



Department of Business and Management

Chair: Advanced Marketing Management

**WHICH IS THE MOST EFFECTIVE MESSAGE TO PROMOTE
PLANT-BASED FOOD PRODUCTS? AN ANALYSIS OF
CONSUMERS' RESPONSES USING THE IMPLICIT THEORY TO
SEGMENT THE MARKET**

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INTRODUCTION

The idea concerning the topic of my thesis was born because of my strong interest in the food industry. In particular, I was curious to analyse the impact on companies of the recent changes occurring in this industry, such as the changes in consumer behaviour. Indeed, customers have been showing increasing attention to ethical and sustainability concerns as well as making more often health considerations about their food choices. One of the main consequences has been the rise of plant-based food consumption, which can be considered a real trend in the market. I started from this mentioned trend and I decided to focus on how companies can better advertising plant-based products. Firstly, I studied the main reasons which led consumers to increase the consumption of these foods or in some cases to adopt complete meat-free diets. I found out that there are three key motivations: health, environmental, and animal-related concerns. Coherently with this finding, companies often use these three elements as the basis for their advertising messages. Consequently, I started to wonder which of these three is more effective in the attempt of persuading consumers to try a new product and I decided to answer this question with the present thesis. In addition, I also decided to deep and articulate my study by segmenting the consumers using the Implicit Theory. According to this theory, people can have two different beliefs about the nature of human characteristics; on one side, individuals who show a “fixed mindset” believe that human traits, as for instance intelligence, health, personality, and morality, are relatively fixed and cannot be substantially changed; on the other side, individuals with an “incremental mindset” believe that they can modify these human characteristics through effort, learning, and experience. Recent researches have demonstrated that these two mindsets respond differently to advertising messages. In my case, I decided to answer to the research question: *“Do individuals with different mindsets about health respond differently to plant-based food promotion messages?”*. I started my study from the hypothesis that people with an incremental mindset about the human health would respond more positively to plant-based food advertising messages communicating a potential improvement of their own health through the consume of the product. Whereas individuals with a fixed mindset could potentially prefer messages emphasizing the positive impact on the environment or on animal welfare of consuming the same plant-based product since they believe their health is relatively fixed. I conducted an experiment in order to answer the research question mentioned, and to test my hypotheses; the result will be present in this text.

CHAPTER 1

1.1 Food industry overview and new trends

The Food market is the world's biggest consumer goods market, with revenues expected to amount to €3,538 billion in 2020 and to increase at a CAGR of 4% from 2020 to 2023¹. This market has been historically characterized by high volumes and low margins. Nowadays, moreover, companies have also to offer innovative experiences for consumers in saturated developed countries as well as for attracting the rising middle class in emerging markets. Several factors, such as improved education rates, increased health consciousness and, new technologies, have made consumers much more aware of their food choices than ever before.

According to a recent report by Accenture Strategy (2017), one of the three main trends that will shape the future of the food industry is, in fact, the change in aspects valued by customers. People are increasing the amount of health-enhancing food in their diet and growing attention is also given to transparency and sustainability, with customers willing to pay higher prices for products from companies committed to social and environmental justice (MarketingCharts, 2015). For example, a research conducted by Findomestic in Italy in 2018 showed how 51% of the interviewees would be willing to pay up to 10% more for sustainable food products. Moreover, the technology revolution fuels consumer's expectations to be provided with immediate products exactly responding to their needs and demands, and this modern consumer behaviour characteristic is becoming key also in the food industry.

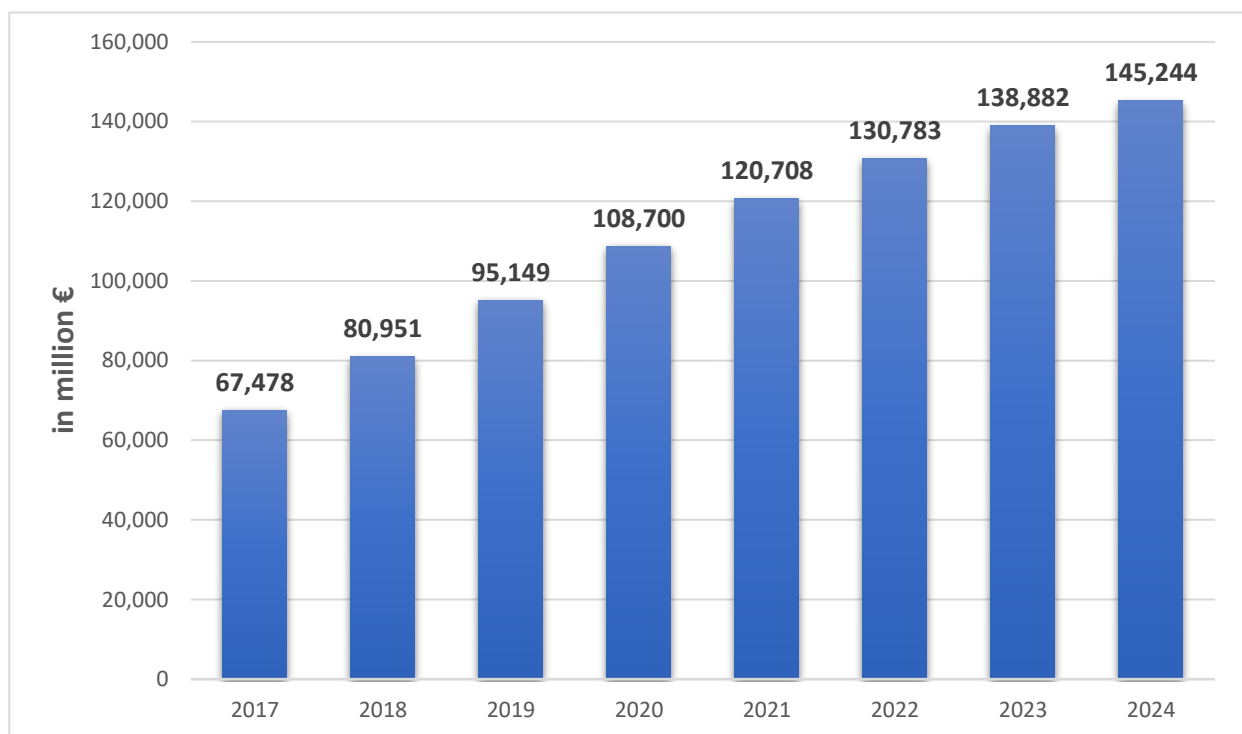
The second major trend identified by the mentioned report concerns the food production system. Companies will face challenges related to scarcity, climate change, and meeting the consumption demand of a growing urban population. Consequently, production efficiency will be even more an industry key factor in order to meet the future consumer demand, which for example in the case of staple products is expected to grow by 60 percent from 2010 to 2050 globally (Accenture, 2017). Another goal will be the reduction of waste, which according to FAO in 2019 accounts for around 14 percent of the total world's production only considering the loss from post-harvest up to the retail level, and adding the food wasted at retail and consumption levels, the total food production lost in the agricultural chain is equivalent to a third of the total (Gesi, 2019). As a consequence, circular and sustainable business models, such as sharing platforms and upcycling, will need to be foster in order to decrease this huge waste. An important change will also affect what is produced.

¹ Statista, 2019 Food Report -The data consider all processed foods which have been prepared or preserved in some way, unprocessed foods such as fresh fruits and vegetables are not included.

Meat and dairy products require a large amount of grain and other resources for relatively little caloric gain; alternative proteins such as legumes, peas, yeast, insects, and algae, offer substantial efficiency gains over animal-based ingredients and will probably increase their share in the global food production in the next decades.

The third major trend identified concerns the change in businesses' value proposition, from product curation and location convenience to a customer-centric service. A digital transformation will occur in the food marketplace and, as anticipated before, customers will constantly receive more and more products where and when they need them. Useful data to understand the relevance and the size of this trend is showed in the graph below. It represents the revenues generated by the online food delivery segment; this statistic comprises all services which deliver prepared meals and food that was ordered online for direct consumption, through orders made both via platforms (e.g. Just Eat, Delivery Hero) or directly from a restaurant website. The graph shows how this segment will sharply increasing in size.

Figure 1: Online food delivery segment revenues



Source: Statista. (2019) eServices Report 2019 - Online Food Delivery

Another important aspect concerning this trend is the integration in an Internet of Things environment, which will entail customers to have automation and facilitation of using devices, such as voice ordering ones or others connecting eating habits to personal well-being diets. Consumers will have the possibility through technology to choose “healthy for me” options and having them almost immediately available.

1.2 Plant-based wave

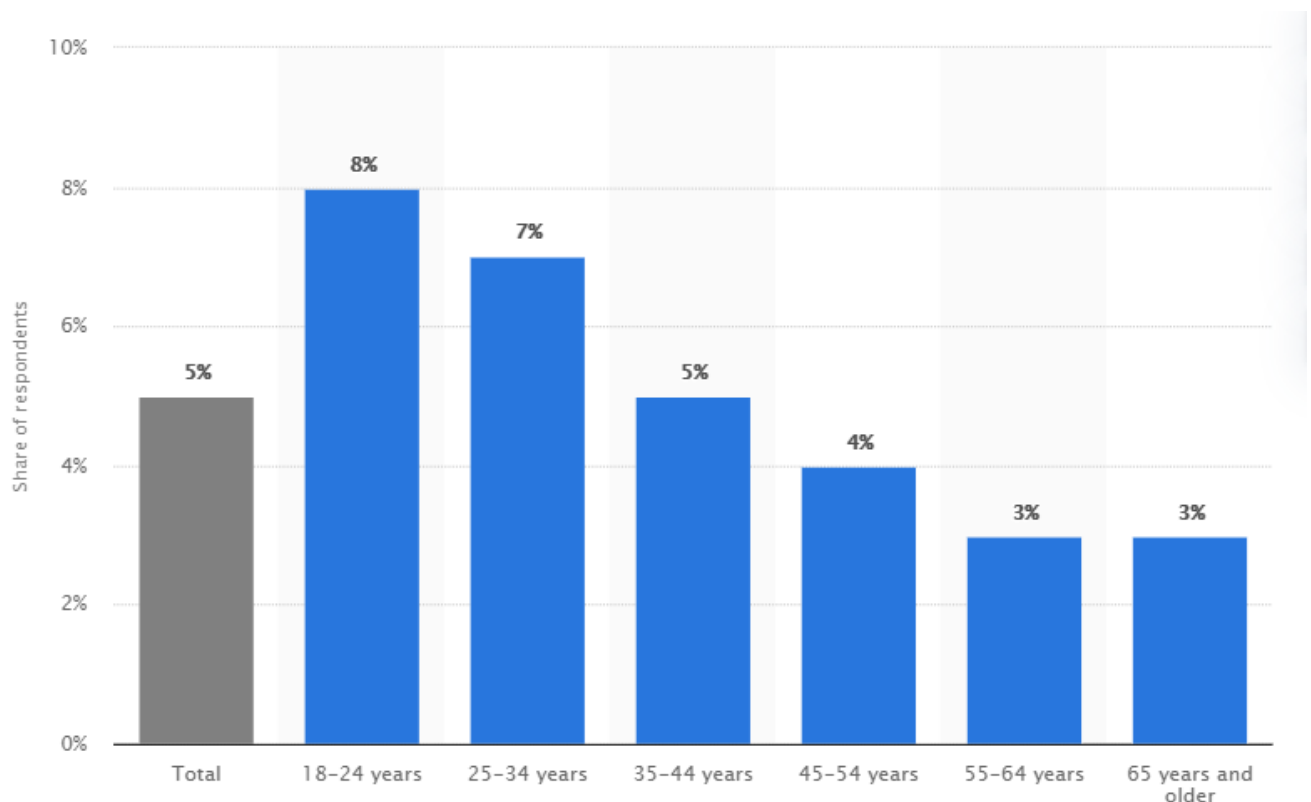
1.2.1 Growth of the trend

Nowadays, as anticipated in one of the major trends presented in the previous paragraph, consumers have started to value more aspects of their food choices. Some of these, such as health, sustainability, and ethical concerns related to animals, have led to strong growth of the plant-based market. Many people have already changed their food habits and different kind of diets have become more and more popular. Vegan, vegetarian and flexitarian diets are only some names for this type of diets which have widely spread in the last few years, and even though the part of the population who follow these diets is relatively small, their influence on the food sector will continue to increase (Radnitz, Beezhold and Dimatteo, 2015). There are some differences between these most known regimens. Commonly, a vegan diet consists in eating only plants, such as vegetables, fruits, nuts and grains, and foods made from plants; vegans are strictly against any animal products and they do not consume any food that comes from animals, including eggs and dairy products (European Vegetarian Union, 2016). This last characteristic is the main difference between vegans and vegetarians, which instead eat these animal derived products. Generally, vegetarians can be divided into lacto-ovo vegetarians, lacto vegetarians, and ovo vegetarians, depending on whether they include dairy products, eggs, or both in their diet (HarvardHealth, 2018). Finally, there is the flexitarian diet, which usually identifies plant-based nutrition which does not completely exclude occasional animal-products.

Generally, people who follow a plant-based diet get the nutrients needed by the human body altering meals based on fruits, vegetables, starchy vegetables (potatoes, sweet potatoes, butternut squash, etc.), whole grains (barley, quinoa, brown rice, etc.), healthy fats (olive oil, coconut oil, avocado, etc.), legumes, seeds (pumpkin seeds, sunflower seeds), unsweetened plant-based milk (almond milk, cashew milk, coconut milk, etc.), and plant-based protein (tempeh, tofu, etc.).

Interestingly, the youngest part of the adult population is the one showing the highest rates of adoption of meat-free alternative diets. The graph below shows the percentages of this phenomenon considering a market research (ComRes, 2018) including respondents from nine European countries (UK, Germany, Italy, France, Spain, Poland, Sweden, the Netherlands, and the Czech Republic) in 2018.

Figure 2: People indicate they follow a vegetarian diet in selected countries in Europe in 2018

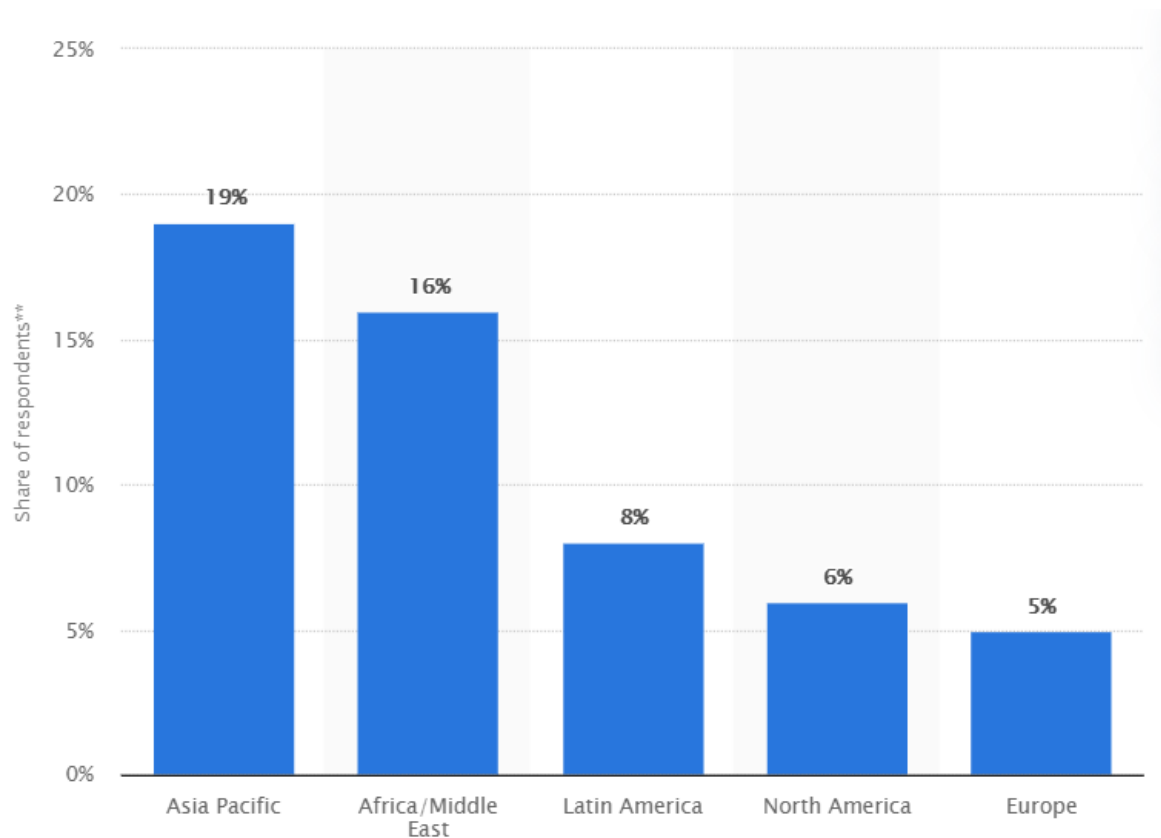


Source: Statista - Retrieved from <https://www.statista.com/statistics/1064075/share-of-people-following-a-vegetarian-diet-in-europe-by-age-group/>

This information allows predicting the continuous growth of the plant-based diet diffusion. Moreover, the countries considered in the study show homogeneous rates of adoption, with Italy and the UK leading at 6%, and all the others following with rates of 5 or 4%. Only the Czech Republic has a quite lower percentage of 2%.

