witzel et al., 2020; Alcorta, Porta, Tárrega, Alvarez & Vaquero, 2021) and some studies have highlighted the perceived unhealthiness of meat related products (Holm & Møhl, 2000; Salonen & Helne, 2012). Thus, PBMA products could be a way to move towards sustainable consumption as it could attract not only the consumers following plant-based diets but also meat-eaters (Hoek et al., 2011) since these products mimic the taste and texture of real meat (He et al., 2020; Jahn, Strassner & Furchheim, 2021). Some studies argue that the underlying reasons for eating meat act as barriers towards adoption of PBMA products (Collier et al., 2021; Varela et al., 2022). Yet, how these products are perceived is highly subjective since perception is unique for each individual and depends on their interpretation of reality (Shiffman & Kanuk, 1987).

Thus, to understand how consumers construct their perception regarding PBMA products, it is important to understand the different contexts on which consumers develop their perception and the different factors contributing to it. To uncover how they connect these products to sustainability, it is required to understand their perception regarding sustainable consumption, plant-based diets, environmental concerns, meat consumption as well as the risks associated with both PBMA and conventional meat. Moreover, to understand their perceptions regarding these concepts, it is important to go deep into the root of their thinking and ideology such as social, cultural or personal goals and motivations.

With the second generation of PBMA products being relatively new in the market, the newness and uncertainty that comes with it, has made it important to understand the “whats”, “whys” and “hows” related to the consumer perception of these products. Some researchers have already studied the various motivations and barriers towards PBMA adoption and meat reduction (Collier et al., 2021; Jahn, Strassner & Furchheim, 2021; McBey, Watts & Johnstone, 2019; Mylan, 2018).

These studies have also highlighted that there is a general lack of awareness regarding consumption behavior and the environmental impact, which can in fact act as a barrier towards wider acceptance of these products. These factors combined with the uncertainty regarding taste, ingredients, healthiness, production process, cooking methods and recipes of PBMA products (Collier et al., 2021; Havermans, Rutten & Bartelet, 2021; McBey, Watts & Johnstone, 2019), highlights the need to understand how consumers build their perception towards these products and how they could be motivated to adopt PBMA products in their current diet. Thus, all the concepts presented in the literature review chapter provide a base of understanding for studying how consumer perception towards PBMA products is built.

3. Methodology

This chapter provides the methodological approach followed in this research by explaining the research philosophy, the research approach and the research design, followed by the quality of the research and the trustworthiness, and research ethics of this study.

3.1 Research Philosophy

The decision of choosing a research philosophy is among one of the earliest research considerations. Identifying a fitting research philosophy is at the premise of a methodology for data collection and analysis. As indicated by Burke (2007), a philosophy can be characterized as questioning of essential ideas as indicated by a need for significant understanding of a specific field. Recognizing a research philosophy permits a decision of research approach and method(s), disregarding limitations that might encroach on the research (Knox, 2004).

According to Easterby-Smith et al. (2021), there are two basic types of research philosophies, positivism and social constructionism. The main idea of positivism is that the social world exists remotely, and that its properties can be estimated through objective techniques as opposed to being gathered abstractly through sensation, reflection or instinct (Easterby-Smith et al., 2021). Whereas the essence of social constructionism lies in the idea that numerous aspects of 'societal reality' are determined by individuals instead of by objective and outside factors (Easterby-Smith et al., 2021). In simple words, reality is socially constructed, resulting from how people interact with others and make sense of different situations, rather than as a direct response to external stimuli (Easterby-Smith et al., 2021).

The present study adopts a social constructionism approach as it not only aims to comprehend the manner consumer perception is built in regards to PBMA products, it also aims to appreciate the various constructions and meanings that consumers place upon their food experiences. To capture this, it is needed to understand the way high meat-eaters think and feel as well as their personal opinion in regards to PBMA products. Consumers can build and frame ideas differently in relation to meat consumption, plant-based diets, PBMA products, and product information, which can be defined and determined by different factors such as ideology and culture that are implicit to this

construction. Also considering that the research participants belong to diverse nationalities and cultures, a variety of expectations and differing frame of ideologies can be found, which gives further argument for using a social constructionism standpoint in the current study.

3.2 Research approach

A research strategy describes the approach adopted in the research, which will mirror the methodological implications. It can either be a quantitative, qualitative, or mixed approach (Bell, Bryman & Harley, 2019). While quantitative research is about the collection of numerical data and hypothesis testing of an objective reality (Bell, Bryman & Harley, 2019), qualitative research focuses on understanding the context and the individuals' interpretation of a subjective reality that is constantly changing and tries to obtain as greater insights as possible (Hesse-Biber & Leavy, 2011).

Given that the research question of this study regards consumer perception in relation to sustainable consumption phenomena, an in-depth comprehension of individuals' understanding of the social world was required. Therefore, to obtain insights of the inner thoughts, reasoning, and experiences of high meat-eaters in relation to PBMA products, the chosen research strategy for this thesis was a qualitative approach. Furthermore, a qualitative approach allows greater flexibility, which is required to understand the perception of high meat-eaters. However, since qualitative data is created by an interactive and interpretative procedure, one of the main criticisms is that it is difficult to replicate a qualitative study given the subjective lens used by the researchers (Easterby-Smith et al., 2021).

The chosen method of primary data collection for this research was qualitative interviews, which are the most widely used and appropriate method when the aim of the research is to collect contextual data, insights and impressions in relation to a phenomena (Bell, Bryman & Harley, 2019). According to Easterby-Smith et al. (2021), valuable and detailed information can be gathered through qualitative interviews as they aim to obtain insights and comprehend the viewpoint of respondents in relation to a phenomenon, as well as to figure out the reason for having this perspective (King 2004, p. 195 as cited in Easterby-Smith et al., 2021). Since the purpose of this research was to understand the construction of perception, viewpoint and reasoning of high

meat-eaters in relation to PBMA products, the most suitable method was to engage and interact with the interviewees through a conversation surrounding questions in relation to sustainable consumption phenomena. In addition, interviews allow greater flexibility (Bell, Bryman & Harley, 2019), which is required to understand the perception and thoughts of high meat-eaters. However, conducting interviews can be time consuming and requires having some skills to understand interviewees viewpoints and help them to openly express themselves and communicate freely their beliefs (Charmaz 2014, p. 195 as cited in Easterby-Smith et al., 2021).

Whether a predetermined set of questions is used or not in the interviews depends on the interview approach chosen, which can be either structured, unstructured or semi-structured interview (Easterby-Smith et al., 2021). A semi-structured interview approach is based on a predefined set of open-ended questions (usually referred as interview guide), but allows some flexibility and adaptability depending on the way the interview progresses, and further questions can be added based on the interviewees response (Kvale & Brinkmann, 2009). In view of the fact that this research aimed to gain an understanding of how high meat-eaters build their perception towards PBMA products, different perspectives could be obtained and follow up questions such as why and how were needed to comprehend their thoughts and reasoning. Hence, semi-structured interviews were considered the most suitable method for this research.

3.3 Research Design

3.3.1 Inductive approach

In a qualitative study, different analytic approaches can be chosen to analyze the data. Each approach follows a different framing, which results in different findings depending on the method chosen. The approach chosen needs to align with the research question and aim of the research (Easterby-Smith et al., 2021). Since this study focuses on understanding the way perception of high meat-eaters is built regarding PBMA products, this study adopts an inductive approach which begins with the gathered empirical data, seeking patterns in those data, and then theorizing about those patterns to develop general concepts. Thus, the result of the research is developing general principles and ideas based on the findings from the interviews.

3.3.2 Sampling

Since the aim of this research was to study how the perception of high meat-eaters belonging to the Millennials and Generation Z is built, the purposive sampling strategy was considered the most suitable. A purposive sampling is used when the researchers clearly define what sample units are required in order to answer the research question (Bell, Bryman & Harley, 2019). Thus, the researchers define the criteria that needs to be met by the sample units, and the units of analysis are selected based on the criteria defined (Bell, Bryman & Harley, 2019). Therefore, the researchers judge if the entities meet the criteria established to be included in the sample (Easterby-Smith et al., 2021).

The researchers established two criteria for the sample units in order to answer the research question. First, the interviewees needed to be high meat-eaters, given that the existing research related to PBMA products did not specifically focus on this target group. Furthermore, it is one of the main target groups of the new generation of PBMA products. As previously defined in the paper, a high meat-eater is considered any individual that consumes a piece of meat at least 5 days per week. Secondly, this study was done from the young generation perspective, specifically from Millennials (1981-1996) and Generation Z (1997-2012). The younger generation is chosen since they are more knowledgeable about environmental and ethical issues in relation to meat consumption (McBey, Watts & Johnstone, 2019), and at the same time they will be social, political, educational and financial leaders of the future world who will shape the future of sustainable consumption and development policies of future societies (Kamenidou, Mamalis, Pavlidis & Bara, 2019). Besides these two criteria established, the researchers intentionally chose participants with varying characteristics and backgrounds to achieve as many different perspectives as possible. For example, interviewees from different nationalities and cultural backgrounds were included in the study as well as both students and working professionals were chosen. To guarantee the avoidance of possible bias caused by personal relationships, the interviewees were sought and selected in cooperation with researchers' social circles.

Table 1. Overview of Interviewees

Pseudonym	Gender	Nationality	Age	Current activity
Paul	Male	Latvia	22	Studying
Steven	Male	Sweden	24	Working
Nicole	Female	Spain	23	Studying
Helen	Female	Spain	24	Working
Jason	Male	Vietnam	23	Studying
Lisa	Female	Spain	24	Working
Eric	Male	Italy	23	Studying
Emma	Female	Armenia	26	Studying
James	Male	France	22	Studying
Hanna	Female	Sweden	30	Studying
Michael	Male	Pakistan	35	Studying
Thomas	Male	India	28	Working
David	Male	Belgium	25	Studying
Sara	Female	Oman	23	Working
Isabella	Female	Canada	23	Working

As it can be observed in the table, fifteen interviews were conducted from interviewees belonging to twelve different nationalities. All the interviewees live in Europe and specifically, nine of them are currently living in Sweden. For an easier comprehension, the researchers have pseudonymised the respondents' names.