However, as demonstrated from a similar study (Nielsen, 2016), Europe is the world region with the lower rate of adoption of a vegetarian diet worldwide.

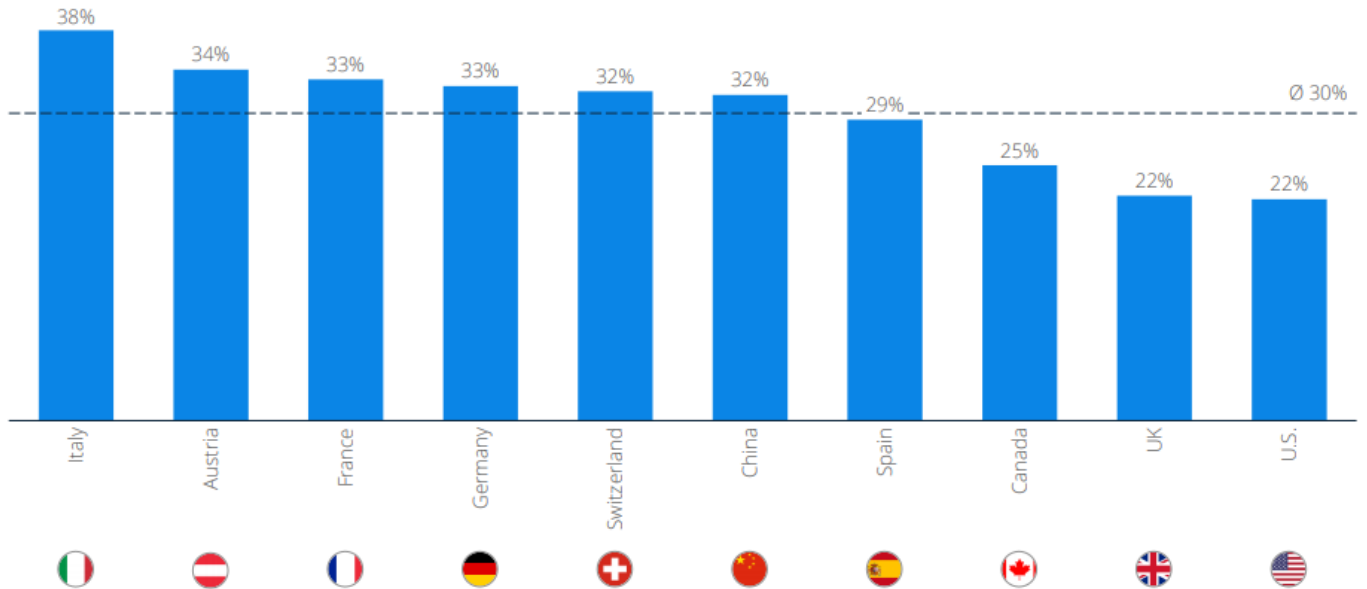
Figure 3: Share of people who follow a vegetarian diet worldwide as of 2016, by region



Source: Statista - Retrieved from <https://www.statista.com/statistics/597408/vegetarian-diet-followers-worldwide-by-region/>

In addition to people who adopt a strict plant-based diet, there is also an increasing commitment from those defined flexitarians to decrease the meat intake. The Statista consumer survey in 2019 asked the interviewees who of them was actually trying to eat less meat. Interestingly, Italians presented the highest share of people committed to this objective, as showed in the following graph.

Figure4: Share of people trying to eat less meat in 2019

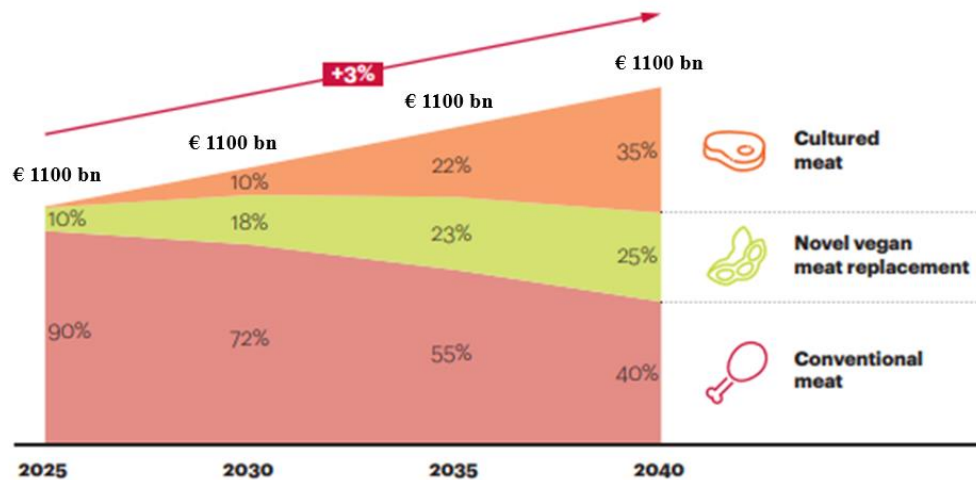


Source: Statista Global Consumer Survey 2019

1.2.2 Impact on the meat market

The consumer trend seen so far has a strong impact on the food market demand. One of the most heavily impacted markets by new products and changing consumer behaviour will be the global meat market, which accounted for around € 910 billion in 2018 (ATKearney, 2019). Many are the factors that will have a strong influence on this industry: increasing consumer health attention, shrinking of arable land due to global warming needed to feed livestock, stricter expected regulations of antibiotics use, and a view of the industrialized slaughtering as an unnecessary evil. Consequently, plant-based products will partially replace conventionally produced meat.

Figure 5: Forecasted breakdown of global meat consumption from 2025 to 2040



Source: ATKearney - How will cultured meat and meat alternatives disrupt the agricultural and food industry?

As shown in the graph, according to a recent report by ATKearney (2019), the share of conventional meat will steadily decrease, and alternatives will gain a major role.

Novel vegan meat is one of these alternatives, and contrarily to classic vegan replacements, which usually refer to products based on tofu, seitan, and mushrooms, and therefore very unlike meat, novel vegan meat replacements have a sensory profile close to meat. Indeed, even though their ingredients are completely plant-based, the sophisticated production process allows the creation of products very similar to meat as appearance (some of these products have also fake blood to offer a complete meat-like experience). Basically, in order to obtain these final products, plant-protein concentrates are extracted from plants and then broken down in order to improve their functional traits; afterwards, other ingredients as flavours and nutrients are added in order to meet a like-meat profile; and, finally, processes such as stretching, kneading, and press forming, allow to obtain novel vegan meat products as for instance veg burgers.

Cultured meat is instead identical to conventionally produced meat, but it is also slaughter-free meat. Indeed, these products are obtained through the extraction of stem cells from living animals. The cells are then fed with other substances and made exponential growth in bioreactors. Finally, muscle and fat are obtained through a 3D scaffolding without killing any animals. Several start-ups and companies are working to optimize this meat production method and currently, prototypes have already been realized but not commercialized products have been sold yet.

While classic vegan and vegetarian products have limited potential in substituting meat because they lack the sensory profile to attract average consumers, novel vegan meat and cultured meat have the potential to disrupt the € 910 billion conventional meat industry in the next 20 years (ATKearney, 2019).

1.2.3 Companies reaction

Many established companies and start-ups have foreseen the economic opportunity behind this new trend and decided to invest in it. Indeed, according to an important investment firm (UBS; 2019) the plant-based meat consumption will increase at a 31% CAGR through 2025 versus an animal-meat CAGR of 0.9%, generating a global plant-based meat market worth of € 46 billion. The same study shows that the plant-based meat use is still low in the developed markets but growing fast, with consumer burger trialling at 8% in the US and mid-20% in some European countries, such as the UK and Germany.

The food market has seen a huge number of new plant-based products launched in recent times as well as important investments in this direction. For example, in UK almost a quarter of all new food products launched in 2019 were labelled vegan (Young, 2020). Many major players in the global food industry have indeed increased their plant-based offer.

Some well-known fast-food chains such as McDonald's, KFC and, Burger King, which have built their success on meat burgers, have nevertheless made strides forward with their plant-based offerings, they started to make available in many countries some products such as Vegan Happy Meal, Vegan Burger, and Rebel Whopper, respectively, in order to satisfy this rising demand.

One of the most recent and important events in this context has been the launch of a line of plant-based meat products called Incogmeato by Kellogg's division Morningstar Farm in 2020. It includes Kellogg's first ready-to-cook plant-based burger, plant-based bratwurst and Italian sausage, which will hit shelves this year. The MorningStar's general manager Sara Young stated that Incogmeato is aimed at flexitarians who want nutritional and environmental benefits while having plant-based meat to taste and feel like the real one. In fact, the company is trying to expand beyond its reputation as an old-school vegan brand focused on serving vegan and vegetarian consumers who are committed to that lifestyle, to a company able to satisfy the needs of a wider audience.

Others very influential plant-based products launched during the last year come from Nestlé. The world's largest food company has started to market the yellow pea-based Awesome Burger in US, under its Sweet Earth brand. Awesome Burger can be considered the Nestlé's flagship product when considering its presence in the American meat substitutes market. Whereas Nestlé launched

the soy-based Incredible Burger in Europe, under the Garden Gourmet label. The Nestlé CEO Mark Schneider stated that plant-based is a “once in a generation opportunity” in the prepared dishes food category and Nestlé will try to make the most of this opportunity (Askew, 2020). Indeed, the Swiss company has further increased its investments in the plant-based market by launching recently other products that use plant-based meat in foods that traditionally use the animal-based option: Stouffer’s Meatless Lasagna and, DiGiorno Rising Crust Meatless Supreme are two of the most known. These items used textured yellow pea protein, wheat gluten, canola oil, and coconut oil in order to provide a considerable amount of proteins and fibres per serving.

Figure 6: Incredible Burger & Awesome Burger



Source: www.gardengourmet.com & www.sweetearthfoods.com

Also, JNS S.A., the largest meat processing company in the world entered the meat substitutes market with its brand Ozo this year. This plant-based product line includes Burgers, Italian-Style Meatballs, Ground and, Mexican-Seasoned Ground. The Brazilian company used mainly rice protein and blend of pea fermented by shiitake mushrooms in its recipe to create a meat-like experience to its customers. According to the company management, Ozo products will set a new standard of excellence; indeed they sustain that their use of mushrooms in their plant-based meat will help the brand stand out and gain also the appreciation of the most sceptical customers (Poinski, 2020).

All the companies mentioned so far are related to the meat industry, but this is not the only one strongly impacted by the plant-based wave. Indeed, many changes are taking place also in the dairy one and the market for plant-based dairy products is expected to reach € 19.5 billion in 2024,

growing at a CAGR of 10.2%, for the duration spanning 2020-2024 (ResearchAndMarkets, 2020). Consequently, famous brands in this industry too have increased their plant-based offer. The volume of sales in 2018 for almond milk rose 10%; for oat milk 71%; and for coconut milk, 16% (Wood, 2019). Young and old consumers value the health claims for plant-based milk substitutes and consequently, consumption has risen 60-70% in the last couple of years (Aydar et al., 2020). Furthermore, the non-dairy creamer industry increased by 131% in 2018 (Blumenfeld, 2019). For instance, Ben and Jerry's which is a company owned by Unilever and one of the world's biggest ice cream manufacturers launched four types of non-dairy ice creams made with coconut milk and almond milk base. This is a clear example of how not only the meat industry is adapting to a more plant-based future, but also the dairy industry is doing the same since it also relies on livestock to be provided of its fundamental supply.

In addition, other important food and beverage companies decided to enter indirectly the growing plant-based alternatives market that offers potentially higher returns than from other food categories through acquisitions or joint ventures (Deloitte, 2019). The dairy giant Danone, for example, acquired WhiteWave for € 11.3 billion in 2017. The acquisition of the US maker of upmarket plant-based and healthy foods have made of Danone the world's biggest producer of organic foods, and it allows to reinforce plant-based nutrition product category added to its traditional four global categories: fresh dairy, medical nutrition, waters and, infant nutrition. This is not the first acquisition aimed to increase the presence in the plant-based market by Danone, indeed the European multinational also bought Alpro, a Belgian company which produces milk, yogurt, and ice-cream, all strictly plant-based and made of different ingredients such as soy, coconut, hazelnut, and almond, in 2016. These investments are part of Danone strategy aimed to triple its plant-based business from € 1.7 billion in 2018 to € 5 billion in 2025 (Danone Annual Report, 2018).

Another significant example of strategic investments toward the plant-based alternative concerns Tyson Food, the United States' largest meat processing company. Indeed, the American firm acquired a percentage of Beyond meat, a famous US meat substitute producer company, in 2016. However, Tyson Food sold its stake in 2019, allegedly because in the same year it started to produce its own plant-based protein products, introducing its Raised & Rooted brand of nuggets, which contain pea protein isolate, and blended burgers featuring a mixture of real meat and pea protein.

Interestingly, many famous individuals have also decided to enter this appealing market. Bill Gates for instance invested in Impossible Foods, a US-based start-up creating a "bleeding" plant-based burger. Richard Branson did the same, investing in Memphis meat, a US-based company that produces cultured meat, and also, Google co-founder Sergey Brin fund the world's first lab-grown hamburger produced by Dutch start-up, Mosa Meat (Deloitte, 2019).

1.2.4 An example of plant-based meat company

One of the most iconic companies that have born on the plant-based wave is Beyond Meat. The American company has gained the attention of many consumers and media because of several reasons. It has been one of the first plant-based meat substitute producers, founded in 2009, and it has revenues accounting for €273.2 million, with an increase of 239%, compared to net revenues of €78.9 million in the previous year. Many significant personalities, such as Bill Gates and Leonardo Di Caprio have invested and endorsed the company. Its products are mainly burger, beef, sausage, and crumbles, and they are obtained using a variety of plant proteins from pea, brown rice, fava bean and, mung bean, combined with fats obtained from cocoa butter, coconut oil and, canola oil. The company claims to offer the meaty experience without compromise, with the same level of proteins but without cholesterol, less saturated fat, and no antibiotics or hormones. The firm's mission consists of changing the future of protein foods, shifting from animal to plant-based meat, and addressing in this way four major global issues: climate change, human health, constraints on natural resources, and animal welfare (BeyondMeat.com).

Figure 7: Beyond meat mission displayed in its website



Source: *Beyond Meat* – Retrieved from <https://www.beyondmeat.com/about/>

Recent research (Heller and Keoleian, 2018) compared the environmental impact of a Beyond Meat burger with a traditional US beef burger, and the plant-based burger demonstrated to need 99% less water, 93% less land and 46% less energy, and to generate 90% fewer greenhouse gas emissions.

Beyond Meat was first founded in the US in 2009 by Ethan Brown. The company enjoyed its first entrance into the market in 2013 when it began selling a plant-based chicken across the US. But

the real break for the Beyond meat came in 2016 when its first plant-based burger started to be sold in supermarkets meat section and quickly gain popularity between both vegetarian and omnivores consumers that for the first time started to consider the possibility to reduce the meat intake without renouncing to the typical meat experience. Charles Muth, Beyond Meat's chief growth officer, stated (Doering, 2018) that the company resisted to some major retailers which initially wanted to put the Beyond Burger in the frozen or veggie products sections instead that in the meat section next to traditional beef products, where the American firm decided to stay in order to target meat-eating consumers.

The company reported triple-digit revenue growth in 2017, thanks to the spread of its Beyond Burger and other frozen products which were already available in more than 32,000 stores globally. In April of the same year, it introduced a new very successful product, Beyond Sausage, a plant-based alternative to pork sausage obtained with pea protein isolate, sunflower oil, and coconut oil, which immediately experienced a huge demand in the market so that the company claimed was not able to scale up production fast enough to meet consumer demand. Engineered to imitate the shape, flavour, and texture of pork sausage, Beyond Sausage has no cholesterol, less sodium, less saturated and total fat, more protein, and fewer calories than the animal-based equivalent. The product also is free of nitrates, hormones, soy, and gluten.

Thanks to the rapid success the Beyond Meat had with its burgers, it established a valid customer base and network of retailers and restaurants have been more than willing to give its new sausages a try, saving the company precious time and costs of having to enter new markets and convince sceptical customers.

In 2019, Beyond Meat expanded its product line beyond plant-based hamburgers, chicken, and sausages to introduce a ground beef option. The product, which is made from mung bean, pea, and rice proteins, has the flavour and texture of ground beef but with around 25% less saturated fat. It also does not include soy or gluten, and it is non-GMO. The company aimed with the new product at gaining share from the ground beef market, which is the largest segment in the beef category. Beyond Meat expansion into ground beef was a logical next step to expand its product portfolio and grow its popularity since the ground beef product can be used in a large variety of food options.

Figure 8: Beyond Burger & Beyond Beef



Source: Beyond Meat – Retrieved from <https://www.beyondmeat.com/products/>

The company gained noticeable investments throughout its history. As already mentioned, Tyson Foods acquired a 5% stake in the plant-based producer in 2016, and later, it also further increases its participation in 2017. Nevertheless, Tyson Foods sold its stake the week before the plant-based alternatives producer was scheduled to go public. Indeed in 2019, Beyond Meat was the first plant-based food maker to go public on a major exchange in the United States NASDAQ exchange under the symbol BYND. Given Beyond Meat's impressive performance, investors are clearly not concerned by the fact that the company has never turned a profit, but what interests them is its growth potential (Cathy Siegner, 2019).

As of 2020, Beyond Meat products are available in most U.S. grocery stores, but it they also widely present worldwide. Company's web site lists over 60 restaurant chains and venues as for instance campus and stadium cafeteria, where their products are available. The company also built during its history important partnership with global brands, such as KFC, McDonald's, and Starbucks. Moreover, it also built its presence in more than 50 countries worldwide collaborating with important grocery retailers such as Tesco, Lidl, Kaufland, Monoprix, and Casino.

1.2.5 An example of plant-based dairy company

Another iconic example of a plant-based company which in this case has built its success manufacturing dairy alternative products is Oatly. The company was founded in Sweden in the 1990s starting from a research at Lund University. Oatly has its headquarters in Malmö and the main production and development facility in Landskrona. The company has experienced strong growth in revenues in the last few years probably also because of the global plant-based trend described so far, specifically, Oatly had revenues accounting for € 179.5 million in 2019, with an increase of 114%, compared to net revenues of € 83.5 million in the previous year. It can be viewed for many aspects as a Beyond Meat comparable company with the main difference that the Swedish firm is a dairy alternative beverage producer rather than a meat alternative one.

In 2016, Oatly was acquired by a joint venture between China Resources of Hong Kong, and Verlinvest, a Belgium-based private equity firm. According to Mergermarket, this joint venture owns about 65% equity stake, while other investors are Strand Equity Partners of California, Sweden-based VC firm Industrifonden, the Baltic Sea Foundation Industry Fund, private individuals and employees, and the company's founders.

Oatly's range of products includes mainly oat milk, yoghurt substitutes, ice cream, and cooking cream. The company's patented enzyme technology whereby process fibre rich oats into nutritional liquid food. The first step of the production process concerns in mixing oats with water and mill in order to obtain a soft mixture, to which is added natural enzymes that break the oat starch down into very small components which sweetens the products naturally. Afterwards the bran is removed, separating the loose shells from the oats. This separation process allows to obtain loose fibers, the beta-glucans. At this point, the oat base is obtained, which contains macronutrients protein, fat, and carbohydrates. Depending on which products need to be produced different ingredients are added, it may be calcium, rapeseed oil, and vitamins, and the products are heat-treated with UHT or pasteurization to extend their shelf life. Finally, the fat droplets are broken down into smaller droplets to ensure liquids mix properly before being packaged.

Oatly has recently partnered with Evergreen Packaging to adopt 100% renewable paper-based packaging for its non-dairy frozen dessert side (Siegnier, 2020).

Figure 9: OatMilk, OatDrink, Oatgurt, Cramy Oat, Oat Ice cream



Source: Oatly – Retrieved from <https://www.oatly.com/int/products>

Oats is by far the main ingredient, and in 2018 it constituted 78% of the supply volume, followed by rapeseed oil, which accounts for 9%. As already mentioned, the company is committed to have most of its packaging paper-based, except are still needed for the plastic cups in which some products such as Creamy Oat Fraiche, Oat Spreads, and some of Oatgurt, are packaged.

Currently, Oatly's products are available in 22 countries and can be purchased in grocery stores, the foodservice industry, restaurants and cafes. The revenues come mainly from Sweden (39% of sales), the United Kingdom (24%), Finland (18%), the Netherlands (5%) and Germany (5%). Other important markets where the firm is increasing its presence are: China, Norway, Spain and the US (Oatly Sustainability Report, 2018)

Oatly recently signed a deal with the American multinational chain Starbucks to be its exclusive oat milk for non-dairy lattes supplier at 1,300 regional stores. Moreover, its bestselling Barista Edition oat drink has made cafes one of our most important sales channels.

As already mentioned, the company has its own factory in Landskrina where it is able to produce over 80% of its oat base and 60% of its finished products. However, Oatly is not yet able to manufacture everything by itself and the remaining 40% of its finished products are produced by various co-packing partners (Oatly Sustainability Report, 2018).

Seen its increasing sales, Oatly is planning to have five factories worldwide by the end of 2021: two new plants in the U.S. (New Jersey and Utah), two more in Europe (Sweden and Netherlands), and one in Asia (Singapore) (Mergermarket, 2020).

The company mission is “to help people upgrade their everyday lives and the health of the planet by making delicious oat-based products accessible to a wider audience in a world-class manner”. The sustainability commitment of Eataly emerge in this statement and it is further reinforced in the company vision “to offer nutrient-rich, oat-based products to the whole world without having to build up a resource-intensive dairy infrastructure resulting in a reckless amount of greenhouse gas emissions” (Oatly Sustainability Report, 2018).

Indeed, the Landskrona production plant completely gets energy from renewable sources since 2016. Recently, the company facing strong growth had to establish many new partnerships to ensure the production level required but some of these partners do not offers offer the same kind of energy solutions. However, the company stated in its sustainability report that in the coming years it will act in order to ensure the use of 100% renewable energy in its production.

Oatly clearly states its desire to be a company that paves the way in the sustainability field, with committed employees and sustainability as the thread that runs through all the company’s actions and decisions. The company wants to achieve this objective by ensuring that all resources used are sustainably produced, preferably reusable or recyclable, and efficiently used, and being a driving force worldwide for the increased production and consumption of plant-based foods.

In 2018, Oatly disclosed that it sold 71 million liters of oat drink worldwide and that if the same amount would have been consumed as cow's milk it would result in a 56,471-ton increase in greenhouse gases, as much as it would be generated by a car traveling around the world 11,478 times (Oatly Sustainability Report, 2018).

Through its sustainability work, the company wants to have an active role in important challenges as those of make a shift towards plant-based easier for everybody and to help achieve goals set by the Paris Agreement to “keep global warming below 2 degrees Celsius, but preferably below 1.5 degrees.” Of course, Oatly sustainability work also focuses on how the firm can reduce its own footprint, indeed in 2016, it set an overall target to reduce the CO₂e generated by 25% per produced liter by 2020 (Oatly Sustainability Report, 2018).

1.3 Main motivations behind the “plant-based choice”

1.3.1 Literature review on consumer motivations

A lot of studies have been conducted in order to understand the different motivations for following a plant-based diet. The literature review that aimed to segment people based on their major motivation for restricting meat is quite rich. In the table below are listed some of the most recent researches about this topic. Some of these studies used a qualitative approach with open-ended question format, while others used a closed-ended question format, but all the studies that will be presented in this text focus on exploring consumers main motivations for adopting a plant-based diet or reducing the consumption of meat and fish.

Author(s) & year	Sample size, country of data collection & main research question	Type of study & format of question about motives	Main results: motivation related to...
Dyett et al. (2013)	• 100 respondents • US • motive for following a vegan diet	Quantitative Closed-format question	• Health: 47 respondents • Animals: 40 respondents • Environment: 2 respondents
YouGov (2016)	• 178 respondents • Sweden • motive to eat less meat and fish	Qualitative Open-ended question	• Health: 53 respondents • Environment: 48 respondents • Animals: 28 respondents • Economic reasons: 11 respondents

Rothgerber (2013)	• 515 respondents • US, Canada, Australia, Europe and other countries (not further specified by the author) • motive for following a vegan diet	Quantitative Closed-format question	• Animals and Environment: 177 respondents • Health: 40 respondents • Mixed motives: 98 respondents
YouGov (2020)	• 1500 respondents • US • motive to eat less meat	Quantitative Closed-format question	• Health: 885 respondents • Environment: 150 respondents • Animals: 135 respondents • Trendiness: 30 respondents
Kerschke-Risch (2015)	• 852 respondents • Germany • Motive for following a vegan diet	Quantitative Closed-format question	• Animals: 4.4 • Environment 3.8 • Health 3.2 <i>Scale from 1 to 5 where “1 = no influence at all” and “5 = very strong influence”</i>
Radnitz et al. (2015)	• 246 respondents • US, Canada and other countries (not further specified by the authors) • Motive for following a vegan diet	Quantitative Closed-format question	• Animals and Environment: 201 respondents • Health: 45 respondents

Timko et al. (2012)	• 199 respondents • US • Motive for beginning a vegetarian diet across levels of vegetarianism (vegan, vegetarian, flexitarian)	Quantitative Closed-format question	• Health: 39 respondents • Weight control: 8 respondents • Animals: 118 respondents • Religion: 7 respondents • Environment: 21 respondents • Other reasons: 6 respondents
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The main motives identified are coherent in all the researches analysed and are related to animals, health and environmental concerns. In some studies (Rothgerber (2013), Radnitz et al. (2015)) environmental and, animal concerns have been incorporated as ethical reasons. Other studies present also economic reasons (YouGov (2016)), trendiness (YouGov (2020)), and religious reasons (Timko et al. (2012)) as important motivation mentioned by the interviewees. However, these are not so relevant as health, environmental and animal-related reasons, which have been observed to be the most important in all the presented literature review. Consequently, each one will be examined in depth.

1.3.2 Health reasons

Health concern is probably the most predictable motivation behind an increase of plant-based food in a diet. An article published by the World Health Organization in 2018 states how fruit, vegetables, nuts, legumes and, whole-grain form the basis for a healthy diet. Moreover, the mentioned article advised consuming at least five portions of vegetables and fruit per day, excluding potatoes, cassava, and other starchy roots. Indeed, lower intakes of cholesterol and fat, and increased intakes of antioxidants, fibers, phytochemicals and proactive nutrients like magnesium, copper folate, vitamin C, vitamin E, provitamin A and potassium, are all crucial factors for disease prevention and optimal health (Dyett et al., 2013).

Plant-based diets have been demonstrated to reduce the incidence of many serious diseases. It has been shown how lower probabilities to experience chronic diseases such as heart disease, obesity, and diabetes (Segasothy and Phillips, 1999) and lower rates of mortality (Lindbloom, 2009) are associated with meat-restricted diets. Specific researches (Trapp, 2010) have demonstrated plant-based meals to be an effective strategy to improve diabetes or management of type 2 diabetes and reduce the risk of complications. Moreover, the use of whole grain, processed cereals, and legumes is also associated with improved glycaemic control in both diabetic and insulin-resistant individuals (Jenkins et al., 2003).

Another important relationship is the one with cancer, which is the leading cause of death worldwide (Ferlay et al., 2008) and it is estimated to be potentially preventable in more than half cases (Tantamango et al., 2013). Diet is estimated to account for 30% of all cancers in developed countries and 20% in developing ones (American Cancer Society, 2011). Many pieces of research have addressed the relationship between cancer risk and dietary factors. Vegetarian diets have been suggested to be inversely related to overall cancer incidence (Key et al., 2009) and some specific plant foods are suggested to lower this incidence (World Cancer Research Fund, 2007). A critical link between colorectal cancer and red and processed meat has been demonstrated. A meta-analysis of 10 studies showed significant evidence linking meat consumption and risk of colorectal cancer, *with a 17% increased risk (95% CI 1.05–1.31) per 100 g per day of red meat and an 18% increase (95% CI 1.10–1.28) per 50 g per day of processed meat*². Moreover, vegetarians compared with meat eaters experience fewer cancers of the gastrointestinal system and, women showed a lower incidence of female-specific cancers (Tantango et al., 2013). In addition, plant-based diets have been demonstrated to help in protecting against cancers linked to obesity, insulin resistance, and the hormone “insulin-like growth factor 1” (Key et al., 2006).

An additional significant finding supporting plant-based diets concerns a demonstrated reduction of around 30% of the risk of ischemic heart disease compared with meat-eaters, probably motivated by differences in non-HDL (high-density lipoprotein) cholesterol, and systolic blood pressure.

Plant-based diets have been also associated with lower body mass index and lower incidence of obesity in children and adults (Sabaté and Wien, 2010). Consequently, the adoption of these alternative diets results useful for either lose weight or maintain slenderness, which contributes positively to overall health.

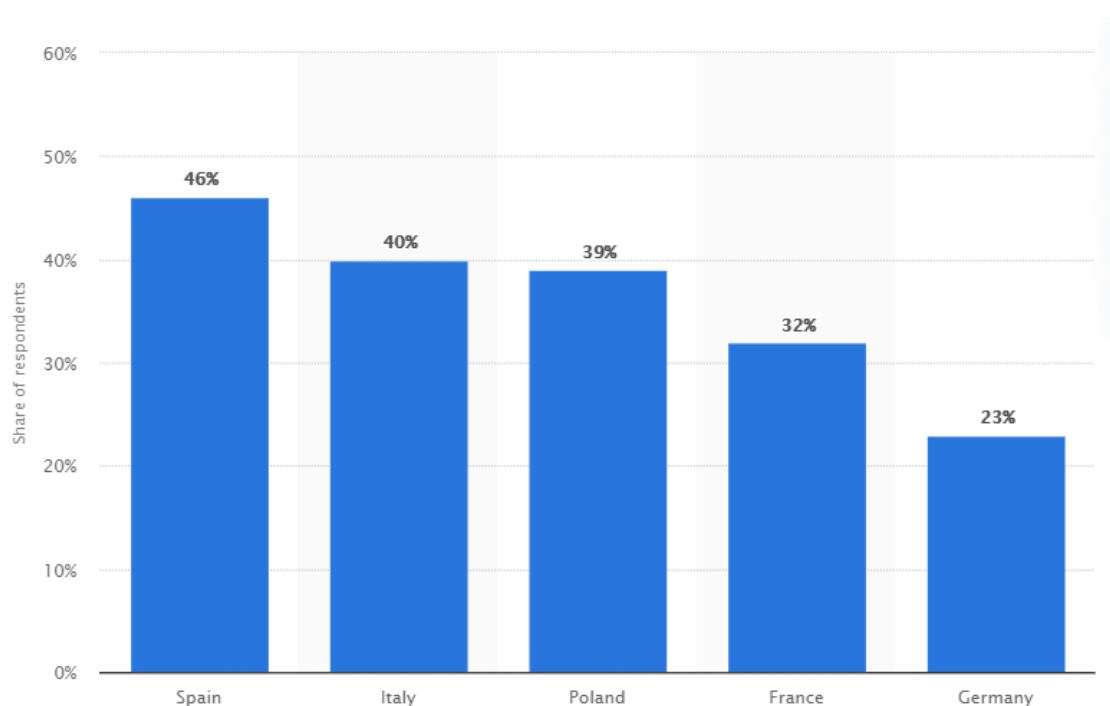
² DS Chan, R Lau, D Aune, et al.