Regarding the sample size, small samples are used within qualitative research as the main objective is to gain knowledge of the processes and meanings of individuals' that can be applicable in a specific context (Strauss & Corbin, 1990). However, there is not any rule stating the sample size

of a non-probability sampling design, instead the sample size, specially when conducting semi-structured interviews, depends on the aim of the research, the research question and the information that needs to be gathered (Saunders, Lewis & Thornhill, 2019). For this reason, the number of interviews was not defined previously by the researchers, rather semi-structured interviews were conducted until data saturation was achieved with respect to the research phenomena. According to Saunders, Lewis and Thornhill (2019), data saturation is reached when further data collection does not provide new information and insights. In total, fifteen semi-structured interviews were conducted.

3.3.3 Data Collection Method

The primary data for this qualitative research was collected from fifteen semi-structured interviews. On average, the interviews lasted 45 minutes and were conducted physically or digitally via Zoom. The interviews were conducted in April 2022 with both researchers present, one asking the questions to the interviewees and the other taking notes of the answers and doing follow-up questions if needed.

The interview guide consisted of twenty-one open-ended questions, structured into four parts: i) Personal views about environment and sustainability, ii) Diet habits and general information about meat consumption, iii) General knowledge about plant-based diets and PBMA products, and iv) Willingness to change food behavior (see in Appendix A). The interviews started with some open questions in order to gather the interviewees viewpoint concerning environment and sustainability and their personal actions in their daily life to contribute towards being more sustainable. Afterwards, some questions were asked in order to uncover their diet habits and meat consumption, together with some questions to discover their meaning attached to eating meat and their awareness about the environmental impact of the meat industry. The questions posed during the third part of the interview were related to their understanding and knowledge of plant-based diets, along with questions to find out their awareness and perception of PBMA products. In addition, some questions were asked to understand the reasons for not trying these products among the interviewees that have never tried them, as well as questions related to the experiences and personal opinion for those interviewees that have tried them. Finally, the last part of the interview was related to questions concerning their willingness to reduce their meat consumption and their

intention to increase the consumption of PBMA products, and which would be the reasons to encourage them to do so.

With the consent of the participants, the interviews were recorded and later transcribed with the objective of not missing important information while conducting the interview and to carry out the analysis process more accurately. In addition, we took into account that within qualitative research the way interviewees' express themselves is highly relevant (Bell, Bryman & Harley, 2019).

3.3.4 Data Analysis

The current study used a thematic analysis to uncover and interpret respondents' opinions, views, values, experiences and knowledge from interview transcripts. A thematic analysis comprises recognizing, evaluating and deciphering comparable themes and patterns of meaning in different sorts of qualitative data. These similarities can entail repetitions, metaphors, analogies along with parallelisms and contrasts in the gathered data (Bell, Bryman & Harley, 2019). The thematic analysis provided plenty of flexibility in interpreting the data and made the approach to large data sets easier by sorting them into broad themes. Before starting the thematic analysis, the live audio transcriptions were double checked to remove and rectify errors obtained during transcription. This thorough overview of data also included taking initial notes in order to get familiar and engage with the data.

After getting familiar with the data, the authors went through each interview thoroughly to identify codes, which represented certain recurring words and phrases, as well as differences, and separating relevant and interesting parts of the text. The codes were highlighted using different colors, with the objective of each code describing a different idea, feeling or experience. These actions and the fact that the interviews were divided into four parts allowed the researchers to deal with the *problem of chaos* (Rennstam & Wästerfors, 2018). In the next phase, the empirical material was reduced by grouping the codes into representative categories, which allowed the researchers to deal with the *problem of representation* (Rennstam & Wästerfors, 2018). At this stage, some of the codes that were too vague or not relevant were discarded.

After coding and sorting, came the generation of the themes, which allowed the researchers to tackle the *problem of authority* (Rennstam & Wästerfors, 2018). Looking over the created categories, three different themes were identified by combining several matching codes and categories into a single theme. All the themes were reviewed to ensure those are useful and accurate representation of the data. After finalizing the list of themes, each theme was properly named and defined, making it ready for the analysis writing up.

3.4 Reliability and quality of the research

According to Patton (2001), reliability is an important factor which any qualitative researcher should be concerned about while designing a research, analyzing the results and passing judgment on the quality of the research. Although the concept of ‘Reliability’ is used for testing or evaluating quantitative research, the idea is most frequently used in a wide range of research. Assuming the idea of testing as a way of information elicitation, then the main test of any qualitative study is its quality (Golafshani, 2003). This raises the question that “How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?” (Lincoln & Guba, 1985, p. 290).

According to Lincoln & Guba (1985) in qualitative research the terms Credibility, Confirmability, Dependability and Transferability are considered essential criteria for quality. Thus, the trustworthiness of the present study consists of these four criteria.

First of all, to ensure the credibility criteria, a recruitment statement was created to request potential participants for the research interview using consistent language to describe the study and convey the same message to all potential participants. Consistent language and message makes sure that the potential research participants begin from the same common view of study to build credibility of the research (Elo, Kääriäinen, Kanste, Pölkki, Utriainen & Kyngäs, 2014). Further, semi-structured interviews were conducted, which gave the researchers the opportunity to modify and add questions during the interview according to the responses, in order to fully understand the viewpoint of the respondent and make the research more credible.

Confirmability deals with the trustworthiness that must be established (Elo et al., 2014). In the current paper, the study findings are based on respondents' narratives. In the meanwhile, the

authors tried their best to not let their social realities affect the research conduct, avoiding potential researcher biases, and ensuring the maximum confirmability of the paper.

Dependability deals with evaluation of findings and interpretations of the research such that everything is supported by the data collected from the respondents (Lincoln & Guba, 1985). The authors have described in detail the aim of the study, the process of sample selection and data analysis, with proper reasoning. Further, the authors recorded the interview in order to use them in case it was needed in the future. These were used for transcribing the interviews, which was double checked to rectify errors, thus making the study more dependable.

Transferability refers to the degree to which findings of a qualitative research can be transferred to other contexts, or other settings such as different samples of respondents. To establish transferability in qualitative research, the authors are encouraged to provide the readers with thick descriptions (Lincoln & Guba, 1985). The current study has mentioned the original quotes provided by the respondents in the analysis section, and has taken a respondent sample with high cultural diversity, thus ensuring the transferability of the research.

3.5 Research Ethics

The present study followed the ethical codes and practices to ensure the protection of the research participants and the integrity of the research community throughout all the research process. Specifically, the researchers followed the ten research ethics principles stated by Easterby-Smith et al. (2021).

First, the interviewees' were fully informed about the details of the research and the approximate duration of the interviews to ensure the transparency of the research and also for participants to decide if they wished to participate in the study or not. Second, a consent form was sent to the interviewees' beforehand informing them about the anonymity of their personal information as well as the confidentiality of the data collected. Thus, to protect the anonymity of the participants, their names were pseudonymised in the whole analysis process. In addition, through the consent form, the participants were informed about their right to refuse any questions and gave their permission to record the interview. In the interview process, since participants were asked to share their personal opinions and beliefs of a sensitive topic (meat industry), the researchers respected

the variety of opinions and ensured not to create harm to participants. Moreover, when conducting the interviews, the researchers tried to avoid possible bias when formulating the questions, and follow up questions were added so as not to jump to untruthful conclusions. Finally, the researchers prevented any misleading or false information from the findings.

4. Empirical Findings

This chapter comprises the empirical data gathered through the semi-structured interviews with the research participants. It gives details on different meanings, opinions and the underlying reasons formed by respondents regarding sustainability, meat consumption and PBMA products. This section is divided into three broad themes namely: Views of sustainability and sustainable consumption; Affinity for meat consumption; and Contribution of experience and expectations of PBMA products and excitement for new types of food in the formation of perception. Each section contributes towards understanding the way perception of PBMA products is constructed from different angles, which combined together will allow the researchers to answer the research question. Each theme is further divided into three categories to differentiate the elements that build the perception of high meat-eaters. Additionally, relevant quotes from respondents are kept in order to connect various patterns of opinions and concepts.

4.1 Views of sustainability and sustainable consumption

The first theme includes consumers' general understanding of environment and sustainability, their concerns regarding ongoing and futuristic sustainability issues, their everyday actions for environmental welfare and their skepticism towards association of consumption and sustainability. Based on the interviews findings, this theme is divided into three categories which are: Sustainability concerns; Awareness about the environmental impact of the meat industry; and Health risks related with meat consumption. This theme provides a part of the answer on how consumers construct their perception towards PBMA, by showing a relationship between the aforementioned categories and their choice of current diet as well as the possibility of diet change.

4.1.1 Sustainability concerns

All the respondents were found to be environmentally concerned and aware of current sustainability issues, though the degree of concern varied in each respondent. The majority of respondents were found to have incorporated sustainability in their everyday actions such as recycling, using public transportation, reusing, avoiding plastic bags, using electric vehicles, etc.

“Well, I definitely recycle, as much as possible. I separate vegetable, plastic and metal wastes. And I reuse things such as written paper. I'll use that as trash can liners.” (Hanna)

When asking about whether they consider environmental and sustainability factors while buying and consuming any product, only few respondents showed higher concerns and agreed on considering it while buying or consuming any product. They mentioned things such as taking into consideration the minimal emission while purchasing a car or purchasing clothes from comparatively sustainable clothing brands.

While the majority of respondents showed genuine concerns for the environment, still their lifestyle choices were found to be structured by their social and economic capital (Bourdieu, 1985). Some respondents were found caught between their ethical ideas and financial position. Being financially limited and dependent, these respondents expressed being limited with their choice of products. When having the intention to purchase or consume according to their sustainability concerns, they might not be able to act accordingly for several reasons, economical reasons being one mostly mentioned.