Red and processed meat and colorectal cancer incidence: meta-analysis of prospective studies
PLoS One, 6 (2011), p. e20456

On the other hand, some studies have observed risks linked with incorrectly practicing plant-based diets, which can lead to inadequate intake of vitamin B12 (Dai and Wang, 2017), zinc, omega-3 fatty acids, vitamin D and calcium (Crowe et al., 2011). Consequently, it is important planning carefully the structure of these diets and the choice of the foods consumed, in order to ensure an adequate supply of the needed nutrients.

To sum up, after having considered several studies, it is possible to state that well-planned meat restricted diets are conducive to positive health outcomes. Consequently, many consumers have acknowledged this fact and modified their food habits concerning the intake of meat. A study published by Statista Research Department in 2016 shows the percentage of respondents who answered positively when been asked if they were limiting their meat consumption due to health concerns. The graph below shows the countries with the largest share of positive respondents.

Figure 10: *Share of consumers limiting meat consumption because of health concerns*

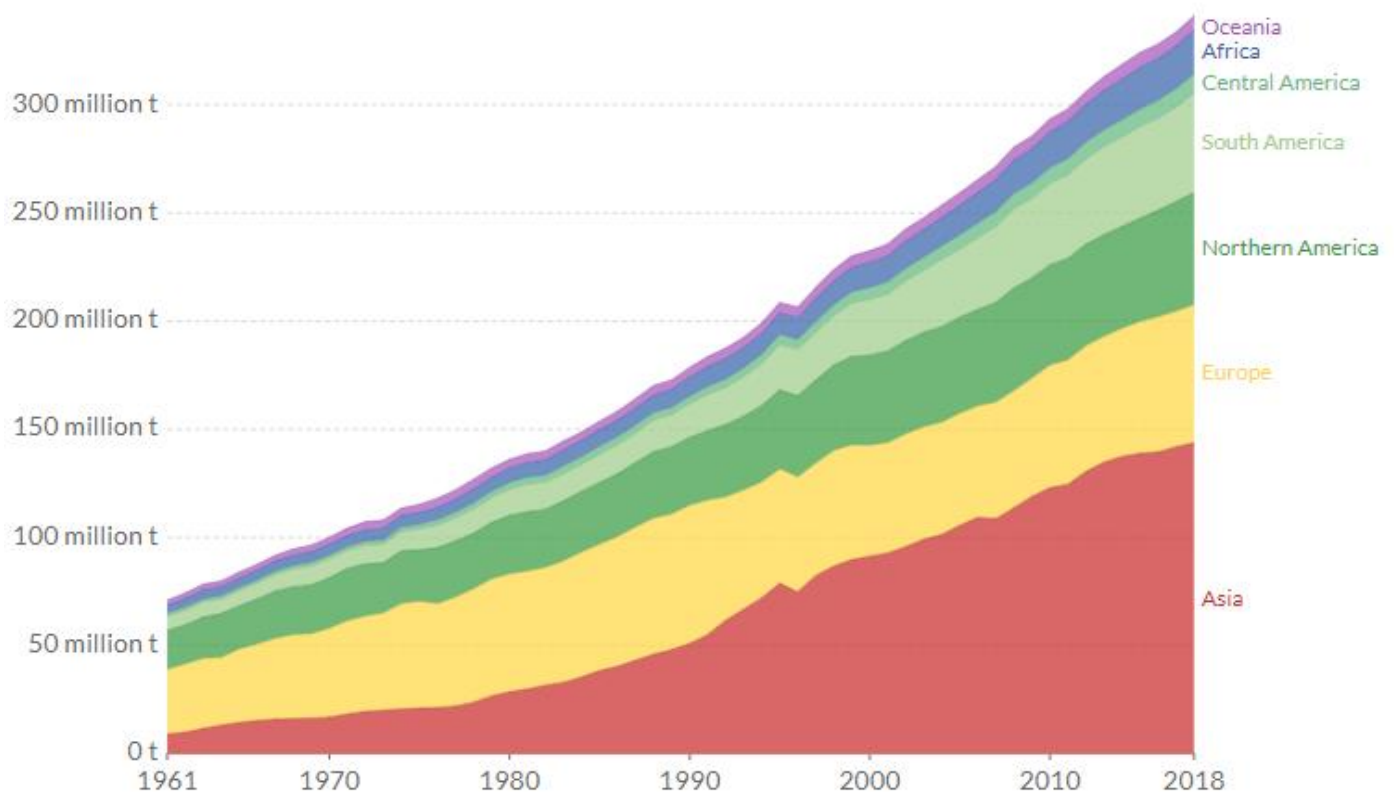


Source: Statista - Retrieved from <https://www.statista.com/statistics/645337/limiting-meat-intake-for-health-reasons-europe/>

1.3.3 Animals-related reasons

Another main reason for people to switch to a plant-based diet or to reduce the meat intake is related to animals. Global demand for meat has more than quadrupled over the past 50 years. The world meat production generates more than 320 million tonnes each year. Consequently, around 72 billion land animals are slaughtered yearly, of which 66 billion chickens, 1.5 billion pigs, 656 million turkeys, 574 million sheep, 479 million goats, and 302 million cattle. In addition, 1.2 trillion of aquatic animals are also killed with the same purpose (FAO, 2020). Regionally, Asia is the largest meat producer as shown in the following graph.

Figure11: Global meat production, 1961 to 2018



Source: Hannah Ritchie and Max Roser, 2019, Meat and Dairy Production

Moral agitation concerning animal killing have always existed, it can be traced back to ancient Greece and thinkers as Pythagoras and Theophrastus (Leroy, and Praet, 2017). However, the idea of human supremacy over animals prevailed during the Christian era and the idea that animals were

soullness placed the act of killing animals beyond moral concern (Waldau 2013). Throughout history, ethical concerns have been raised by many leading personalities, such as Immanuel Kant, Thomas Hobbes, René Descartes, and also many current celebrities, such as actors or professional athletes.

Nowadays, the ethical concerns for animals do not consist only in the act of killing them. Many people are also worried about other aspects such as animal welfare, experimentation on animals, and changes in animals' genotypes. (Izmirlı and Phillips, 2011). Animal welfare mainly refers to livestock conditions, as for instance depriving animals of an appropriate environment, inflicting pain or injury, and subjecting animals to treatment which causes mental suffering. Whereas changes in animals' genotypes can include increasing their reproductive capabilities by genetic changes or manipulating genetic characteristics to make them more farm-suitable.

Very often key information is spread in order to sensibillize on this topic. An example is the average lifespan of a cow in a dairy farm, which is of 5-6 years, while naturally, it should be around 20 years. In addition, cows bred for dairy produce up to 10 times the amount of milk than they naturally would (Ciws, 2012). Information like this has pushed many people to consider more seriously whether to include meat in their diet or not.

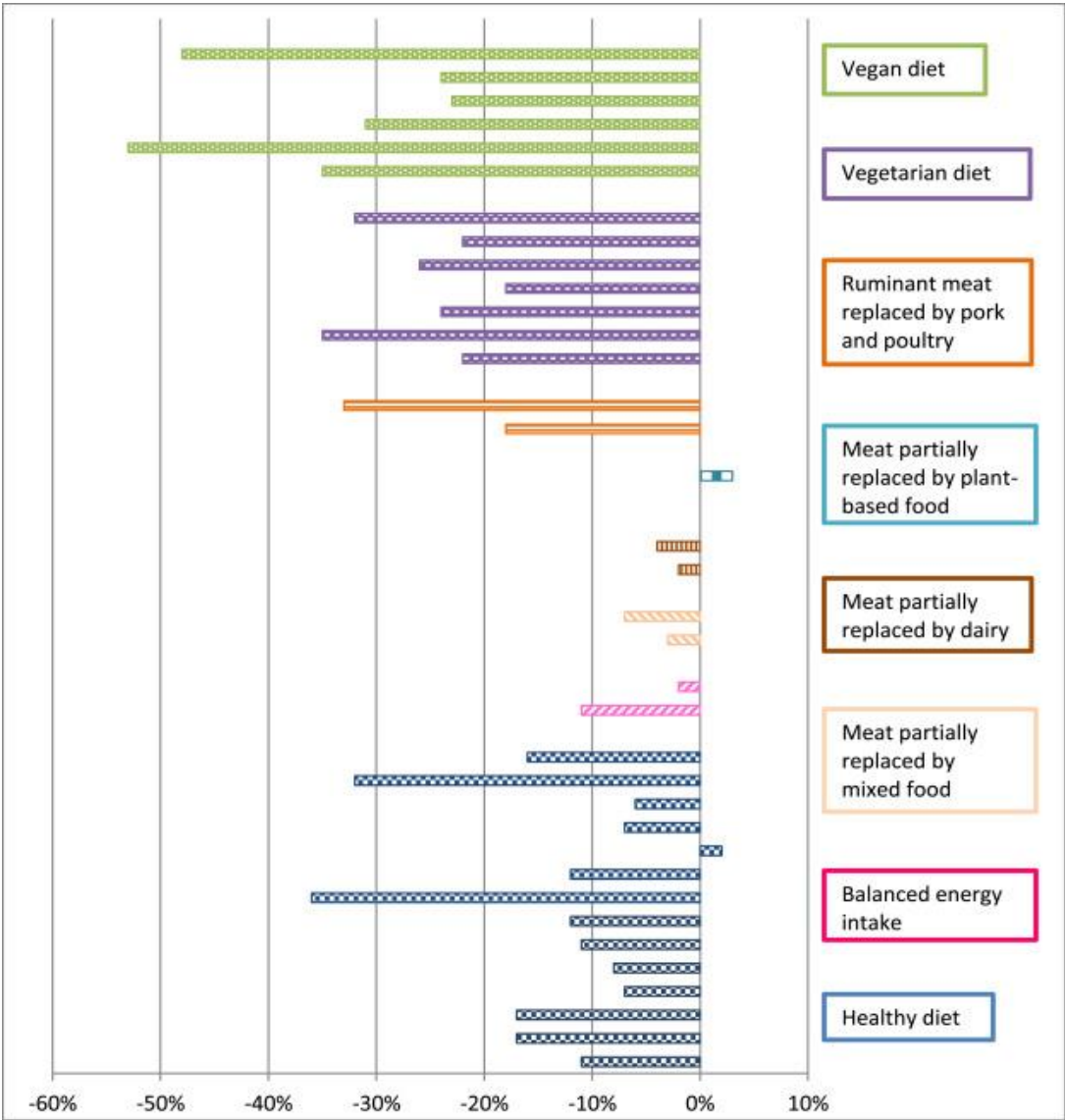
1.3.4 Environmental sustainability reasons

The agri-food sector accounts for approximately 30% of the world's total energy consumption (FAO, 2017), occupies more than a third of the world's land surface (Hallstrom et al., 2015) and accounts for around 19–29% of global anthropogenic greenhouse gas emissions (Vermeulen et al., 2012). In order to reduce the environmental burden of this sector, changes in eating patterns combined with technical advances in agriculture are necessary (Garnett, 2011). Since the number of consumers trying to be responsible citizens of the world is increasing and much more sustainable behaviours are adopted, it is easy to understand why, as seen previously, one of the most frequent reasons for dietary changes is the attention to the environmental impact of eating choices.

Increasing knowledge of sustainable food consumption is also due to several studies that have been conducted on this topic, in fact, many studies have assessed the sustainability of foods, meals and, complete diets. In order to assess these impacts a commonly used method is dietary scenario analysis, which allow estimating the consequences of eating patterns when the amount and content of food are varied (Alcamo, 2009). A recent study (Rosi et al., 2017) has revealed how omnivore diets compared with plant-based diets are considerably associated with a higher impact concerning greenhouse gas emissions (GHG), consumption of water resources, and the amount of productive

land needed. According to the same article, the GHG emissions generated by the food consumption are responsible for about 15-35% of the total climate impact and could be reduced of about 4-20% with a transition to a vegan diet and 12% with a vegetarian diet; while others articles have estimated possible reduction up to 50% (Hallstrom et al., 2015). The following graph shows the impact of different dietary changes scenarios on GHG emissions presented by 12 scientific articles tackling this issue.

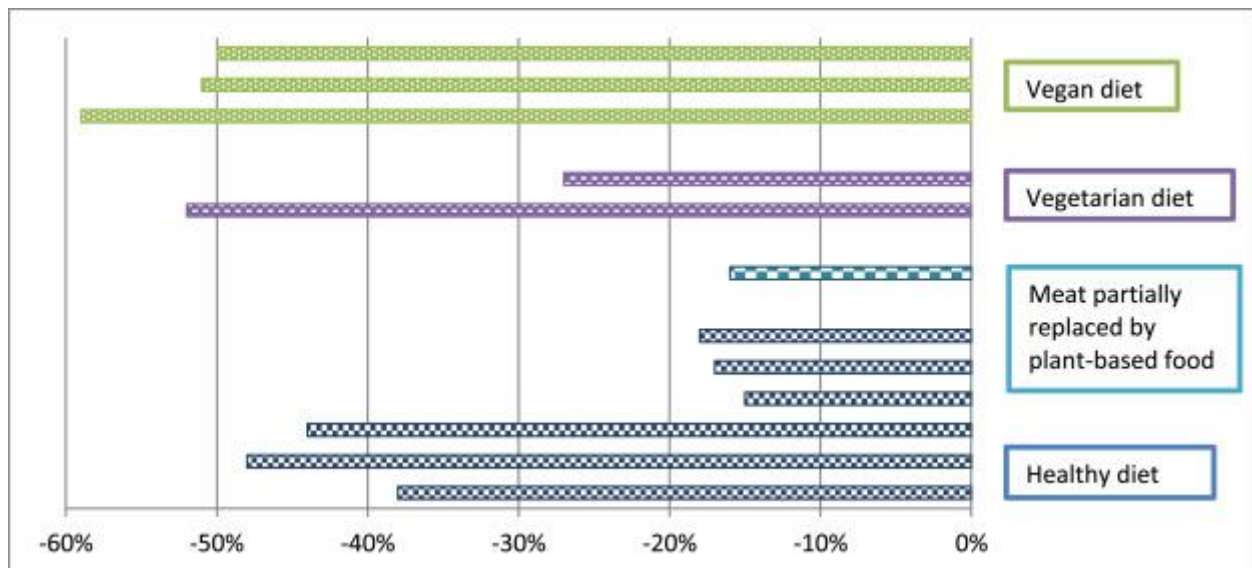
Figure 12: Impact of different dietary changes on GHG emissions



Source: Environmental impact of dietary change: a systematic review. Author links open overlay panel E.Hallström, A. Carlsson-Kanyama, P. Börjesson. Journal of Cleaner Production, Volume 91, 15 March 2015, Pages 1-11

Moreover, diets including ruminant meat have high land demand which could be reduced up to 60% substituting meat food with plant-based foods (Hallstrom et al., 2015). The reason behind this significant data is that meat production is very inefficient; for instance in order to produce 1 kg of beef is required on average 20 kg of feed, 15500 liters of water (12 times the quantity needed to produce 1 kg of wheat), 15 times as much land as the production of 1 kg of cereals and 70 times as much as the land needed to produce 1 kg of vegetables (Grant, 2017). The following graph shows the impact of different dietary changes scenarios on the current demand for land, presented by 4 scientific articles tackling this issue.

Figure 13: Impact of different dietary changes on land demand



Source: *Environmental impact of dietary change: a systematic review*. Author links open overlay panel E.Hallström, A. Carlsson-Kanyama, P. Börjesson. *Journal of Cleaner Production*, Volume 91, 15 March 2015, Pages 1-11

All the facts presented so far are useful in order to explain why many consumers have responded to the siren call to protect the planet by changing their dietary habits.

1.4 Real advertisements based on “the main motivations”

As described so far, the main motivation for increasing the consumption of plant-based food is related to health, environmental, and animals' live concerns. These motivations have had a strong impact on the change in food consumption and they are also used by many companies in their marketing activities. Indeed, as it will be shown, some firms have decided to highlight these facts in their advertising and in some cases also use them as the main message for product promotion. Some examples will be shown representing the application of the main motivation recognized by the presented literature review to real advertisements. Indeed, messages related to the positive impact on health, environment, and animals' live, have been adopted in different ways, as for instance messages on the product packaging, on advertisement pictures, or on social media advertising. Examples for some of these cases are illustrated below.

1.4.1 Health messages

Messages that refer to the positive impact on health are quite common when promoting many food products, especially when these products are plant-based. Indeed, as deeply explained before in this text, the positive effects on the human body when increasing the amount of plant-based food are many and significant.

Some examples will be shown with the objective to give a clear idea of how these messages are communicated in real advertisements by companies.

Nutreelife is a very young innovative vegan health nutrition company situated in the UK, which aim to deliver a range of rich in nutrients products, such as protein bars, snacks, food supplement, and plant-based burgers. All the company's products are gluten, lactose, and soya free, as well as vegetarian and vegan friendly. The advertisement shown has been created by the British company with the aim of promoting their range of snack bars communicating a specific health benefit for each bar as a primary focal point, whilst the aesthetics transmit that these are inclusive, accessible vegan products suitable for everybody. Indeed, in the packaging of each type of bar can be read a word that clearly conveys a positive effect on the human body: *Recovery*, *Detox*, *Energy boost*, and *wellbeing*.

Figure 14: Nutreelife advertisement communicating a health benefit



Source: Nutreelife – Retrieved from: <https://nutreelife.co.uk/products/choc-variety-12-pack>

Another interesting example of a product where the health benefit has been largely highlighted in its packaging is the mixed dried fruit by Food to Live, an American plant-based food company which has the mission to provide its clients with a great selection of healthful and delicious foods ranging from grains and nuts to spices, that can really make a positive impact on their body. In the product shown in the picture below, it has been used directly the word *healthy* together with the word *delicious*, which instead aims to promote the taste aspect of the product.

Figure 15: Food to Live advertisement communicating a health benefit



Source: Food to Live – Retrieved from: <https://foodtolive.com/shop/organic-raw-nuts-and-berries-snack-mix/>

1.4.2 Animals related messages

As seen in the several studies presented previously, animals related concerns are another of the main reasons that motivate consumers to avoid meat and increase the consumption of plant-based options. As for health, also the concerns for animals have been used by companies in the attempt of promoting their products and persuade potential customers to make a more ethical choice when deciding about their food. The following example shows how not only traditional food product manufacturer use these messages for their advertising, but also other companies related to the food chain as restaurants.

One example is the advertisement created by the Canadian chain of restaurants That Italian Place. The image used for promoting a new vegan burger available in their location made a clear reference at the possibility to have an ethical behaviour, avoiding animal slaughters by consuming a plant-based burger rather than a meat one. Indeed, the advertising message used explicitly states that no animals were harmed in making the burger.

Figure 16: *That Italian Place advertisement communicating an ethical message*



Source: *That Italian Place* – Retrieved from: <http://www.thatitalianplace.ca/>

1.4.3 Environmental related messages

Last but not least, the environmental reasons are another main motivation for consumers to increase their plant-based food consumption. Consequently, many companies have decided to incorporate sustainability messages in their advertising, taking advantage of the awareness of customers to favour environment-friendly products.

One example comes from Ben and Jerry's, one of the world's biggest ice cream manufacturer, which launched an ice cream flavour called 'Save Our Swirled,' which is part of a campaign aimed to spread climate change awareness. The firm has been moving in an eco-friendly direction by working to reduce its carbon footprint and it wants to get its customers onboard as well. As a part of the campaign, Ben & Jerry's designed eco-friendly messages on its ice-cream pints and also tried to involve customers in actions such as to sign the petition launched from non-profit organizations. For instance, in 2015 Ben & Jerry's invited its customer to sign a petition form Avaaz, which is one of the most important U.S non-profit organization, it promotes global activism on issues such as animal rights, climate change, human rights, corruption, poverty, and conflict.

Figure 17: Ben & Jerry's communicating an enviromental messaage



Source: Ben & Jerry's – Retrieved from: <https://www.benjerry.com/whats-new/2015/save-our-swirled>

CHAPTER 2

2.1 Implicit theories

2.1.1 *A psychological segmentation*

Implicit theories, or mindsets, are the beliefs that people have about the nature of human characteristics ((Dweck, 1999; Dweck and Leggett, 1988). These theories have been developed for the first time by the American psychologist Carol S. Dweck. The two recognized mindsets have been objective of many further studies; researchers have found implicit theories influence many aspects of our daily life as academic or intellectual challenges ((Dweck and Elliott, 1983; Mueller and Dweck, 1998; Hong et al., 1999), self-regulation (Dweck, 2000), social challenges (Erdley, Cain, Loomis, Dumas-Hines, & Dweck, 1997), social perception (Levy, Plaks, & Dweck, 1999), health (Burnette and Finkel, 2012), self-esteem (Robins & Pals, 2002), romantic relationships (Knee, 1998, Knee et al., 2001), stereotype threats (Aronson, Fried, & Good, 2002) and finally, and most importantly for this thesis, consumer behaviour (Murphy and Dweck, 2016; Rucker and Galinsky, 2016; Park and John 2016; Park and John 2012; Yorkston, Nunes, and Matta, 2010).

According to this theory, people can have two different mindsets which shape their motivation (Dweck, 1999), evaluations, actions, and responses (Rucker and Galinsky, 2016). The two opposed mindsets are fixed and incremental (or growth) mindset. In some articles, people who show a fixed mindset have been also identified as entity theorist, while who show an incremental one have also been called incremental theorist. Furthermore, the reason behind the fact that the same mindset has been called sometimes “incremental” and others “growth” is that the first one has been in some cases preferred to the second since someone’s attitudes can vary in many ways without necessary implications for growth or diminishment. (Wheeler and Omair, 2016).

The fundamental distinction is that the two different groups believe in two different theories concerning the nature of the human characteristics, as already anticipated. On one side, who subscribe to the entity theory believe that human characteristics, such as intelligence, health, personality, and morality, are fixed, meaning that these traits cannot be significantly changed. For them, some people are clever, others are not; some people are sportif, others are not; and so on. They believe personal qualities as fixed and being difficult to change. On the other side, those who subscribe to an incremental mindset believe that people can substantially change their human characteristics and how they behave through learning and experience. These people view personal qualities as malleable and

capable of being developed. As it will show, these two different views of human nature entail an important difference in how the two mindsets behave in many situations.

2.1.2 Differences in goals and the role of personal effort

As anticipated before, mindsets play an important role in understanding human motivations. People with a fixed mindset have the priority to prove others their abilities and skills. Since those characteristics in their opinion cannot be significantly changed, they pay major attention to show others they own certain positive traits (Murphy and Dweck, 2016). In addition, when they do not have an intended trait, as being successful, they could engage defensive behaviours in order to hide a certain lack (Nussbaum and Dweck, 2008). On the other hand, individuals with an incremental mindset, who believe they can always improve their characteristics, are willing to learn even though this means facing setbacks or making mistakes. As it will be explained better further on in this chapter, incremental mindset people have a constructive approach to failure, seeing this as a part of the learning process needed to improve (Murphy and Dweck, 2016). Whereas fixed mindsets see failure as proof of not being talented (Blackwell et al., 2007) and this could cause a fall in these individuals' motivation.

Fixed mindset orients people to performance goals since their main objective is to achieve success in the short term. They feel their reputation linked to their performance and they look for others' approval to show to both others and themselves their abilities. In contrast, incremental mindsets are expected to adopt learning goals allowing them to improve their skills and competencies. When they do mistakes they tend to consider these as a lesson to improve in the future and this is the reason why, differently from fixed, they appreciate critical feedbacks which give them insight to improve (Dweck and Leggett, 1988).

In the Murphy and Dweck article of 2016, they give a nice example to better explain the difference in goals that exist behind the same apparent consumer behaviour of buying a cookbook. The consumers with a fixed mindset could purchase the book in anticipation of a dinner party in which they want to surprise and impress their guests showing their talent for cooking and receive compliments and praises. Whereas the consumers with an incremental mindset could buy the same book with the only purpose to learn new recipes or master a new cuisine.

Different mindsets have also different views of what concerns effort (Grant and Dweck, 2003). Fixed mindsets believe that if someone is talented in a certain area, he will not need any effort to succeed. Oppositely, incremental mindsets think that effort is fundamental when it comes to stretch someone's abilities and improve themselves, consequently they believe that effort is necessary to

realize their full potential. This difference has an impact also in the products and advertising each group prefers, fixed mindsets would select a product which allows them to receive the benefit effortlessly, as for example a fat-burner massager, while incremental mindsets would prefer a jump rope or a treadmill since they are eager to apply effort in order to improve their characteristics.

2.2 The implication of implicit theories in the business world

2.2.1 Clients with different mindsets

In an interesting article (Wheeler and Omair, 2016) it has been considered which, between fixed or incremental mindset costumers could be better for a company to have. There are different opinions presented in many articles about this topic. One aspect that has been considered is how customers react to a company's failure in satisfying their expectations. On one side (Haselhuhn, Schweitzer, & Wood, 2010), researchers have sustained that incremental mindsets tend to forgive companies' transgression since they recognize failure to be a normal event also for businesses in order to improve their offer, while other authors ((Kammrath & Peetz, 2012) sustain that customers with the same mindset could instead be less willing to tolerate failure since they believe that is always possible to improve and if a company has failed, it has been due to a lack of effort. However, individuals with an incremental mindset would pay more attention to information provided by the company to explain why the mistakes happen and how they plan to improve in the future. Consequently, they would be more willing to try a product or service again compared to fixed mindsets, who could be more sceptical on the possibility to be satisfied again (Murphy and Dweck, 2016). Indeed, incremental mindsets have been demonstrated to be more inclined to rebuilt trust, accept trust-repair efforts and forgive after a trust violation occur (Haselhuhn, Schweitzer, & Wood, 2010). On the other hand, customers with a fixed mindset are instead generally more likely to be more loyal compared to incremental ones since they recognize brands as a part of their identities, and a situation where a company needs to rebuild trust could not occur (Park & John, 2010); anyway, the relationship between the different mindsets and brands will be treated more deeply later on in this text.

It has also been analysed (Wheeler and Omair, 2016) the response of customers to changes in companies' offers, as for instance variation in the product quality. Fixed mindsets are more likely to not notice minor negative changes in companies since their view tend to be fixed; they tend to process information confirming their previous ideas, namely if they have a good opinion about the quality of a company product or service, they are inclined to maintain the same judgment about that company.

On the flip side, when positive changes occur in a company, people with a fixed mindset are also in this case less likely to notice them, making those changes less profitable for the company which will struggle in justifying to these clients the increase in prices.

2.2.2 Organizations with different mindsets

Another important aspect linking implicit theories with businesses is the research made on how a mindset can be developed inside a group of people or even in the culture of an organization (Murphy & Dweck, 2010). In the same way, it happens at an individual level, also inside organizations can be found shared beliefs that human traits are malleable or, instead, relatively fixed. The consequences are reflected in the motivations that lead people inside the organization, the human traits people value in themselves and in their colleagues.

People inferred on how displaying someone's scores or title which attest the level of intelligence, as for instance GPA, IQ and, academic achievements, would help to gain acceptance in an organization where the shared beliefs are fixed about intelligence level in this case. In contrast, displaying someone's motivation and passion for learning would help gain acceptance in an environment where intelligence is believed to be a malleable trait. Moreover, people who succeed with one of the two mentioned approaches will adapt and reward also other using the same manner (Murphy & Dweck, 2010).

Another interesting finding comes from a study which analysed the level of trust in the organization perceived by its employees, the study was conducted in five Fortune 100 companies (Murphy and Dweck, 2016). People's trust depends on the recognized mindset adopted in the company. When an entity mindset is perceived, a lower level of trust and commitment are reported compared to when an incremental one is perceived. The reason behind this difference is due to the employees' idea that a strong focus on performance goals can motivate unethical behaviours to reach the objectives of the organization and for employees at individual level to prove themselves. Having said that, it is clear the attention that managers must pay when they decide the type of mindset to cultivate in a company since this can have a strong impact on creating ethical organization.

For this purpose, an organization could display ads showing to its employees how they are expected to behave (Wentzel et al., 2010). For example, an incremental mindset organization could display an advertising showing an employee learning and improving his skills, or an executive welcoming mistakes when these lead to improvements and success.

2.2.3 *Implicit theories' influence on brand research*

Another application of implicit theories which gives interesting insights is related to brand research and practice. Key elements of a marketing strategy are to build and manage the brand (Keller, 2012); this requires a deep knowledge of how consumers relate to the brand, including the brand characteristics, the competitive environment, and the characteristics of consumers. In this context, mindset can play a critical role for firms in order to cope with decisions concerning their brands.

Mindsets have been considered much useful when applied to the area of brand advertising (Park and John, 2016). Customers with a fixed mindset are more responsive to messages that highlight a signalling appeal for the brand. Their preference is for products that can show to other people that they possess the traits commonly associated with that brand. On the other hand, incremental mindsets prefer messages that contain self-improvement appeal. In this case, these customers prefer a product that allows themselves to improve and achieve the traits associated with the brand.

Brand positioning is another aspect that has been analysed considering the mindsets' role. Positioning defines the place a brand occupies in customers' mind and allow differentiation from competitors. Nowadays, many brands have chosen a "low-effort" positioning, promising to solve consumers' problems in an easy way. They promise to deliver to their customers the benefit requiring the minimum effort from the clients and coherently with this, several businesses communicate their offer as an easy way for customers to achieve their goals. Some example are: "It practically does the work for you" for a cleaning products brand, or "Practice that feel like play!" for an learning product brand, or "Easy Yoga—The Secret to Strength and Balance" for streaming lessons brand; however this positioning strategy could not be the best one for all consumers (Park and John, 2016). Indeed, as already explained before in this text, different mindsets have different approaches to effort and this is the reason why consumers with a fixed mindset, who prefer effortlessly solution to their problem (Murphy and Dweck, 2016) find more appealing the brands that have a positioning as those shown in the examples above. In contrast, incremental mindset consumers, that believe effort to be a necessary step to improve and achieve better results, find less appealing these brands and, instead, they prefer "high-effort" brand positioning, as for example a high-intense workout program named "Insanity" (Park and John, 2016). However, "high-effort" brands could attract also individuals with fixed mindsets when these are certain that they can accomplish the goal and they will receive recognition of it, in fact, fixed mindset value situations where they can both prove their abilities and show these to others.