“I do consider the environment and sustainability but it is not always possible to buy certain sustainable products as it can be expensive. I mean, it's something I definitely would prefer them to be environmentally friendly, but as I am a student and I don't work, I will buy the cheapest option.” (Hanna)

Few of the respondents showed their environmental concern regarding food choices, advocating towards organic food and local food. They seemed to believe that organic food is not that harmful for the environment as they contain fewer pesticides, chemicals and preservatives, and are seen as more nutritious than their conventionally-grown counterparts. However, one respondent was against ecological products as she believed these products are labeled ecological as a marketing strategy to increase sales and profit.

“I try not to buy ecological products because I don't believe in that, I think it is part of the system in order to sell more and make you believe that you can buy more ecological products because they are eco-friendly and better than others.” (Emma)

Few respondents also argued for local meat since they believed it causes less pollution and wanted to support the local community.

“Everything I eat should be the highest quality and should be locally produced. It means the transport costs and CO2 emissions are low. I buy meat from local butcheries, not from supermarkets. The meat from supermarkets usually comes from different countries like Poland or Greece, this means high transportation cost and high pollution. Also I don't support this highly industrialized meat industry where profit is taken in all stages of logistics making the meat more expensive when it finally reaches the supermarket.” (James)

Further, high concern about food waste was found among respondents. All of the respondents believed in the idea of not leaving food on the plate. In their everyday actions, respondents mentioned cooking food as required, saving leftovers for the next day and feeding animals with leftovers in case it can not be consumed. It was also found that these kinds of learning usually came from families, ethics being immersed in culture. One of the respondents believed that food waste differs according to countries as well, highlighting that people in rich countries will have a more casual attitude towards food waste while people in poor countries will be more serious towards it.

4.1.2 Awareness about the environmental impact of the meat industry

The majority of the respondents were found to be aware of the consequences that the meat industry has. While most of them had basic ideas, few showed high knowledge about it. All the respondents associated the meat industry with pollution and resource overuse. Some of the interviewees gave a comparison between plant-based farming and animal farming, and argued that animal farming uses much more water resources and contributes more to global greenhouse gas emissions.

“I know that when a particular animal comes to me as a food item, it goes through a lot of processes, while a lot of earth resources are being utilized to convert it into an edible piece of meat.” (Thomas)

Although all the respondents were well-educated students and working professionals, and most of them seemed to be concerned about the environment in general and aware of environmental consequences of the meat industry, still there was some skepticism found with association of their food habits and the environment. While one of the respondents expressed to be unaware about how his eating habits can help sustainability, another respondent mentioned that he ignores environmental concerns when it comes to food decisions considering food as a necessity.

“I don’t care about the emissions of the food because I think food is needed.” (Steven)

4.1.3 Health Risks related with Meat consumption

When asked about the possible risks they perceive are exposed to when consuming meat, most of the respondents directly related it to health risks, while few of them related it to climate change affecting humans. Those who related the risk directly to human health mentioned animal borne diseases, skin allergies, cholesterol problem, cardiovascular problems, blood pressure and digestion issues with aging as potential risks. And those who related the risks to the environment mostly talked about pollution and overuse of natural resources which will ultimately affect physical and psychological aspects of human health.

Interestingly, even while knowing that they are exposed to different risks when consuming meat, the majority of the respondents argued that it does not affect their food choices. The following quote clearly state this by one of the respondents:

“As far as I know, it feels like everything is kind of regulated. I know the animals sometimes have antibiotics and a lot of tests that are done, still sometimes, I wonder whether I can catch diseases like salmonella or something from chicken. I know there have been some cases where people become sick after eating meat. But I don’t usually think about that and it is not a condition to eat or not eat meat.” (Paul)

Some respondents seemed to believe that while people are exposed to some risks when consuming meat, they were exposed to other risks as well if they do not consume it such as lack of some essential nutrients. Additionally, few respondents emphasized on having a balanced diet, believing that excess of anything is bad for one's health.

“I know that if you consume a lot of meat, it's not good for your health. But I would say that as long as you consume any kind of food in a moderate way, have a good balanced diet and take care of yourself, you should be fine.” (Jason)

While the importance of having a balanced diet was emphasized by some respondents, others believed that supplementing the meat diet with physical workout and exercise is important as well.

“I think that if I consume too much meat, it's possible that if I do not supplement it with enough exercise maybe. Sometimes you're going to have trouble with your blood pressure. You can have trouble with fat accumulation and stuff and it can be a little bit unhealthy to eat lots of fatty meat so physical workout can help with that.” (Michael)

In general, respondents showed varying degrees of concerns and awareness in relation to sustainable consumption and environment, whether it be related to consequences of food industry, meat industry or personal consumption. Overall, the personal views on sustainability have been found to be relevant in the way PBMA products are perceived. Yet, different concepts and ideas were found to influence their diet and their perception about different diets, which will be discussed further in the next theme.

4.2 Affinity for meat consumption

The second theme includes the reasons consumers are strongly attached to consuming meat, which are culture and family habits, nutrition and health, taste and feeling, and convenience and availability. These reasons are found to be relevant in the way the perception of PBMA products

is built, as well as have a strong potential in influencing consumers willingness to adopt PBMA products in their current diet. Although all the interviewees are high meat-eaters and the majority of respondents eat meat everyday at least once or twice per day, some interviewees were found to be more willingly to reduce their meat consumption and others expressed resistance to do so. Thus, this theme is divided into three categories which are: Motivations for meat consumption; Openness to reduce meat consumption; and Reluctance to reduce meat consumption.

4.2.1 Motivations for meat consumption

(i) Culture and family habits

Some interviewees related their meat consumption with their culture and family traditions. They stated that meat has been part of their diet all their life and that they believe they eat meat because it is part of their culture and because of their family traditions. The following quote state both aspects as reasons to consume meat:

“I guess I can also put some blame on my family because usually your eating habits come from your family, right? I believe that sort of stuff impacts you. My family always eats meat and for example, my grandma feeds me with only meat. So, definitely I think one of the main reasons I eat meat is because of my culture and family traditions. For example, my parents do not know how to cook something without meat. In my childhood I rarely remember eating something that didn't have meat on it.” (Paul)

Similarly, one of the interviewees explained that in her culture meat is seen as a crucial element of the diet in order to be healthy and achieve the feeling of being full:

“I think my meat consumption is part of my culture, the way I grew up, it is very deep in my roots that I should eat meat to be healthy and full. My culture says that you cannot be full and healthy without eating meat.” (Emma)

In addition, some interviewees stated that in family gatherings they eat more meat because meat is usually the main dish. In line with this, few interviewees mentioned that a habit or a traditional

activity from their culture when celebrating festivities, meeting with family and friends, is doing barbecues in which the main food is meat.

(ii) Nutrition and Health

Besides the cultural and family habits, interviewees generally related meat with a nutritious food and as a crucial part of the diet in order to be healthy and have a balanced diet. In addition, many interviewees highlighted that a meal is not complete if it does not include a piece of meat. The following quote exemplifies this:

“I think humans do need the nutrients that we get from meat whether it comes from beef, pork or chicken, you know. I don't think we can get the protein and nutrients we get from eating meat by eating fish or vegetables. I believe eating meat it's important to have good health and I would say I feel like I'm not eating a complete meal without meat.” (Hanna)

The high content of nutrients and proteins coming from meat was especially highlighted from interviewees that are more involved in sports or working out activities. They specified that they need to eat meat because their body demands protein when doing a high physical activity. From these interviewees, it was found that their meat consumption is highly related to their sports activities.

“For an active person it feels that you need to eat a lot of meat. It feels like meat is an efficient way to get all the nutrients needed without the need to take extra supplements such as vitamins. I think meat has a lot of them that you can't get them out from vegetables that easily. Overall, it just feels like a really compressed way of getting everything you need. Obviously, sometimes when I haven't done sports in a long time I don't feel like I need too much meat. It feels like my need to eat meat is activity driven.” (Steven)

From all the interviewees, two of them tried to follow a vegetarian diet some years ago. They explained their experiences and both expressed the need to eat meat in order to get the needed nutrients and energy to cope with their daily activities. One of them stated the following:

“For me, eating meat means energy. I mean, it has proteins so I think it is needed. A while ago, I tried to be vegetarian and I felt that I didn’t have enough energy. Since then, for me meat it’s a crucial part of the diet but not for the taste, because it gives me energy and also for the consistency it has that makes me feel myself full after eating it.” (Lisa)

Although there was a general perception of meat as a key element of the diet to be healthy, one of the interviewees who stated that meat is a good way to get all the nutrients needed, also admitted that meat is not the healthiest food and that there might be healthier options available. However, he still eats it because it has always been part of his diet and he likes it. Similarly, Emma, who explained that in her culture meat is regarded as a crucial part of the diet in order to be healthy, she expressed that she does not agree and that you can be in good health without eating meat. However, she had very internalized the fact of eating meat because of her cultural roots and people surrounding her eat meat, that is why she continues eating it.

(iii) Taste and feeling

Overall, taste and the feeling of being energized and full were common feelings expressed by all respondents when justifying the reasons to eat meat. The following quote exemplifies both aspects:

“I just like the taste and the feelings I get from it, the sense of energy. I think I’m getting energy but it’s almost pleasure, because you eat something that you like, you feel happier I would say. I feel fulfilled in a sense that if I stop eating meat and only vegetables, for me, I like vegetables but I’m not very attracted to them. To some extent I would feel that I’m missing something. I like to eat vegetables but not as a main side, I need something else to complete the meal and to be filled such as meat.” (Eric)

While some interviewees mentioned taste as the first reason to eat meat, others argued that the feeling they get from eating meat is the main reason to eat it. Many interviewees stated that these feelings are difficult to get without eating meat:

“If I don't eat meat I feel like there's something missing and it's like, I'm craving for meat. I feel like I'm more tired and hungry. Even if I eat a lot of rice or veggies, I feel that something is missing because I am not full.” (Jason)

Interestingly, one of the interviewees mentioned that eating meat gives her confidence because she feels energized to cope with her everyday activities.