Fixed and incremental mindsets may also impact the success of brand extensions. Extension fit with the parent brands is a key aspect that strongly affects their success (Volckner & Sattler, 2006),

in fact, consumers usually respond more positively to extensions nearer to the perception they have of the parent brand (Keller & Aaker, 1992). Parent brand's characteristics are critical in determining this success, but also consumer's characteristics, such as ownership, connection to the brand (Kirmani, Sood, & Bridges, 1999) and style of thinking (Monga and John, 2007) play a fundamental role. Indeed, individuals with fixed mindsets have been found to be less willing to accept brand extension that strays far from the parent brand (Yorkston, Nunes, and Matta, 2010). Since they have a fixed view of the brand image and area of expertise, they tend to believe less that a brand can operate in new product categories. Consequently, as suggested by Murphy and Dweck, companies would prefer to foster an "incremental" image of their brand, suggesting to the customers that their brand is always growing and improving, and limiting in this way the negative effect of fixed mindset customers when they will run a brand extension. Companies can cultivate an incremental image developing a broad brand, while narrow brand has the opposite effect to foster a fixed view (Park and John, 2016).

Different mindsets may also have different preferences for what concerns brand architecture. Indeed, fixed mind customers are unlikely to find appealing a brand house architecture where the same brand is used for all the product categories, while they could find more acceptable an endorsed brand or a house of brand architecture where they recognize the different names as different products or service. On the other hand, incremental mindsets consumers may see a branded house architecture more positively since in their opinion, that is a sign that the brand is growing (Park and John, 2016).

What it has been said previously about how different mindsets respond to failure have an impact also for what concerns brand dilution. In fact, sometimes it can happen that brands lose their equity because of their overuse, as for example after ill-judged brand extension. When these situations happen individuals with fixed and incremental mindsets respond differently since their beliefs on failure. Indeed, brand dilution is less likely to occur in fixed mindsets customers since their strong and stable beliefs about brands that are less likely to change (Ahluwalia et al., 2000, Dawar and Pillutla, 2000). However, after a brand dilution actually occurs, a company preference on its customers' mindset would be for incremental one, since these are more willing to forgive after a negative fact happens and change again their beliefs about a brand compared to fixed mindset customers.

2.2.4 Impact of brands on consumers with different mindsets

Mindsets influence many aspects of human behaviour. Looking at the literature concerning this influence it is notable how very often individuals with a fixed mindset are associate with unfortunate

outcomes compared to those with an incremental mindset. For example, fixed mindset people, because of their view of human characteristics as fixed, are less willing to embrace challenges and consequently, they lose opportunities which could lead to their self-improvement. They are also less able to manage failure or to deal with negative feedback, losing in these ways other opportunities for improvement and success (Elliott and Dweck, 1988). Moreover, they experience more pressure since they feel that they always must prove their abilities or talents because otherwise, it would mean they do not and will not have them. Finally, they are more prompt to attribute to their deficiencies any negative events in their lives (Dweck, 2000).

Nonetheless, all the negatives consequences identified concerning individuals with a fixed mindset, these people can sometimes overcome their difficulties because of brands. Indeed, they can have a special connection with a brand, which allows them to face challenges and achieve results that they normally cannot do. (Park and John, 2016).

One important impact of brands on fixed mindset consumers concerns their idea of self-enhancement. Even though they believe their effort to improve themselves are relatively useless, they may believe they can signal the possession of certain appealing personality traits when they use brands with those personality traits and in this way to have a self-improvement (Park & John, 2010). In contrast, incremental mindsets consumers do not believe that signalling personal qualities through brand personalities is a valid way to enhance themselves, since instead, they believe self-enhancement only be possible through learning, experiences, and effort.

Moreover, as already mentioned, fixed mindset people struggle in recovering from failures and deal with negative feedback. They tend to be upset in facing such events and to adopt defensive behaviours (Elliott and Dweck, 1988). However, brands with appealing personalities can help these customers to recover from this kind of negative events. In an interesting study (Park and John, 2010) are described the results of an experiment that clearly demonstrate the impacts of brands in recovery from failure. Some undergraduate students were asked to complete a math test and after they received the negative feedback of being in the worst 30% of the college student who did the same test. Later, they were asked to complete another test independent from the previous one; some of them received a MIT pen while others a normal pen. The results show that the fixed mindset students that received the MIT pen recovered from the precedent negative feedback to the level of those who did not receive them, while fixed mindset participants who use the normal pen score lower in the second test. This surprising difference is due to the effect of the MIT brand on the pens, which gives to the fixed mindset students the perception to be more intelligent, hard-working, and leaders. Interestingly, incremental mindset students recover from the negative feedbacks independently from the pen used in the second test.

Additionally, individuals with fixed mindsets create stronger self-brand connection and the reason behind this fact is their use of brands to signal their qualities to the self or to others. As already said, they use brands with appealing personalities to signal these traits as their own qualities. This finding was tested (Park and John, 2016) on a group of students who were asked to name a clothing brand they would wear in a situation where it is important for them to project an image of who they would like to be. Afterwards their connection with the brand was measured and fixed mindset participants show a stronger connection compared to incremental ones, showing how they form stronger connections with the brands they have used to signal their characteristics.

Brands can also help fixed mindset customers when they face challenges. In fact, they struggle more compared to incremental mindset ones when performing difficult tasks, since they perceive obstacles when facing a task as a lack of abilities. Consequently, they fail more often when facing challenging tasks that require a self-confidence to perform well. In contrast, individuals with an incremental mindset facing a hard task perceive an opportunity for learning and improving, and as a consequence, they tend to perform better (Robins & Pals, 2002). Brands can help fixed mindset individuals to perform better in this situation when the brand promise is to assure success. An example are the sport supplements which promise better performance. Fixed mindset customers using these brands increase their self-confidence and as a result, they actually perform better. In contrast, individuals with an incremental mindset do not get influenced by brand promises since they already find a sense of self-efficacy through the learning opportunity provided by the challenge. An example has been conducted also in this case (Park and John, 2014); participants were asked to perform a physically challenging exercise (pressing a handgrip) and some of them were given some tap water in a Gatorade cup to drink. Fixed mindset participants who drank from the Gatorade bottle performed better compared to whom did not. Interestingly, incremental mindset participants did not show the same difference in performance.

Finally, people with fixed and incremental mindset attribute their performance to both abilities and effort, but on different proportions. Individuals with a fixed mindset believe that abilities are much more important in determining performance results and when they fail, they are reluctant in taking remedial action as for instance increasing effort to enhance their abilities. Oppositely, incremental mindset individuals think that effort play a major role and in case of failure, they are willing to learn by the setback and try again. In this context, brands can sometimes avoid fixed mindset individuals to attribute their failure to lack capabilities if they used a branded product during the performance and they can attribute the failure to the quality of the product (Kang, Park, & Kim, 2014).

2.2.5 *Implications on advertising*

The difference in mindset identified by the implicit theory can also be useful for companies in order to develop the most persuasive advertising appeal (Park and John, 2012). Indeed, the difference in goals and role of personal effort generates important implications in predicting consumer behaviour and the advertising messages consumers find most compelling (Murphy and Dweck, 2016).

Researches showed that incremental mindset people are mainly tuned on the process through which something comes to produce an effect (Hong et al., 1997). Indeed, they are more responsive to advertising which highlights the opportunity to improve, to take an effort to reach a goal, or to give them the possibility to stretch their abilities. Ads' focus on self-improvement will be more appealing for those consumers since are congruent with their self-concept. They may be attracted by marketing campaigns that spend time communicating how a product or a service will help them to improve.

On the other hand, individuals with a fixed mindset do not find particularly appealing self-improvement messages since their lay belief of fixed human traits. Instead, they showed to find more compelling ads suggesting the use of certain products as a tool to show desirable traits to others (Park and John, 2012). Indeed, because of their mindset, they tend to think that if they can display certain qualities or traits, they do have these characteristics. Consequently, a product promoted as having this display power may help fixed consumers to increase their self-confidence. Indeed, these individuals reported during a research study that they use products also as a tool to show who they are to other people, to make a better impression, and to feel more positive about themselves (Park and John, 2010).

Overall, “signalling” and “self-improvement” are the two kinds of advertising messages that sum up what the two mindsets of consumers find more compelling when considering product promotion. Interesting experiments (Park and John, 2012) have been conducted to prove the difference in efficacy between messages that incorporate signalling opportunity and those that incorporate self-improvement ones.

The first of these two studies tested consumer response to a signalling appeal versus a self-improvement appeal when advertising an eye shadow. Firstly, participants were given a self-theory measure in order to assess their mindset. Afterwards they were shown an advertisement about a new eye shadow with a signalling or self-improvement message. The traits used for the messages were traits recognized in the eye shadow brand (Victoria's Secret). Finally, they evaluated the advertised product on five scales, such as “undesirable-desirable”, “unappealing-appealing” and so on; the answers to these five items were averaged to form a product attitude score. As predictable, fixed mindset participants expressed more favourable attitudes for the advertisement versions including the

statement emphasizing the signalling appeal, such as “there's no better way to show others that you have a modern up-to-date sense of beauty”. In contrast, consumers who believe in incremental theory showed more favourable attitudes for the self-improvement appeal versions with statements as “there's no better way for you to learn how to have a modern up-to-date sense of beauty”.

The second study conducted had a similar structure to the first. The main difference was a manipulation of the participants' beliefs in entity versus incremental theory rather than a self-implicit measure. Indeed, while consumers may chronically adopt one mindset or the other, incremental and fixed mindset can also be situationally activated or changed, but this topic will be addressed more deeply later in this text. Two alternative articles were read by participants presenting views consistent with incremental or entity theory. After the manipulation, participants were shown an advertisement about a new add-on application for the Excel software program created by MIT. Two types of versions were created also in this case: those with a signalling appeal, such as “Show off your analysis skills using this amazing app!”, and those with self-improvement appeal, such as “Your efforts will be rewarded with better analysis skills using this amazing app!”. The traits used for the appeal were coherent with the brand personality (MIT). As in the previous study, participants rated the product on five scales, by which a product attitude score was formed. Coherently with the precedent results, participants in the entity theory condition had more favourable attitudes toward the advertised product when they were shown signalling ad appeal, while participants in an incremental theory condition had more favourable attitudes when a self-improvement ad appeal was shown.

These examples clearly show how implicit theory can be employed in advertising for brands with personalities. However, the authors of the article suggest many possible further directions for this line of study. Indeed, some of their proposals are to further test implicit theory influence beyond advertising of brands with personalities, such as on functional products, on social marketing contests, and so on. They also invite to test advertising with less copy and additional advertising elements (such as pictures) as helpful experiments in establishing the robustness of effects. Some of these invitations will be fulfilled in the second part of this thesis.

2.2.6 Mindset manipulation

How can companies take advantage of what has been said until now? In order to consider consumer's mindset when taking important decisions, firms could adopt different measures. One option would be to include implicit theory measures in customer databases or when building an online customer profile. In this way, businesses could tailor the ad appeals for fixed or incremental mindset customers when sending advertising to them. Another option linked to online advertising would be

to use sponsored links for search keywords relevant to fixed mindset consumers, such as “impress” or “show”, versus incremental mindset consumers, such as “improve” or “learn”. (Park and John, 2012). A third option would be the manipulation of consumer’s mindset because, as anticipated before, even though consumers may chronically adopt a fixed or an incremental mindset, these can be also situationally activated or changed (Nussbaum and Dweck, 2008; Dweck, 1999).

Psychological and marketing researchers have manipulated consumer mindsets using several techniques, such as exposing them to movie clips, television shows, or conventional marketing tools. In the experiment described before, scientific articles were used to prime a fixed or incremental orientation. Other researchers (Jain, Mathur, & Maheswaran, 2009) used television and movie clips, which show characters as relatively fixed or the alternative, changing and malleable. These techniques have been demonstrated to shift consumers’ mindset at least temporarily. Consequently, if marketers want to advertise a product for individuals with an incremental mindset, for instance, showing that the product can help them to improve and grow, they will probably have better results fostering an incremental mindset in the advertising. For example, they could prime an incremental manipulation at the beginning of a video advertisement, or pair their commercial with something that encourages customers to adopt a growth mindset (Murphy and Dweck, 2016).

CHAPTER 3

3.1 Research question: Do individuals with different mindsets about health respond differently to plant-based food promotion messages?

Considering the growth of the plant-based market and the associated opportunity arising for the companies in the food industry as presented so far, it seems clear how increasing importance will be given to the enhancement of the advertising techniques to promote plant-based food products. I decided to contribute in this process running an experiment and the results of my study are presented in this text. Specifically, I focused my research on the advertising messages that can be associated with this kind of product and the effectiveness of those on different segments of consumers. I structured my research from two main starting points.

The first initial point concerns the messages chosen to be used in the experiment. Since prior advertising research on this specific topic has not been done yet, the existing literature review concerning consumers' motivation toward plant-based food has been taken into consideration. Indeed, as illustrated in the first part of this thesis, many researchers have studied the main reasons for people to increase the consumption of plant-based foods or in some cases to adopt complete meat-free diets: health, environmental, and ethical related to animals concerns are the three main motives that led consumers to change their food consumption. These three motivations have already been used by many companies in their advertising messages to promote several food products, and especially when promoting vegan options, such as some examples shown previously in this text. For these reasons, the consumers' response to advertising messages communicating the impact of a plant-based choice on health, environment, and animals' lives has been compared in this study.

The second starting point of this research concerns the market segmentation choice. I decided to apply a psychographic segmentation using the Implicit Theory, which basically divides the people according to their mindset when considering the nature of human characteristics. Indeed, as largely explained previously in this text, on one side, individuals who show a "fixed mindset" believe that human traits, as for instance intelligence, health, personality, and morality, are relatively fixed and cannot be substantially changed; on the other side, individuals with an "incremental mindset" believe that they can modify these human characteristics through effort, learning, and experience. The reason for choosing a segmentation based on these two mindsets is because one of the messages compared is related to a potential improvement in customers' health, therefore it is fundamental to take into consideration whether they believe that health is a malleable human trait or not. Moreover, messages

related to having an impact on environment or animals' lives can be recognized as a signalling opportunity by some consumers and consequently, to be preferred by one of the two mindsets, but this will be explained better analysing the hypothesis below.

As anticipated, considering the consumer belief about their own health has major importance since the impact on health is both a main motivation to increase vegetables consumption and a recurring message in plant-based food advertising. This led to the first two hypotheses done before to run the experiment:

H₁ : Consumers with an incremental mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on their health, rather than those communicating the impact on the environment or on animals' lives

H₂ : Consumers with an incremental mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on their health, rather than one communicating the impact on the environment or on animals' lives

The idea that individuals with an incremental mindset are more responsive when the message displayed concerns the possibility to improve their health is because these individuals believe they can substantially improve their health with their actions. Indeed, as the literature on this topic shows, they welcome opportunities for self-enhancement. They are in fact more tuned on the process through which something comes to produce an effect. In this case, the opportunity consists of the possibility to consume a plant-based food product that can improve their well-being. Consequently, they are expected to prefer a message with a self-improvement appeal because it is more congruent with their self-concept.

On the other hand, individuals who believe their health is substantially fixed are probably less responsive to messages highlighting the effect of vegetables on their well-being. These people do not believe in self-improvement and therefore, to communicate them that the product can help to increase their health does not seem the most effective way to promote a product. However, because they indeed believe that someone can essentially have a certain trait or not, they pay more attention to show their positive characteristics to others since this is a proof that they own them. Indeed, these individuals prefer messages with signalling appeal rather than those with self-enhancement ones and therefore, they are expected to prefer messages highlighting the positive impact on the environment or animals rather than on health. This is because they could recognize in the advertisement an opportunity to

show other desirable traits, such as being a person who cares about nature. Therefore, they are probably more willing to take the opportunity to improve their reputation in order to impress or surprise someone, but also to feel more positive about themselves. This led to the second hypothesis:

H₃ : Consumers with a fixed mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on the environment or on animals' lives, rather than those communicating the impact on health

H₄ : Consumers with a fixed mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on the environment or on animals' lives, rather than one communicating the impact on their health

This experiment has therefore a double aim. The first one is to identify which one can be the most effective advertising message between those referring to a positive impact on health, environment, and animals' lives, when advertising a plant-based food product. Indeed, although there are many studies that show how these three motivations impact on food consumption, no study so far has analysed the different potential of these three concepts when applying them to advertising. Moreover, a more detailed piece of information will be given since this effectiveness will be compared between consumers who have different beliefs about the possibility to substantially change their own health. This knowledge could help companies in enhancing their advertising when promoting a vegetable food product. Indeed, as explained in the first part of this text, previous researches highlighted how firms could include implicit theory measures in customer databases or when building an online customer profile, and then use this information to personalize the advertising for customers with a certain mindset. Alternatively, previous research has also shown that these mindsets can be temporarily manipulated with the aim to increase the effectiveness of an advertisement. Indeed, movie clips, television shows, or conventional marketing tools can be used to foster a mindset that compared with the advertising message given could improve the marketing results.