(iv) Convenience and availability

Some interviewees also related their meat consumption with the fact that it is a convenient food in the sense that it is available everywhere and it is easy and fast to cook. In fact, all the interviewees stated that they are knowledgeable when it comes to preparing dishes that include meat.

“[...] I think the first reason I eat meat is because I like it, I love the taste. But also what helps a lot is that it's easy to make and I'm not a great cook but I consider it as a very convenient food.”
(David)

One interviewee mentioned that since meat is part of the diet in almost every country, its availability is high and she always chooses it because she knows that it will taste good.

“I like eating meat. It's a traditional food and it has been here for a long time and no matter where I go I am sure I'm gonna find it and I know it'll probably taste the same.” (Isabella)

Overall, there are different reasons given by the interviewees in terms of their meat consumption and these reasons are found to be key elements in building PBMA perception. However, their decision to eat meat is not the result of one only reason, instead it is the result of several intermingling reasons. The following quote exemplifies this fact properly:

“So first, of course, I eat meat because I find it tasty and I really like it. Second, I guess it's cultural, the fact that I've grown up by eating it and my social circle I think has made my mind think it's very tasty. Third thing is when I eat meat, of course, I feel good after eating it. Also it has a religious and cultural significance for me.” (James)

4.2.2 Openness to reduce meat consumption

Some interviewees mentioned having reduced their meat consumption during the last years. Although the reduction has not been very significant by any of the interviewees, the reasons given by them were price concerns, diversification of tastes, less sport activities as well as animal and environment concerns. None of the interviewees have replaced the amount of meat with PBMA products, instead they have reduced the amount of meat consumed.

“Yes, the main driver was price when I came to Sweden but also because of the fact that I’ve learned how to diversify my meals with other things and be full with other foods, and have more variety of tastes.” (Paul)

While being willing to reduce the amount of meat consumed, respondents expressed being unable to do it because of cultural and social surroundings. Interestingly, one of the interviewees said that she would like to reduce it more but since her husband eats it for cultural reasons, it is hard for her to reduce it more.

“Yes, sure, but I would like to reduce it more. Since I have to cook meat for my husband I end up eating meat. But during the last few years, not every time that he eats meat I eat it. Whenever I have the option I try to eat something else instead. So I can say I have reduced the number of times I eat meat and also the portions. I would be willing to reduce my meat consumption and even completely cut the red meat, I could be fine by only eating chicken sometimes.” (Emma)

The reasons mentioned by Emma to reduce her meat consumption were because of animal cruelty and the environmental consequences of the meat industry. In the same line, Lisa has reduced her meat consumption after watching a documentary related to the meat industry in which she discovered all the environmental consequences derived from it.

“When some years ago I tried to adopt a vegetarian diet, I did it because there was a trend but I wasn’t aware of the environmental impact. Then after a while without eating meat I saw I needed it to have energy but I realized that I didn’t need to eat as much meat as I was eating. Also, I watched the documentary and it was key to do this step of reducing to only one piece of meat per

day. Mainly my reason to reduce was the environmental impact and harming less the animals.”

(Lisa)

When asked the interviewees that have not reduced their meat consumption if they would be able to do so, most of the interviewees said they would be able to do so but not in a very significant way and all of them expressed that it would be difficult for them.

“Well, I have thought of reducing my meat consumption, but to be honest, I won't stop eating it. I can reduce it for sure because there are risks with health and environment, but stopping eating won't be possible for me as I am very attached to my culture and the values meat has.” (James)

Also, the interviewees were asked which would be the reasons to encourage reducing their meat consumption. The most common reasons were animal cruelty, followed by environment and health concerns. However, some of the interviewees mentioned all the stated reasons. The following quote states that:

“Yes I would. About the reasons, I think the cruelty part would be the first one because I feel so bad for those animals, then the environmental factor and then the health factor.” (Emma)

4.2.3 Reluctance to reduce meat consumption

While some interviewees mentioned having reduced their meat consumption during the last years, others instead have increased their meat consumption. The reason for all of them is because they were doing more intense exercise and have a more active daily lifestyle.

“I haven't reduced my meat consumption, I would say that I have increased it. When I was younger I could go days without eating and I was ok, but now I always feel I need it. I think it's because I'm doing more sports activities and I do more activities during the day. Also, I have in the back of my head I need to eat meat in order to maintain or to build muscle when doing any sport activity.” (Eric)

These interviewees were asked if they were willing to or have any intention to reduce their meat consumption. All of them said they were not for several reasons such as taste, culture, nutrition, etc. However, few of them said that if they knew a similar product in terms of taste, nutritional value and that it is easy to cook, they would do so.

“No, I haven’t reduced my meat consumption. About the willingness to reduce my meat consumption I’m not sure because I don’t know any other substitute that can combine with everything and also that is fast to cook and cheap. For the moment, I don’t have any intention.”

(Helen)

Interestingly, one of the respondents said that he would be able but he will not do it. The only reason that would encourage to do so would be because of animal diseases that can affect his health.

“Yes, I could but I won’t. I could definitely, I can cook pretty good vegetarian and vegan meals as well, is not that a concern, I just like meat and the taste much more. I like to enjoy my meals as much as possible. The reasons would be probably if some bovine virus or something like that spread around and the experts say as a recommendation not to eat meat, then I would accept it and I can stay out of meat, I’m not addicted to meat. Diseases and stuff like that would probably put me away from meat for some time.” (Steven)

Besides the reasons to eat meat which were found to be key contributors to the construction of PBMA perception, the openness or reluctance to the reduction of meat consumption also showed a significant role towards the development of PBMA perception as well as consumers’ intentions to try and possibly adopt PBMA products in their current diet.

4.3 Contribution of experience and expectations of PBMA products and excitement for new types of food in the formation of perception

Apart from the previously identified key contributors towards the construction of perception of PBMA products, the current study found that the formerly gathered food experience of PBMA products has a direct effect on its perception, as well as has the potential to affect consumers’

future decisions on PBMA consumption. Furthermore, it was also found that many respondents carried preconceptions about these products without having tried them, which showed a fair contribution towards construction of its perception. The third theme is categorized into three subcategories namely: Consumer awareness and experiences; Expectations and preconceived notions; and Food curiosity and food neophobia. As mentioned earlier, the personal views regarding sustainability and the affinity for meat consumption gives a partial answer to the research question. The perceptions based on the real experiences with PBMA products along with the different preconceptions found, will allow the researchers to establish general assumptions on how consumers construct their perception towards PBMA products.

4.3.1 Consumer awareness and experiences

Plant-based diets in general were well-known among all respondents, though some respondents showed confusion between vegan and vegetarian diets. Although all respondents were high-meat eaters, there were no strong opinions found against plant-based diets. Most of the respondents had the idea that type of diet is an individual choice and that nothing is wrong or right with that.

“It's a very good thing. People choose which is best for them. I think a plant-based diet can be as effective as a meat-based diet.” (Sara)

Few respondents connected plant-based diets with a healthier way of living. They showed a feeling of respect towards people who follow these diets considering it environment friendly and a harder choice.

“I have a curiosity about the people that follow that type of diet, it is something that they have chosen for the good of the animals or environment and for me that is very courageous because when I tried it, it was hard for me to reduce my meat consumption.” (Nicole)

PBMA products being a new category of product in the market, half of the respondents seemed unaware of these products and even fewer people had tried them. The respondents that were aware had an idea about what PBMA products are in general. Stating the obvious fact that the market presence of these products are low and fewer choices are available compared to conventional meat,

one of the respondents suggested that marketing strategies of brands providing these products needs to make consumers aware and well-informed about these products.

“I believe the marketing strategies or the prominence of these products in the market is low and visibility has not been increased so much. This is why consumers are not much aware about the availability of these products along with personal habits, which will take people some time for them to readjust their preferences and get used to this kind of product.” (Tomas)

After informing the interviewees about PBMA products in a detailed way, different opinions were found among the respondents. Further, showing the importance of informing customers to increase awareness among consumers about these new products, one of the respondent stated that:

“No, I have the feeling that I never see these products in the supermarket. Because when I go to the supermarket, I already know what I’ll buy so I don’t pay much attention to the other products. [...] Well, now that I reflect, maybe I’ve seen a couple of these products in the supermarket, mainly burgers and were next to the conventional burgers.” (Steven)

Keeping into consideration that these are new products, respondents mentioned they will not seek these products in supermarkets purposely until and unless they are suggested by friends and family or are encouraged to try it with proper motivation.

“Maybe, If I’m at a friend’s place who is maybe vegetarian or vegan, I would be okay eating that food or at least try it out. But I would not purposely go and seek it out.” (Isabella)

While lack of awareness was found to be the main reason why respondents have not tried PBMA products, there are other reasons that contributed to a lack of experiences with PBMA food products. Interestingly, even expressing previously a concern for the environment, most respondents do not find it immoral or wrong to consume meat in terms of the environment or animal cruelty.

“I do not have any moral objection to consuming normal meat. Okay, some people try alternative products because they think that it's not right to eat meat. But I think it's perfectly fine. So that's why I never tried it. I never look for an alternative.” (Michael)

While having the discussion of how PBMA products were perceived, it was found that respondents usually compared it and judged it according to the standards of meat. Some respondents showed their unwillingness to try these products by judging its authenticity.

“They might have the same taste as the meat but they aren't actually meat, it's about authenticity and feels fake.” (Sara)

Among the experiences of respondents who have tried the product, which is around one third of the total respondents, it was found most of them had a positive experience. However, when compared with real meat, PBMA lagged behind in a few criterias such as price and even taste and texture for a few respondents.