The second aim of the present study is to further progress the application of the implicit theory in marketing research. Indeed, this theory has been applied to marketing only recently, however, research which examined the topic has demonstrated interesting results. As presented in the second chapter of this text, if on one hand many effects have already been proven in brand research, on the other hand when considering strictly advertising techniques only a few are the research conducted.

One of the most interesting which has largely inspired this thesis is the study conducted by Park and John (2012). The authors demonstrated how individuals with an incremental mindset respond better when a self-improvement appeal message is shown, while those with a fixed mindset are more responsive to signalling appeal messages. In the experiment, they use the traits recognized with the brand personality of the product and they find significant differences in advertising response. In the further research direction hypothesized from the article, there is also the possibility to test whether different mindsets respond differently also when the traits used for the message are referred to the product characteristics rather than to the personality brand. They also suggest that would have been interesting to use different advertising stimuli in running the experiment as for example the use of pictures. I followed these suggestions in structuring the experiment that will be presented below.

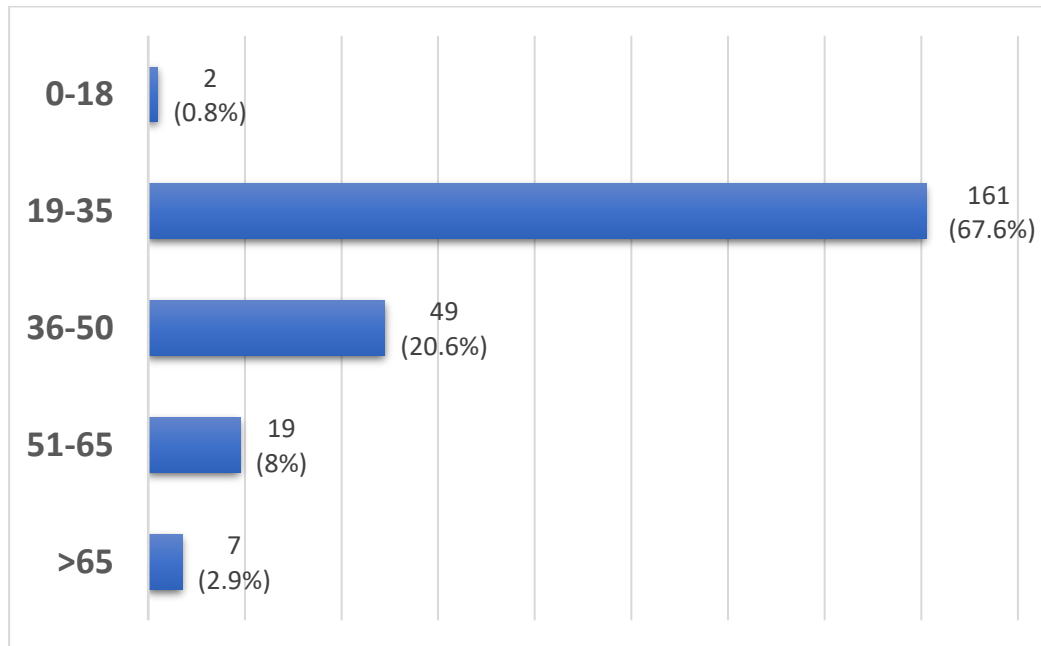
3.2 Sample

The data collection method of this thesis was based on the administration of a web-based survey, which was released via email, private messages and, on the main social platforms. This survey method lends itself well to the aim of the research, as it can easily collect a large amount of data that refer to the detection of consumers' response to different stimuli as well as provide information about their lay belief on the nature of human health.

The sample consisted of 238 respondents from 15 different nationalities. The most representative nationality is Italian with 205 respondents, illustrating 86.1% of the sample. Participants from Germany and Portugal are 6 from each country (2.5% each); 5 from France (2.1%); 2 from Brazil, China, Peru, Spain, and Sri Lanka (0.8% each); and finally, 1 interviewed from Hungary, Mexico, Montenegro, Mozambique, Poland, and Ukraine (0.4% each).

Moreover, 108 respondents are male (45.4%) and 130 are female (54.6%). Their age has been grouped in five categories: from 0 to 18 years, from 19 to 35, from 36 to 50, from 51 to 65, and older than 65. The graph below shows how the respondents fall in these categories.

Figure 18: *Respondents' age*



Finally, the survey has been released in two languages, Italian and English, in order to increase the number of participants to the survey. The answers to the survey distributed in Italian were 170 (71.4%), whereas those in English were 68 (28.6%).

3.3 Design and procedure

The aim of the experiment is to understand which advertising message is more effective when promoting a plant-based food product, comparing messages that communicate the positive impact of a plant-based choice on the health, on the environment, or on animals' lives. Moreover, this objective includes understanding which of these three messages is more effective when taking into consideration the different individuals' mindsets recognized by the Implicit Theory. For instance, seen the previous findings concerning the different responses of the different mindsets, I hypothesized that individuals with an incremental mindset could be more responsive to messages highlighting a health self-enhancement opportunity.

In order to take into consideration both the respondents' belief about the nature of human health and their response to different advertising messages, the survey³ has been structured in two separate parts. The first consists of a measure of the respondents' Implicit Theory when considering health. The second part investigate the respondents' reaction when being exposed to an advertisement, by analysing their evaluation of the advertisement, the product evaluation, and their intention to consume the advertised product.

The participants were said at the beginning of the survey that they will participate in two different studies to mask the relationship between the implicit self-theory measure and the following response measure, in order to avoid unwanted influences. This procedure was already adopted in a similar study conducted by Park and John (2012).

The survey was developed on Qualtrics, one of the main online survey platforms, which offers the possibility of using a wide range of tools, useful to obtain the most faithful investigation possible allowing the researcher's objectives to be achieved.

3.3.1 *Implicit theory measure*

Participants' belief in entity versus incremental theories of health was assessed using an adaptation of the Dweck Mindset Instrument (Dweck, 1999), which is a scale developed by the author of the Implicit Theory to detect the different human beliefs when considering intelligence. Later, this scale has been adapted to the different human traits studied in further researches (Levy et al., 1998; Burnette and Finkel, 2012; Park and John, 2012; etc.). In the present research, the scale has been adapted to assess whether the respondents believe health is a human trait that is substantially fixed or, on the other hand, it can be changed through effort, learning, and experience. As done in some of the research mentioned above, the respondents were only asked to state to what extent they agree with statements that expose a fixed vision of health. The reason for doing this is that for some human traits, an incremental mindset can be thought to be socially desirable by the respondents, and consequently to influence the measure avoiding a totally sincere expression of their real belief.

Therefore, participants were asked to indicate on a 7-point Likert scale (1-strongly disagree, 7-strongly agree) to what extent they agree with each one of the following statements: *You have a certain amount of health, and you really cannot do much to change it; Your health is something about you that you cannot change very much; To be honest, you cannot really change how healthy you are.*

In these scales, the implicit theory of health has been measured as a continuum, where high rates represent a tendency to believe that health is a fixed human trait (i.e. an entity theory), while

³ Appendix A

lower score that health is a malleable trait (i.e. an entity theory). In order to run a subsequent analysis using this information, the rates given by each respondent to each of the three statements have been averaged to create a variable that from now on in this text will be called “Implicit Theory measure”.

3.3.2 Advertisement exposure

After the Implicit Theory measure in the survey, the participants were told that a second study was starting, with the purpose mentioned before to avoid unwanted influences between the mindset measure and the evaluation of framed persuasive messages. As in previous researches (Jain, Mathur, & Maheswaran, 2009; Park and John, 2012), participants were randomly exposed to different advertisement messages.

In this case, the messages were inserted in an advertisement picture promoting a plant-based burger. One of the stimuli presented a message highlighting the positive impact of consuming the product on the consumer’s health. This stimulus was expected to generate higher responsiveness between participants with an incremental mindset, coherently with the hypothesis stated before. Indeed, according to the literature on this topic ((Hong et al., 1997; Levy et al., 1998; Park and John, 2012), individuals with this mindset are more attracted by marketing campaigns that describe an opportunity for self-improvement. The main difference with Park and John (2012) is that in their experiment they used statements emphasizing the self-improvement appeal of using the branded product, communicating a possibility for the consumer to enhance in a trait that is recognized in the brand personality. As the same authors suggested in their article, it is interesting to detect whether the same effect that they found in their research can be found when the message incorporates an improvement opportunity provided by the product characteristics (health benefit of vegetables in this case) rather than an opportunity to develop the same appealing personality traits as the brand by using the product in the advertisement. For these reasons, it was used an unbranded product.

The other two stimuli included messages communicating the positive impact of consuming a plant-based burger on the environment and on animals’ lives, referring to the negative implication that the meat consume has on these two factors, as deeply explained in the first chapter. These two advertisements were expected to generate higher responsiveness between participants with a fixed mindset compared to those with an incremental one. Indeed, respondents that believe health is substantially fixed are not likely to respond favourably to the self-improvement appeal provided by the health-enhancing advertisement message.

The stimuli were created by adapting a picture taken from one of the advertisements shown in the first chapter, namely the one of a Canadian restaurant called “That Italian Place Cafe & Eatery”.

Only the picture of the plant-based burger was taken without any other elements of their advertisement, and the image was chosen to reduce as much as possible the possibility that some of the participants had already seen the picture before to participate in the survey (since it was only displayed in Canada), and consequently, to be somehow influenced. A message referring to the impact on human health, on the environment, or on animals' lives was added to create 3 different stimuli that were shown randomly to the respondents.

The three stimuli are illustrated in the following images.

Figure 19: Stimuli shown randomly to the survey respondents



3.3.3 Advertisement evaluation

After being exposed to a stimulus, the participants were asked to answer several questions in order to evaluate their attitude toward the advertisement as well as toward the product, and also to

evaluate their potential intention to consume the advertised product. Moreover, some more questions were made to be used as control variables in the analysis of the experiment results. The scale used to measure the effect were taken or adapted from a similar study conducted by Park and John (2012).

The participants were asked to rate the advertisement on five 7-point scales, between “bad-good”, “Unappealing-Appealing”, “Undesirable-Desirable”, “Unfavourable-Favourable”, and “Dislike-Like”. The rates to the five items were then averaged to form a composite advertisement attitude score, which scores go from a minimum of 1 to a maximum of 7. This variable has been crucial in the analysis done of the experiment results and it will be referred to as “Ad evaluation” from now on in this text.

After having evaluated the advertisement, the participants were also asked to evaluate the product they saw in the advertisement, using the same 7- point scales (Park and John, 2012) before. Also in this case, the five items were averaged to form a composite product attitude score, which will be referred to as “Product evaluation” later in this text.

Some questions were also done to measure the intention to consume the product after having observed the advertisement. On this purpose, the respondents were asked to indicate on a 7-point Likert scale to what extent they agree with statements as *I would eat the product in the advertisement*, *I would definitely try the product in the advertisement*, *I would purchase the product in the advertisement*. Also in this case, the scores for each statement were averaged to obtain an “intention to consume” score. In order to have additional information, it was also asked “*What is the highest price in you would pay for the veg burger in the advertisement?*”, to which they could answer writing the number of € decided.

Finally, some more information was required to the participants to be used later as a covariate in studying the result of this experiment or because interesting in controlling what found in the literature review.

- *Are you on a vegan or vegetarian diet?* (Yes or No)
- *Have you restricted the meat intake in the last year?* (Yes or No)
- *Do you like vegetables?* (7-point Likert scale from *Not at all* to *So much*)
- *Age* (five groups: 0-18, 19-35, 36-50, 51-65, and older than 65)
- *Gender*
- *Nationality*

3.4 Outliers and missing data

SPSS (Statistical Package for the Social Sciences) is the software package used to analyse the data. 265 were the total answer collected but only 238 are the answers fully completed and utilized for the final analysis. Therefore, 27 answers were also excluded from the final analysis because the survey was started but never finished. No missing values were found in the remaining answers since the fulfilment of all the questions was a necessary condition for the respondents to proceed further in the survey.

3.5 Reliability analysis

In order to interpret the data accurately, a reliability analysis was conducted to control the internal consistency of the composite scales created to run the analysis of the survey results: “Implicit Theory Measure”, “Advertisement evaluation”, Product evaluation”, and “Intention to consume”.

The internal consistency was measured using the test score reliability coefficient Cronbach’s alpha. According to DeVellis (2003), this reliability coefficient should ideally be higher than 0.7, but values above 0.8 are even more desirable.

The first scale analysed was the Implicit Theory measure, which expresses the mindset of each participant concerning their idea about the malleability of human health. As already said, this composite score was formed by averaging the extent of the of participants’ agreement on three separate sentences about health. Cronbach’s alpha of this scale is equal to 0.855.

Secondly, the Advertisement evaluation and the Product evaluation scales were tested. Both scales are composite attitude scores formed by averaging two equal five 7-point scales, where the participants expressed their opinion about the advertisement first, and then about the product they saw. Cronbach’s alpha of the Advertisement evaluation and the Product evaluation scales are equal to 0.926 and 0.938, respectively.

Finally, the same consistency reliability analysis was run on the Intention to consume scale, which was formed by averaging the extent of the participants’ agreement on three separate sentences about their willingness to consume the product in the advertisement they saw. The Cronbach’s alpha of this scale is 0.914.

To sum up, all the composite scales created have a Cronbach’s alpha exceeding the cut-off 0.7, showing their internal consistency. These scales are therefore reliable to be used in further analysis.

3.6 Descriptive analyses

As already anticipated, the number of analysed responses is 238, of which 108 are male (45.4%) and 130 are female (54.6%). The large majority of the respondents is Italian (86.1%).

Implicit Theory measure, Advertising evaluation, Product evaluation, and Intention to consume are the main variables utilised in analyses. The Implicit Theory average score is 2.79, with a standard deviation of 1.37; the 25th percentile is 1.67, the median is 2.67, and the 75th percentile is 3.67. The Advertising evaluation average score is 3.97 with a standard deviation of 1.54. The Product evaluation average score is 4.18, with a standard deviation of 1.48. And finally, the Intention to consume average score is 3.64, with a standard deviation of 1.64.

The respondents also answered some questions related to the topic treated, which are functional in order to further analyse the size of the plant-based trend:

- 75 respondents (31.5%) declare to have restricted the meat intake in the last year
- 2 respondents (0.8%) declare to be on a vegan or vegetarian diet

3.7 Main analysis

3.7.1 One-way ANOVA

The first analyses performed aimed to verify whether exist a preference in advertising appeal between messages related to health, environment, and animals, without taking into consideration the participants' Implicit Theory mindsets.