“Yes, I've tried Heura, which is a chicken substitute, the vegetarian nuggets at home and I've also tried the Beyond burger in a restaurant. The experience with the Beyond burger was really good. With the Heura and the nuggets, I really like it and that's why sometimes we buy it at home even though it's very expensive.” (Nicole)

One of the respondents mentioned liking it as a different or unique product, rather than considering it as a meat alternative. Contrastingly another respondent perceived them as artificial considering it as a meat substitute.

While the PBMA concept is new, people have been eating meat alternative products for a long time (He et al., 2020). Interestingly, being unaware of PBMA products, one of the respondents mentioned that he has been cooking vegetarian steaks for friends and family for a long time. This shows the idea that these products have a good potential to capture the market if consumers are more aware of these products and are encouraged properly.

Overall, the way the perception towards PBMA products is constructed is subject to consumers' awareness of these products, the previous experiences with PBMA products for those interviewees that have tried them and the perception of these products from the interviewees that have not eaten them before.

4.3.2 Expectations and preconceived notions

Most of the respondents seemed to have preconceptions about PBMA products, which differed to a certain degree. Upon being asked if they consider it healthier than meat or not, half of the respondents considered these products as healthier than real meat. Few of the respondents also put emphasis on having a perception of healthier depending on what kind of meat we are comparing it to.

“Yes, in general I do because they are made with plant-based ingredients which are better than eating meat. However, it depends on if you are comparing it with red meat or not. But if you compare it with red meat for sure, but if I compare it with chicken I’m not sure.” (Emma)

Some of the respondents who considered PBMA products being healthier, also showed doubt in possible chemical additives used in food products as well as with the trend of using laboratory grown vegetables as per one of the respondents.

“According to my knowledge, I would say they are more healthy only if they are 100% plant-based. I know that some vegetables have GMO and maybe they add some chemicals to make these products look like meat, so I’m not really sure.” (Jason)

Moreover, some respondents decided not to compare both regarding health, mainly stating not being enough knowledgeable about the product, not having done enough research on it and not having tried it. One of the respondents simply stated that he likes meat and he does not want to compare.

“Real meat is healthy enough for me. It has been eaten since ancient times and nobody without any particular has had any problem with it. When it comes to specifics and data between the two, I am not aware honestly and I am unbothered.” (Isabella)

Interestingly, some respondents considered PBMA products as less healthy stating that it lacks all the essential nutrients that are found in regular meat. Another reason for not being favored is its perception of authenticity, few respondents see them as fake products trying to mimic meat, and also as most of the PBMA products are frozen, this resulted in them being perceived as processed and less healthier.

“No, I perceive them as less healthier than meat because I’m not an expert but I perceive that as they are trying to copy the meat but it is not meat, it shouldn’t be healthy.” (Helen)

Additionally, PBMA products were regarded as expensive by some respondents. Since PBMA products are sold in the market as sustainable or ecological products, these are perceived to have a premium price along with availability of fewer choices.

“I think that PBMA products in general are expensive because they are very new and also they try to sell a sustainable product and sustainable products are usually more expensive. In addition, there are not many offers in the supermarket.” (Helen)

Thus, a variety of expectations and preconceived notions towards PBMA products were found among the interviewees, which at the end contribute to the manner the perception towards PBMA products is constructed.

4.3.3 Food curiosity and food neophobia

While having discussion about willingness of respondents to adopt PBMA products or replace some amount of meat with PBMA products, it was found that most of the respondents were willing to try them but they would not replace it with meat in their regular meals. Yet, two of the respondents mentioned they would be able to do so with proper motivation mainly concerned with

environment and health, while also stating the condition that PBMA products should be able to provide the same nutrition and taste as the real meat.

“Yeah, why not? Like if I feel the taste and the nutritional value and the ability of these products are similar to meat, why not? You obviously want something which is tastier on your plate and it does provide you all the same nutritional value.” (Tomas)

All the interviewees that stated they would be willing to try, specified other factors besides the taste in order to eat these products more often such as more availability, cheaper prices, and getting the same feeling from eating meat.

“Yes, why not? If there is a product that has exactly the same taste I would definitely try it but I would need to see if my body reacts the same way it reacts when eating meat, such as if I have the same feeling of energy and fullness I get from meat. Even if I like it, I don’t know if I would stick to that, it depends on a lot of factors, the ones that I’ve just mentioned and also the price.”

(Eric)

Further it was found that few respondents were more curious about trying new types of food and liked experimenting with their food with different ingredients and recipes, showed greater interest in trying PBMA products as well. This excitement for trying new foods came with different reasons attached such as boredom of the same food and tastes. On the other hand, some respondents mentioned being conservative about food choices and showed reluctance towards trying new types of foods. They also showed reluctance towards trying PBMA products. These can be considered as traits of food curiosity and food neophobia respectively (Jahn, Strassner & Furchheim, 2021).

Thus, the interviewees' willingness or reluctance to try and/or adopt these new products in their current diet were found to contribute to the way the perception of PBMA products is constructed.

5. Analysis and Discussion

This chapter analyzes and discusses the findings of the study presented in the previous chapter. The various elements found which build the perception towards PBMA products are discussed with the help of previously mentioned literature and concepts. The section is divided into three themes namely: Effects of sustainability concerns on personal consumption and PBMA perception; Underlying factors behind meat consumption and its influence on PBMA perception; and the role of food curiosity and food neophobia in willingness to adopt PBMA products.

5.1 Effects of sustainability concerns on personal consumption and PBMA perception

The first theme includes different environmental concerns found among respondents in relation to the food industry and how they relate it to sustainable consumption, along with the association of personal consumption with climate change. Various patterns of attitudes, concepts and ideas are discussed in a way to make a better understanding of the research question. This section provides insights of how existing beliefs about sustainability and personal consumption behavior contributes to the way perception of PBMA products is built among respondents.

This research found that there was a differing level of environment and sustainability concerns among the respondents which was incorporated in their values and was reflected through their everyday actions like recycling, using public transportation, reusing, avoiding plastic bags, using electric vehicles, etc. Contrary to the findings of MacDiarmid, Douglas & Campbell (2016) in which consumers were found to be unaware of the environmental impact of the meat industry, in the current study, even being high-meat eaters, most of the respondents were aware of environmental consequences of the food industry, specifically in the meat industry. This suggests that the environmental awareness of environmental consequences could be highly contextual. While MacDiarmid, Douglas & Campbell (2016) recruited respondents keeping in focus their socio-economic class who belonged to both rural and urban settings in Scotland, the current research has focused on well-educated students and working professionals irrespective of their socio-economic situation and culture. This could possibly explain high awareness of the consequences of the meat industry. Furthermore, according to McBey, Watts and Johnstone (2019)

the young generation is more knowledgeable about environmental and ethical issues in relation to meat consumption, which is the case of the participants from the current study.

In parallel to the findings of Collier et al. (2021) where participants preferred local meat over meat alternative products and organic products in order to have a more sustainable consumption, respondents in the current study often related sustainability in the food industry in terms of local and organic food. While the mentioned study has shown consumers consider local meat and organic products as ways to consume more sustainably, it lacks the reasoning behind such thinking of consumers. The current study adds to the existing literature by presenting the reasons behind it. Respondents preferring local food mainly talked about pollution by food transportation, transportation costs as an expenditure increasing the final product cost and as a way to support the local community. Also, these respondents showed preference of taking local meat over PBMA as a contribution to sustainability. Furthermore, organic food production was perceived healthier considering fewer pesticides and chemical additives were used, thus being environmentally friendlier than their conventionally grown counterparts.

However, one of the respondents was skeptical about eco-labelled products arguing that those products are merely just marketing strategies, to add a premium price and increase sales. Within consumer culture theory, this can be viewed as a critique of capitalism and neoliberalism, in which consumers oppose the way companies use different marketing tactics to shift environmental and ethical responsibilities to consumers and maximize profits (Giesler & Vereisu, 2014). This also can be related to the free capitalist view of companies given by Ulver and Laurel (2020), where companies are assumed to share “good values”, merely to increase sales and profit. The capitalist view of companies is studied by other authors and specifically, in the context of the food industry, consumers believe that capitalism turns food, a life essential, into a product to be traded for profit (Holt-Giménez, 2017). Holt-Giménez (2017) argues that capitalism drives the global food system and emphasizes the need to understand this for everyone who wants to eat good, clean and healthy food. The author provides an arresting view of how capitalist economies function especially in the food industry linking it with social deprivations and environmental costs. This mindset could discourage consumers from trying PBMA products as well as all the products which are marketed as sustainable products.

Nevertheless, when it comes to the relationship between their own consumption behavior and its environmental impact, the empirical findings support the results of other studies i.e. Collier et al. (2021), MacDiarmid, Douglas and Campbell (2016). These studies found a general lack of association between their personal consumption and the derived environmental consequences. In this study, respondents that expressed skepticism towards the association between consumption behavior and the environment, showed two different thinking patterns. Some expressed genuine unawareness of how food consumption behavior affects the environment, and some decided to willingly ignore the connection, thinking either that food is of highest importance or having the idea that changing food consumption behavior is not the key to sustainability but changing the production process might be. However, some respondents expressed being aware of a clear connection between the two, and mainly described the environmental effect of food production and transportation processes, supporting local, organic and ecological food. These respondents showed higher awareness regarding the impact of personal consumption habits and showed more willingness to try PBMA products, in a way creating a more positive posture towards these products.

However, despite all respondents expressing being environmentally concerned, there was general reluctance to act in accordance with it in relation to food consumption. In parallel to findings of Prothero et al. (2011) and Thøgersen (2005), it was found that consumers might not act according to their sustainability values and there could be several reasons behind it. In the current study, some respondents expressed being financially limited and thus unable to buy sustainable products, considering them more expensive. In a way, they expressed their life choices being structured by their social and economic capital (Bourdieu, 1985). This perception of premium pricing was found for PBMA products as well. The majority of respondents were open to trying PBMA products, but were reluctant to change their current diet. Not just for economic reasons, there were other important players such as social and cultural reasons. In parallel to the findings of Jahn, Strassner and Furchheim (2021), it was found that culture lies in the root of family food choices, which ultimately shapes the food habits of an individual. Culture was found of major significance to meat-based food choices, most of the respondents mentioned it having traditional and religious significance. Furthermore, one of the ideas that emerged during the discussion of meat consumption and sustainable consumption was the perception of meat reduction not being the key

to sustainability. Respondents seemed to believe that changing the existing food behavior of consumers is already a difficult and time taking task, paired with newness of PBMA products, it becomes harder. It was believed that rather changing the meat production process could provide a better answer to sustainable consumption. This perspective was less reported in other studies and can be seen as a critique to the current trend of consumer responsabilization, in which market actors are shifting the responsibility of the environmental impact derived from consumption activities to consumers (Giesler & Vereisu, 2014). The interviewees argued that the impact derived from the meat industry should be solved by the companies and not through their consumption decisions.

The influence of family in individual food choices is well acknowledged by some earlier studies (Collier et al., 2021; Jahn, Strassner & Furchheim, 2021). While it was found that family influenced interviewees food choices, interestingly, all respondents mentioned following their family sustainability learning too. This was found majorly during food waste discussion where most of the respondents mentioned not wasting food by cooking and eating only the needed amount of food, saving leftovers for the next day and feeding animals with leftover food. Respondents mentioned carrying this as learning passed down by parents. This suggests the perception of an individual towards PBMA products can also depend on the food ideologies followed in the family. Another interesting idea that came during the interviews was the differing mindset of food waste with rich and poor countries. The idea was that people in rich countries have a more casual approach towards food waste than people in less developed countries, considering it a more serious concern.

Regarding consumer risk perception, most of the respondents seemed aware of the different risks they are exposed to when consuming meat. Besides the direct health risks mentioned by Yeung and Morris (2001), respondents also connected it to the environment, mainly pollution and resource exploitation, which will affect human health at some future point of time. Direct health risks were mentioned in terms of animal borne diseases, cholesterol problems, cardiovascular problems, skin allergies, blood pressure issues and digestion issues. Yet, on the contrary to Gstraunthaler and Day (2008), these risk perceptions did not affect the food choices of all the respondents except one. One of the key reasons behind it by the interviewees were the offerings of meat, whether it be satisfaction, culture and/or nutrition, overpowered the perceived risks. While discussing whether these risk perceptions attached with meat consumption have a contribution

towards the perception of PBMA products, it was found that this willful ignorance of risk came from respondents having a high affinity towards meat, thus showing more casual attitude towards these risks along with less willingness to try PBMA products. Further, few respondents believed health risks like cholesterol and fat accumulation can be avoided by balancing the meat diet with proper physical workout. Few respondents also mentioned that overconsumption of anything is bad, giving importance to the concept of balanced diet. Supporting the findings of Pohjolainen, Vinnari, and Jokinen (2015), few respondents argued that if meat consumption has potential risk, not consuming meat might also imply other risks such as essential nutrient deficiencies.

Regardless of consumers' awareness regarding sustainability concerns, impact of meat industry, perceived risk of awareness, it was found that the majority of respondents were reluctant to change their meat dietary practices. This identified attitude-behavior gap, which was also emphasized by various other studies (Prothero et al., 2011; Thøgersen, 2005; Boulstridge & Carrigan, 2000; Carrington, Neville & Whitwell, 2010), poses a big issue towards sustainable consumption. In such a case, targeted interventions are suggested by some authors (Lacroix & Gifford, 2020; McBey et al., 2019), which are actions to encourage change in the consumption patterns of consumers, which will be discussed in the next theme of discussion.

In relation to the awareness of plant-based diets, a confusion between vegan and vegetarian concept was found in terms of which animal products are banned, else most of the respondents were found well-aware about plant-based diets in general. There was a general positive outlook found while having discussion on plant-based diets along with no strong opinion against it despite all respondents being high meat-eaters. This does not align with the findings of Povey, Wellens and Conner (2001) which argued that usually consumers have negative attitudes towards diets that resemble less to their current diet. Furthermore, most of the respondents also emphasized the freedom of choice, considering the choice of diet whether plant-based or meat-based is an individual choice, and that neither choice is right or wrong. This fact can be related with the existing literature whether consumers really have the freedom to choose and if they are able to exercise this freedom or not (Gabriel, 2005; Kozinets, 2002). Considering the high environmental impact of the meat industry in the environment and the recent plant-based diet trend, high meat-eaters can feel pressured by other consumers and even the market (i.e. PBMA brands). Thus, they can feel a pressure to change their consumption behavior (Gabriel, 2005). Feeling this pressure

can possibly make consumers end up showing more resistance towards adopting PBMA products and having an unfavorable perception of these products.

5.2 Underlying factors behind meat consumption and its influence on PBMA perception

The second theme covers the reasoning behind meat consumption and the meaning of meat for high meat-eaters, which are culture and family habits, nutrition and health, taste and feeling, and convenience and availability. The different reasons for eating meat have been linked to the way consumers construct their perception towards PBMA products since it has been found that the different reasons for eating meat have an impact on the perception of these products and act as barriers to PBMA adoption.

The empirical findings showed that meat is a traditional food for many cultures and it was found that the family and social environment determine eating practices, which was previously concluded by Jahn, Strassner and Furchheim (2021). In this research, the interviewees belonged to twelve different nationalities and some of them related their culture and family habits as the main reason to eat meat. This fact can act as a barrier to the adoption of PBMA products as stated in Jahn, Strassner and Furchheim (2021) study, as well as have an influence on the perception of these products since eating habits are difficult to change as concluded by Sanchez-Sabate and Sabaté (2019), and the majority of the interviewees expressed that they could try these products but it would be hard for them to replace meat completely with them. In addition, some respondents showed uncertainty regarding preparation and cooking of PBMA meals. This supports the findings of Collier et al. (2021), which suggests that it is important to address this uncertainty regarding preparation of meat-free substitute meals to improve the likeness and acceptance of PBMA products. Overall, PBMA products are seen as new products by the interviewees which have not been included in their diets, and the adoption of these products imply a change to their habits and challenges the cultural significance of eating meat.

Furthermore, it was found that the majority of the interviewees considered meat as a fundamental element of a meal due to the high nutrients and proteins, and as a way to follow a healthy and balanced diet. This aligns with the findings of Pohjolainen, Vinnari, and Jokinen (2015) study,

indicating that meat is regarded as a crucial fountain of nutrients and a necessary element of a meal for many consumers. The high content of nutrients and proteins coming from meat was especially highlighted from interviewees that are more involved in sports or working out activities. From these interviewees, it can be concluded that their meat consumption is closely linked to their sports activities. This also suggests that, if new PBMA products are developed and marketed in a way to highlight its advantages over animal protein sources, it could create demand for PBMA products among groups who are open to these products but show their reluctance as part of confusion regarding nutritional content.

Although meat was considered as a necessary food for the majority of the respondents in order to be healthy, all of them were aware of the health risks related to eating meat and some of them perceived meat as an unhealthy product, which was previously found in other studies i.e. Holm and Møhl (2000), Salonen and Helne (2012). When asked to the interviewees about their perception of PBMA in terms of healthiness compared to meat products, two different points of view were found, which is also an existing debate in the PBMA literature. On the one hand, some interviewees perceived them as less healthy, arguing that they are processed, not authentic, and have a lack of nutrients, which aligns to the findings of Collier et al. (2021) and Varela et al. (2022). On the other hand, some interviewees perceived them as healthier since they are plant-based, which was found on Elzerman, Van Boekel and Luning (2013) study. Nevertheless, several interviewees highlighted that it depends upon the type of meat one is comparing to. Thus, they distinguished between various types of meat and considered some as healthier than others. Specifically, they expressed PBMA products to be healthier when compared to red meat and showed some doubts when comparing it with chicken meat. Although the perceived healthiness and unhealthiness of PBMA products is a debate within the existing literature, the comparison made by the interviewees between PBMA and the different types of meat has not been previously found. Also, few interviewees preferred not to compare PBMA products with meat in terms of health, arguing a lack of knowledge about these products.

The interviewees also mentioned that a meal is not complete if it does not include a piece of meat and that usually meals are organized around meat, which is also one of the findings of Varela et al. (2022) study. However, the empirical findings also demonstrated that consumers related eating

meat as much more than nutritional value, and other factors such as taste and culture roots are key, which aligns with MacDiarmid, Douglas and Campbell (2016), and Stanford and Bunn (2001) findings. Specifically, taste was the first reason to eat meat by some of the interviewees, given that consumers related eating meat with pleasure. Within consumer research, the enjoyment of eating meat can be related with hedonic consumption since it designates multisensory aspects of one's food experience such as taste, smell and visual impressions of meat (Hirschman & Holbrook, 1982). In addition, the feeling of being full and energized after eating meat was a common feeling expressed by many respondents, which is less reported in previous studies. Some of the respondents expressed that these feelings are difficult to get without meat and that they do not get this feeling when eating vegetables. Some of the respondents showed uncertainty about getting this feeling after eating PBMA products.

The interviewees that had previously tried PBMA products, expressed a positive experience overall. However, it was found that these products were usually compared and judged according to meat characteristics. In terms of taste and texture, some respondents manifested that these products were behind meat and that some improvements were needed, which aligns to the findings of Collier et al. (2021) and He et al. (2020). The interviewees that have not tried these products, perceived them as not authentic and were not attracted to them since they prefer meat. According to Rothgerber (2013) (as cited in Mcbey et al., 2019), a key element to increase consumer acceptance of these products is to increase the perception of naturalness. Thus, it was found that the perception constructed towards PBMA when seen as a unique product was different than when seen as a meat substitute. Hence, this is one of the elements that contribute to the construction of the perception towards PBMA products. Furthermore, some respondents that have not tried them argued that they have not looked for those products since they do not find any moral obligation when consuming conventional meat. This can also be seen as a critique of the consumer responsabilization trend since these interviewees actively express a resistance to the market forces that aim to create them as "moral subjects" (Giesler & Vereisu, 2014). The other respondents that have not tried them argued that they have not seen these products in the supermarket and restaurants. This contradicts the findings done by Elzerman, van Boekel and Luning (2013), where all respondents were knowledgeable and well-experienced with meat substitute products available in the market.

The empirical findings also showed that meat was perceived as a very convenient food and as a food that is always available everywhere. In contrast, as stated above, PBMA products were viewed as having low availability and fewer options when compared to meat. However, it was found that the availability of these products vary depending on the market. For example, two interviewees from Spain mentioned the lack of options in the supermarket was a barrier for them for not consuming more PBMA products. Nevertheless, some interviewees that are living in Sweden perceive a lack of availability of these products arguing that they do not come across with them in the supermarkets, despite the growing range of meat substitutes available in Sweden supermarkets during the last few years as stated in Collier et al. (2021). From the current study, it was found that there is a lack of awareness of these products and a perceived lack of availability by the majority of the interviewees.

Furthermore, while having the discussion of PBMA products, some respondents stated that they perceive them more expensive since there are few options and are sold as sustainable products, which in turn makes them being perceived as more expensive. This aligns with the findings of Collier et al. (2021), in which participants perceived these products as more expensive than meat and were not believed as being value for money. In addition to the findings of Jahn et al. (2021) and McBey et al. (2019), where it was found that the way ethical and nutritional information of a product is framed could be a key factor in sustainable products, the current study found that framing of information alone is not enough to increase acceptance of PBMA products. While it was found that some respondents do check the product labels when trying a new product or a new brand, it was also mentioned that they would not seek PBMA products in supermarkets purposely. This suggests in order for the framing of information in packaging to work, consumers need to willingly seek this product, and should be motivated enough to give these products a real try, then only the labels could have a contribution in consumers' final purchase decision of PBMA products.

In spite of the fact that all the respondents were high meat-eaters, some of them have reduced their meat consumption for several reasons. Yet, the reduction was not very significant for none of the interviewees and any of the respondents have decreased their meat consumption by replacing it with PBMA products. Some expressed their willingness to reduce it more but being unable to do

it because of cultural and social surroundings. The reasons reported for cutting down their meat consumption were price concerns, diversification of tastes, less sport activities as well as animal and environment concerns. These reasons have been reported in other studies i.e. MacDiarmid, Douglas & Campbell (2016), Mylan (2018). However, on the contrary to the findings of other studies i.e. Fehér et al. (2020) and Janssen et al. (2016), in which environmental concerns was found to be less reported as a reason to shift diet and decrease the meat consumed, when asking to the interviewees which would be the reasons to encourage reducing their meat consumption, the environment was found to be the second most mentioned reason. Thus, the reasons found in this study to reduce their meat consumption were animal cruelty, followed by environmental concerns, and health reasons were less stated. Interestingly, the same three reasons were found as mostly mentioned motivators towards PBMA adoption. Hence, they have a significant contribution towards formation of the perception of PBMA products.

Some interviewees instead of reducing their meat consumption, they have increased it. The main reason for all of them was because they have increased their sports activities and they have a more active lifestyle. As stated above, it can be concluded in the current study that meat consumption is closely linked to the working out activities. When asking if they were willing to or have any intention to reduce their meat consumption, they did not for different reasons such as taste, culture, nutrition, etc. Nevertheless, some respondents argued that if PBMA products provide similar attributes to real meat, they would do so. This manifests again the lack of awareness of PBMA products.

Overall, the arguments found in the current study for consuming meat products are the ones previously found by Piazza et al. (2015), which are the belief of meat being *natural*, *normal*, *necessary* and *nice* (4Ns theory). Thus, it can be concluded that the different reasons reported for eating meat have an effect on the construction of the perception towards PBMA products and act as barriers to PBMA adoption. The various underlying reasons for affinity towards meat consumption discussed in the current theme, along with the identified attitude-behavior gap stand in the way of both meat reduction and acceptance of PBMA. However, targeted interventions could help to overcome these obstacles (Lacroix & Gifford, 2020; McBey et al., 2019). While McBey et al., (2019) suggested different interventions according to stage of life discourses such as education

and nudging in school dining space for younger children, Lacroix and Gifford (2020) suggested targeted behavioral interventions according to the measure of resistance shown by consumers. The findings of the current study suggests that there is no one size fits all as respondents showed different personal goals, different motivations as well as different levels of willingness towards dietary change.

5.3 The role of food curiosity and food neophobia in willingness to adopt PBMA products

Apart from previously discussed factors which were found to have a significant role in the formation of consumer perception towards PBMA products, some other patterns of behavior were found to influence it. This third theme provides an understanding of how food curiosity and food neophobia affects the consumers' willingness to try and include PBMA products in their current diet. Moreover, it has been found their eagerness or reluctance to try new types of food also contributes to the way consumers construct their perception towards PBMA products.

Differing arguments and motives were found among respondents with regards to the choice of trying PBMA and adopting PBMA in their current diet. However, few of the respondents straightforwardly rejected the idea of willingly trying PBMA products. These respondents mentioned being conservative about their regular food and showed a general reluctance to try new types of food. This can be considered as a trait of "food neophobia" (Jahn, Strassner & Furchheim, 2021). Lacroix and Gifford (2020) identified this group of consumers as strong-hinderance consumers or habitual meat eaters. These authors suggest that if sustainability is the main goal, these consumers should be encouraged to substitute red meat with other types of meats such as chicken, which carries less environmental impact, and not necessarily substituting meat with PBMA products only.

Quite contrary to this, few respondents were found to be curious and excited in general when it comes to trying new or novel foods. These respondents mentioned being more involved in experimenting with recipes and ingredients in their everyday meal. Various reasons were found contributing to this, whether it be boredom of the same food or excitement of trying new cuisines.

These respondents were observed to be more willing to try PBMA products in general, few of them even agreed on reducing meat consumption by including PBMA products in their diet, but only with proper motivations, which differed lightly. These respondents were found similar to the group identified as reducers and moderate-hinderance consumers by Lacroix and Gifford (2020). Supporting their findings regarding targeted behavioral interventions, the present study suggests that use of PBMA products and reduction of meat consumption can be encouraged in this group according to the measure of motivations (based on their attitude, social norms and culture) and opportunity (based on their knowledge, personal skills and context).

Overall, the perception depends on different aspects such as the individual's viewpoint, the socio-cultural surroundings, their past experiences as well as their needs as stated by Schiffman and Kanuk (1987). Additionally, in this study it has been found relevant factors which broadly contribute to the construction of the perception towards PBMA products such as the personal views on sustainability, the reasons for meat consumption and their willingness to try new products. While the reasons for meat consumption were found to be core contributors as the foundation on which consumer perception is built, the other two influenced the construction of perception towards PBMA products more indirectly.

6. Conclusion

This chapter outlines the research aim together with the main findings, followed by the theoretical contributions and practical implications. The chapter ends with a brief discussion on research limitations and suggestions for future research.

6.1 Research Aim and Main Findings

This research aimed to understand how high meat-eaters belonging to the Millennials Generation and Generation Z build their perception towards PBMA products, and the way this perception affects their consumption intentions. To accomplish this, a literature review was presented with five relevant concepts that were used as a foundation for gathering the empirical data, which was collected from fifteen semi-structured interviews. The interviews enabled the researchers to uncover the different meanings, opinions and the underlying reasons formed by respondents regarding sustainability, meat consumption and PBMA products. Specifically, a deeper understanding was gained on the key factors contributing to the way PBMA products are perceived as well as the rationale behind their perception. Overall, it has been found that the perception towards PBMA products is built upon consumers' motivations for consuming meat, their expectations and willingness to try new products, and their concerns on sustainability.

Firstly, it has been found that the core contributors that build the perception of PBMA products are the different reasons for eating meat, which are culture and family habits, nutrition and health, taste and feeling, and convenience and availability. These reasons were found to be significant in the perception construction since the way these products were perceived were built upon the foundation of these motivators and were constantly compared with meat characteristics. On the one hand, food choices and especially meat consumption were found to be closely linked to respondents' culture and family habits. On the other hand, the way PBMA products were perceived in terms of nutrition, taste and availability were subject to their lived experiences of meat products. For example, while meat was regarded as a nutritious and tasty food, PBMA products came with uncertainty regarding its protein content, taste, and texture since they are new products. In terms of convenience, meat was seen as a familiar and always available food, but PBMA products were

perceived as having low availability and visibility in the market along with fewer choices by most of the respondents. Thus, the way perception of PBMA products is constructed was found to be highly subject to the reasons to eat meat (i.e. taste, feeling of fullness, nutrients) and the meat attachment of respondents. Furthermore, it was found that the different reasons to eat meat among the respondents also affected their degree of openness or reluctance to meat reduction and PBMA acceptance. Those respondents that were more attached to eating meat and highly value the characteristics of meat showed a more unfavorable perception and were more reluctant to consume these products.

Secondly, it was found that consumers' awareness of PBMA products, previous food experiences with these products as well as the preconceived notions and expectations of the respondents that have not tried them, were relevant in the construction of PBMA products perception. The respondents that have previously tried these products expressed a good experience overall. However, among the respondents who have not tried PBMA products, mainly for lack of awareness, expressed different positive and negative preconceived notions regarding these products. Negative preconceptions were generally related with fakeness, and uncertainty regarding taste, nutrients content and preparation. While positive aspects mostly showed the environmental friendly and ethical nature of the products, as well as a perceived healthiness when compared to meat. Yet, there was a debate between the perceived healthiness of these products. In addition, these products were seen as expensive among some respondents mainly because of fewer choices available in the market, as well as premium pricing for sustainable products. Further, it was found that the respondents who were more curious about trying new types of food and liked experimenting with their food with different ingredients and recipes, showed greater interest in trying PBMA products as well. Similarly, respondents who were found reluctant towards trying new types of food, expressed a more unfavorable opinion about PBMA products.

Thirdly, the concerns on sustainability issues were found to be relevant in the construction of PBMA perception. All the interviewees seemed concerned about sustainability issues and were knowledgeable about the environmental impact of the meat industry. However, it was also found that some respondents were not aware of the way their consumption behavior affects the environment. Those that expressed higher concerns on sustainability issues and were aware of their consumption behavior impact on the environment, showed a more favorable perception towards

PBMA products compared to the respondents that expressed a lower level of careness for the environment. Yet, an attitude-behavior gap has also been identified from some respondents that showed higher concerns in sustainability and ended up not reflecting them in their actual consumption behavior.

6.2 Theoretical Contributions

The theoretical contributions of the study are explained in the context of existing literature of Consumer perception and Sustainable consumption streams primarily within the consumer research field, as well as other research streams such as marketing and consumer resistance. The findings of the current study are compared to identify similarities, contradictions and new ideas within the aforementioned literature streams. With the identified theoretical gap at the beginning of the research, that is, the lack of consumer perception studies in relation to PBMA products, the current study provides an understanding of the dynamic and complex nature of consumer perception and how it is influenced by several controllable and uncontrollable variables. Particularly, it adds a more specific perspective of how high meat-eaters construct their perception towards PBMA products, to both literature streams.

Within the sustainable consumption stream, various authors have studied different aspects related to meat reduction and PBMA products in terms of sustainability and healthiness. With most of the aspects discussed in context of comparison with conventional meat, this study adds essentially a new perspective as contribution to the ongoing debate regarding healthiness of PBMA, where some studies gave more healthier perception (Elzerman, Van Boekel & Luning, 2013), others found more skepticism in relation to its healthiness (Collier et al., 2021; Varela et al., 2022). The current study found that perception of healthiness of PBMA products depends on the type of meat it is being compared to. In other words, PBMA products were generally perceived as healthier than red meat.

The current study also contributes to the longstanding discussion among academicians on the responsibility of sustainability. Within the field of sustainability and marketing, different authors have put forward their arguments of sustainability being the responsibility of consumers, different

market actors such as companies as well as policymakers (Giesler & Vereisu, 2014; Boulstridge & Carrigan, 2000). Current findings engage with several ideas of skepticism about consumer responsabilization and capitalism found among consumers, which resulted in unfavoured perception of PBMA and other sustainable products as such. Thus, it adds to the existing body of knowledge to better understand and engage with this issue.

This study adds to the consumer perception stream by identifying the main key contributors. Given the complex nature of consumer perception, especially when it comes to novel or innovative products, consumer resistance is an expected reaction which was found in the case of PBMA products too. PBMA was more often compared to conventional meat and was found exposed to consumer resistance in terms of uncertainty with production process, nutritional content, preparation and convenience. The findings align with the most significant studies related to subject matter, i.e. Collier et al. (2021); MacDiarmid, Douglas & Campbell (2016); Jahn, Strassner & Furchheim, (2021); and Varela et al. (2022). The current study findings add to the collective qualitative research body of consumer resistance. With only high meat eaters in focus, this study offers unique insights on the sustainable consumption phenomena.

6.3 Practical Implications

Besides the theoretical contributions, the current study also provides critical insights relevant for brands, marketing practitioners, policy makers and managers. This study focused on getting a better understanding of consumers' beliefs, expectations and experiences concerning PBMA products and meat consumption. In other words, this research can help different stakeholders whether academicians or companies to listen to the "voice of consumers".

Firstly, this research can be used to assemble key consumer insights and direction for new product development processes or modifications of the existing PBMA products. Considering the market of PBMA products is relatively new and limited to certain countries, the different perceptions and experiences of meat substitute products gathered through the study can not only help to develop new substitute products as per consumers' desires, it could also help companies to expand into different countries since the study gets valuable cultural insights regarding meat consumption as well. Further, it might help brands to decide on different positioning strategies for these products

in the market as study findings suggest consumers had a good experience with PBMA as a unique product, but when seen as a meat substitute, these products were judged by standards of meat, thus making it perceived unappealing according to certain criteria. This also suggests the importance of the way the information of these products is framed. Thus, these insights can be useful for marketers while deciding promotional activities.

Secondly, this study provides key consumer insights that could help policy makers to develop realistic policy interventions to promote sustainable consumption that takes into consideration the complex, dynamic and subjective nature of experiences of consumers and society, especially in the food field. This study has found evidence that consumer perception regarding PBMA products and meat consumption is associated with essential personal, social and cultural values, suggesting that changing individual consumption behavior will be difficult to attain without addressing these values and beliefs. Thus, the findings of current study can also help policy makers to develop policies so that social dimensions of consumption habits are integrated and aligned with environmental, health and economic goals.

6.4 Limitations of the Research

The study aimed to understand how the perception of high meat-eaters in relation to PBMA products is constructed. Since previous studies have not exclusively focused on studying the perception of high meat-eaters and consumer researchers have overlooked consumer perception in relation to PBMA products, the present research provides valuable insights on the key factors contributing to the construction of the perception as well as the way these products are perceived by these consumers belonging to the young generation. However, the current study does have some limitations and constraints that need to be considered.

First, individuals' perception is highly subjective, which makes the findings of the study limited to the points of view of the selected fifteen respondents. Second, the focus of the study was studying high meat-eaters belonging to the Millennials and Generation Z. These facts imply that the findings obtained might vary if the research would have been conducted in consumers following a different diet and that belong to other age ranges. Furthermore, participants included in the study have a variety of different cultural backgrounds. Consequently, the assumptions and

interpretations done in the study are limited to being applied only to the younger generation and not consumers in general since meat eating behavior along with motives and reasons attached to it differ strongly with age, gender and socio-economic status (MacDiarmid, Douglas & Campbell, 2016). Thus, the results of this study cannot be generalized and cannot be replicated. Third, while thematic analysis allows flexibility, it can lead to inconsistency and a lack of coherence when developing themes derived from the data collected through interviews (Holloway & Todres, 2003). Also thematic analysis is phrase-based and sometimes the phrases do not catch the meanings and emotions attached to it correctly. This can possibly limit the accuracy of thematic analysis and thus alter the result.

6.5 Suggestions for Future Research

Given the complexity of food decision choices and the difficulty of changing food habits, further research is needed in relation to consumer perception into each factor relating to PBMA products and meat consumption within the consumer research field, in order to make PBMA products more appealing. The researchers believe qualitative research to be particularly salient in understanding the perception and the individual's lived experiences with food choices, to find ways of improving and encouraging a well-favored perception of PBMA, especially among meat consumers. Further, without overcoming the well acknowledged barriers of PBMA acceptance (i.e. cultural roots and affinity towards meat consumption), it is difficult to anticipate how widespread meat reduction can occur. This suggests more research is needed on targeted behavioral interventions, specially for those groups of consumers whose meat consumption is highly rooted in their culture and pleasure of eating meat. The current study also found evidence of meat playing different roles in the diets of different consumers, and found meat consumption is attached to an individual's personal, social and cultural values. This suggests the need for more research on finding ways of incorporating these values within PBMA products and future dietary recommendations.

As found in the study, promotion of sustainable products such as PBMA products can face resistance from groups of consumers who carry the mindset of companies shifting the environmental and ethical responsibility to them by sharing “good” values to make higher profit, resulting in rejection of sustainability values promoted by companies even when it is well-intended. This suggests that individual dietary change will be difficult to achieve without

addressing these issues, thus highlighting the need for further research to overcome this mindset. The identified attitude-behavior gap, also stands as a major obstacle towards widespread meat reduction and PBMA acceptance, which comes with highly varying underlying reasons. Thus, within the consumer research field, further research on this gap regarding PBMA products can help encourage sustainable consumption and achieve a shift towards more sustainable diets.

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Appendix A

Interview guide

Could you briefly state your name, age, qualification, current activity (student/working) and country of origin?

PART I - Personal views about environment and sustainability

1. What is your view about the environment and sustainability in general?
2. What actions do you take in your daily life to contribute towards environmental sustainability?
3. Do you think about the environment/sustainability when you consume/buy products and when you eat?
4. Do you think we are facing a food waste problem? Have you thought about any personal actions to tackle these problems?

PART II - Diet habits and general information about meat consumption

5. Could you describe your everyday meals? What do you consume regularly during the weekdays/weekends/at home/in restaurants, alone/with others, or during holidays/vacations/family gatherings, etc.?
6. What does eating meat mean to you?
7. How much meat do you eat in each meal or daily or weekly?
8. Why do you like to eat meat? What do you think it is that you get from eating meat? How do you feel when you eat meat?
9. Do you know the environmental consequences the meat industry has? What are the risks you think you are exposed to?

PART III - General knowledge about plant-based diets and PBMA products

10. Have you heard about the plant-based diet? Do you know what a plant-based diet is? What does it mean to you?
11. What do you think about plant-based diets?
12. Do you know what a PBMA product is? Could you describe it?
13. Have you ever tried a PBMA product?
 - If yes, Could you describe the experience?
 - If not, Which are the reasons for not trying these products?
14. Do you think PBMA products are healthier or unhealthier compared to meat?
15. Do you cook your own meals on a regular basis? How knowledgeable are you with different recipes of meat and PBMA products?
16. Do you like trying new types of food? Do you like experimenting with new recipes with your food?
 - If yes, why?
 - If not, why not?

PART III - Willingness to Change Food Behaviour

17. In general, how have your meals changed over time?
18. Have you reduced your meat consumption during the last few years?
 - If yes, why?
 - If not, why not?
19. Do you know someone that has reduced meat consumption or adopted a plant-based diet? What do you think?
20. Do you think you would be able to reduce your meat consumption?
 - If yes, Which would be the reasons that would encourage you to reduce your meat consumption?
 - If not, Why not?

21. After reflecting on the environmental impact of the meat industry, would you consider trying /consuming PBMA products more often?