The first of this study tested whether there is a statistically significant difference in the Advertising evaluation means of the different groups of respondents, formed according to which advertising message was shown to them (related to health, environment, or animals). A one-way between-groups analysis of variance (ANOVA) was conducted to explore these differences⁴; there was no significant difference in the mean scores: $M_{Health} = 3.8481$ vs. $M_{Environment} = 3.9487$ vs. $M_{Animals} = 4.121$, $F(2, 235) = 0.644$, $p = 0.526$

The same as for Advertising evaluation was done for Product evaluation⁵ and Intention to consume⁶. None of the two showed significant differences in the mean of the three Ad appeal categories: $M_{Health} = 4.0658$ vs. $M_{Environment} = 4.1179$ vs. $M_{Animals} = 4.3654$, $F(2, 235) = 0.937$, $p =$

⁴ Appendix B

⁵ Appendix C

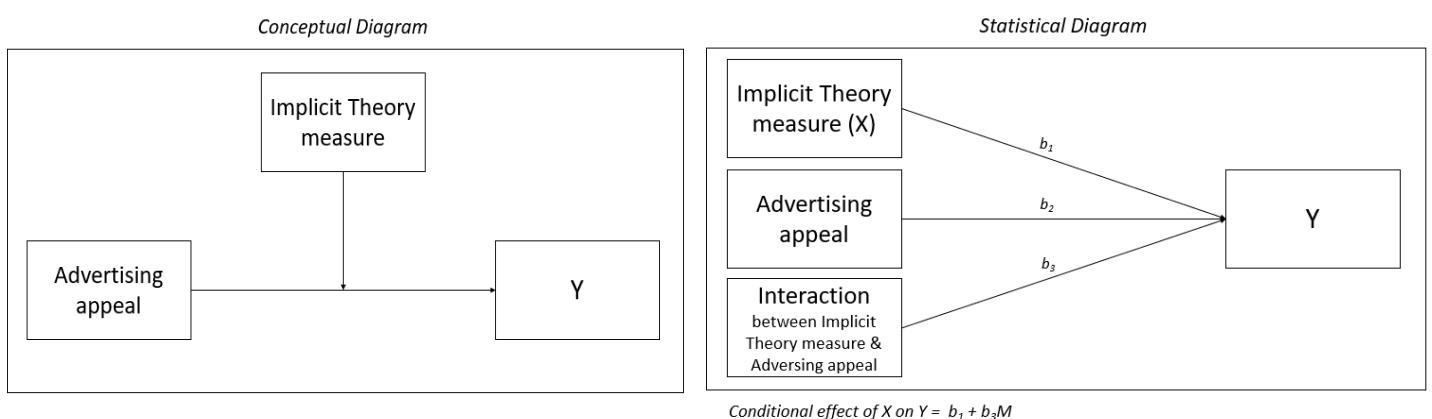
⁶ Appendix D

0.393 for Product evaluation as dependent variable, and $M_{Health} = 3.6793$ vs. $M_{Environment} = 3.4060$ vs. $M_{Animals} = 3.8354$, $F(2, 235) = 1.395$, $p = 0.250$ for Intention to consume as dependent variable.

3.7.2 Moderation analyses

In the ANOVA analyses seen so far, no significant findings were found only considering the kind of message shown to the respondents. More complex statistical tests were done to study the effectiveness of the different advertising messages, adding into consideration also the Implicit Theory mindsets of the consumers. The effectiveness was measured again using: Advertising evaluation, Product evaluation, and Intention to consume. Each of these variables was used as a dependent variable to run some moderated multiple regression. Indeed, the aim of the examinations was not only to understand the relationship between the advertising appeal shown and each of the dependent variables, but also how these relationships are “moderated” by the Implicit Theory measure collected for the respondents. Therefore, a serial multiple moderation analysis (model 1; Hayes (2013)) was conducted to examine whether the conditional indirect effect of the independent variable (“Ad appeal shown”, with three categories: message related to *health*, *environment*, *animals*) on each dependent variable (“Advertising Evaluation”, “Product Evaluation”, “Intention to consume”) was influenced by the moderator (“Implicit Theory measure”).

Figure 20: Moderation analysis Model 1 (Hayes, 2013)



Where *Y* is ADVERTISING EVALUATION in the first analysis, then PRODUCT EVALUATION, and finally INTENTION TO CONSUME

Analysing the residual scatterplots can be easily seen that all the assumptions concerning normality, linearity, and homoscedasticity, are respected⁷.

The structure of the analysis follows this order:

1. moderation analysis using *Advertising Evaluation* as the dependent variable;
2. moderation analysis using *Product Evaluation* as the dependent variable;
3. moderation analysis using *Intention to consume* as the dependent variable.

3.7.2.1 Moderation analyses on Advertising evaluation

The first regression analysis aimed to understand how the predictors influence the dependent variable *Advertising evaluation*. As anticipated previously, it was used a moderation analysis where Ad appeal was the independent variable and the Implicit Theory measure was the moderator.

The independent variable has three categories consisting of the advertising message that was shown: *Health*, *Environment*, and *Animals*. Those categories refer to what the positive impact of the advertising message shown in the survey referred to. Indeed, only one of the three possible advertisements was shown to each respondent.

On the other hand, Implicit Theory measure has been considered a continuous variable indicating whether the respondents tend to think that health is substantially fixed (higher scores) or malleable (lower scores).

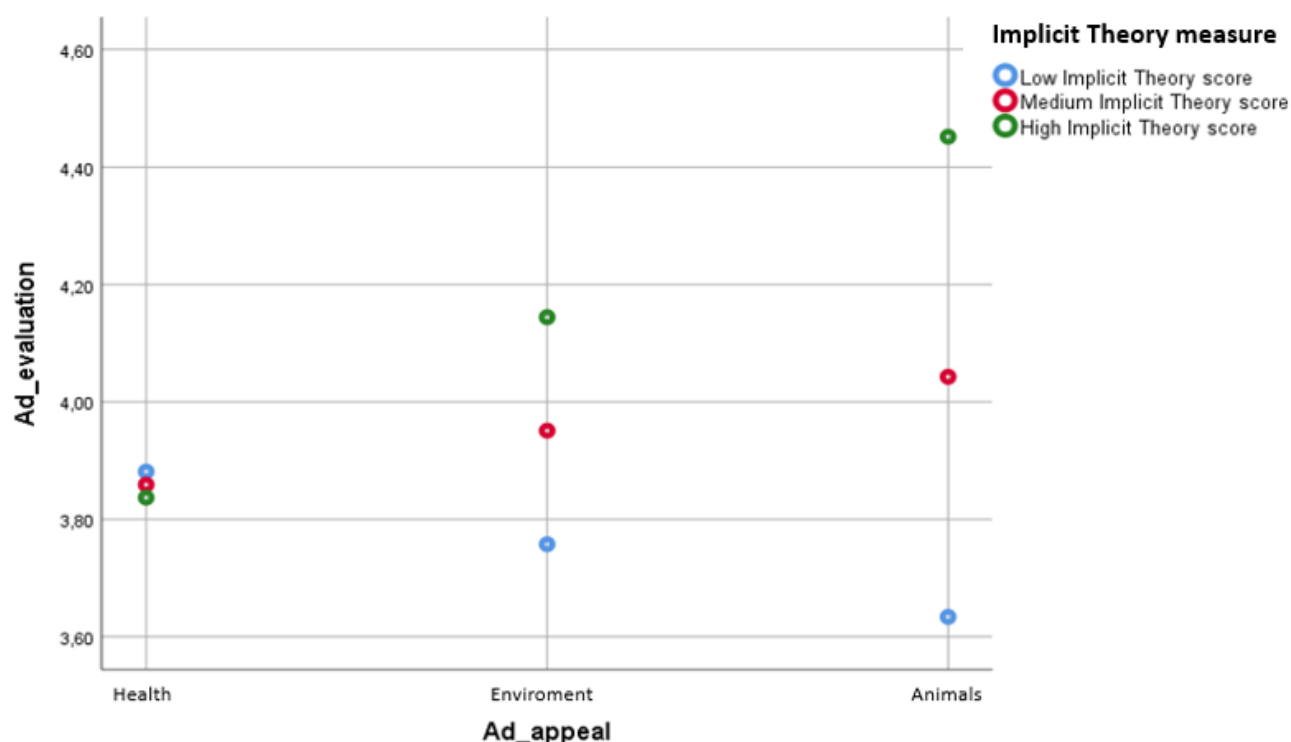
Results from Hayes' Process Model 1⁸ revealed that the main effect of ad appeal was not significant ($\beta = -0.34$, $SE = .27$, $t = -1.24$, $p = 0.22$), the main effect of implicit theory was not significant ($\beta = -0.02$, $SE = .12$, $t = -0.14$, $p = 0.89$), but, importantly, the interaction effect of ad appeal and implicit theory was marginally significant ($\beta = 0.16$, $SE = 0.08$, $t = 1.91$, $p = 0.058$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = -0.12$, $SE = 0.18$, $t = -0.69$, $p = 0.49$). However, for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = 0.31$, $SE = 0.15$, $t = 2.03$, $p = 0.04$).

The graph below illustrates the differences in advertising evaluation between the three different advertising appeals, which are significant only for individuals with high Implicit Theory scores (green dots in the graph).

⁷ Appendix E

⁸ Appendix F

Figure 21: Moderated multiple regression on Advertising evaluation



This regression gave us insights on how the effects on advertising messages and the consumers' mindset on advertising evaluation when considered together. Specifically, significant differences are present in the advertising evaluation of individuals with a fixed belief of health, they seem to prefer advertising messages that communicate the positive impact of plant-based foods in saving animals lives, rather than the others messages, but these relationships will be deeper analysed in the next regressions presented.

In addition, another regression was run adding as a control variable: *Age*, *Gender*, *Like vegetables* (continuous variable generated from the answer in a 7-point Likert scale to the question *Do you like vegetables?*). The model result⁹ shows that no changes in the significance of the predictors and their interaction took place. The only covariate that show a significant effect is *Like vegetables* ($\beta = .16$, $SE = .07$, $t = 2.25$, $p = .026$).

To deep in these effects, more moderation analyses were run keeping Advertisement evaluation as dependent variable, Ad appeal as independent variable, and Implicit Theory measure as

⁹ Appendix G

moderator. The difference in these further analyses from the previous ones consists of using only two categories of the independent variable Advertising appeal at a time rather than all three together. This method allows comparing couple by couple the three categories of the independent variable: *health vs environment*, *environment vs animals*, *health vs animals*.

Health vs environment

The model built¹⁰ considering only respondents that have been displayed the advertising message related to health or to the environment revealed that the main effect of ad appeal was not significant ($\beta = -.36$, $SE = .58$, $t = -0.62$, $p = .53$), the main effect of implicit theory was not significant ($\beta = -.02$, $SE = .13$, $t = -.16$, $p = .87$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .18$, $SE = .19$, $t = 0.92$, $p = .36$).

Environment vs animals

The model built¹¹ considering only respondents that have been displayed the advertising message related to the environment or to animals revealed that the main effect of ad appeal was not significant ($\beta = -.32$, $SE = .56$, $t = -0.57$, $p = .59$), the main effect of implicit theory was not significant ($\beta = .01$, $SE = .31$, $t = .04$, $p = .97$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .15$, $SE = .19$, $t = 0.78$, $p = .43$).

Health vs animals

This last combination is the only one that adds insight into what find out so far.

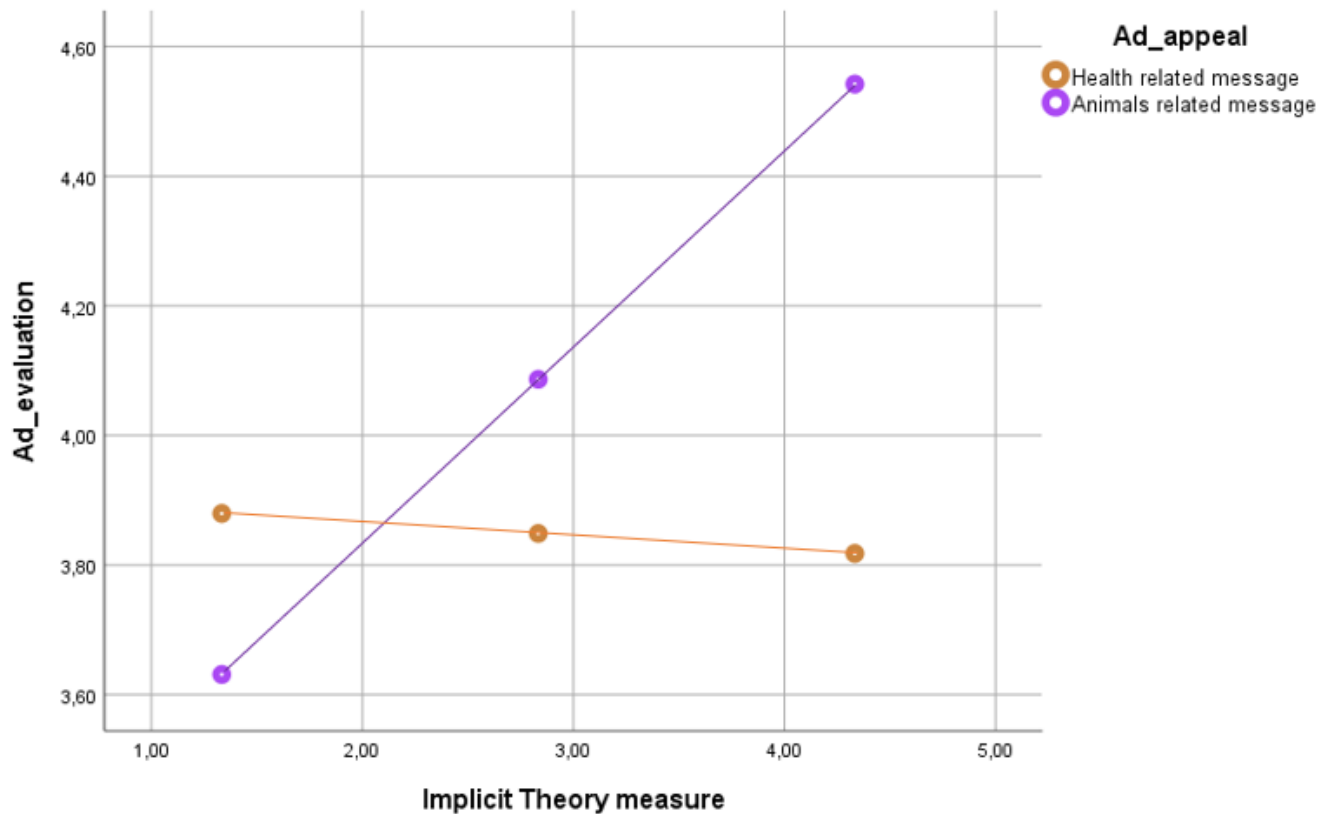
Results from Hayes' Process Model 1¹² revealed that the main effect of ad appeal was not significant ($\beta = -0.34$, $SE = 0.26$, $t = -1.29$, $p = 0.20$), the main effect of implicit theory was not significant ($\beta = -0.02$, $SE = 0.12$, $t = -0.17$, $p = 0.87$), but, importantly, the interaction effect of ad appeal and implicit theory was significant ($\beta = 0.16$, $SE = 0.08$, $t = 1.98$, $p = 0.049$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = -0.12$, $SE = 0.17$, $t = -0.72$, $p = 0.47$). However, for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = 0.36$, $SE = 0.16$, $t = 2.20$, $p = 0.03$). This effect is shown in the graph below: when consumers have a high level of implicit theory, they do prefer advertising messages communicating the positive effect on animals' lives of consuming plant-based products, rather than communicating the positive impact on their health.

¹⁰ Appendix H

¹¹ Appendix I

¹² Appendix L

Figure 22: Moderated multiple regression on Advertising evaluation, health vs animals



The presented regressions analyses show a meaningful relationship:

individuals with fixed mindset about the nature of human health higher evaluate advertisements with messages communicating the positive impact on animals' lives, rather than those with messages communicating the positive impact on health.

3.7.2.2 Moderation analyses on Product evaluation

The second main regression analysis aimed to understand how the predictors influence the dependent variable *Product evaluation*. As done previously with Advertising evaluation as dependent variable, it was used a moderation analysis where Ad appeal was the independent variable and the Implicit Theory measure was the moderator.

Also in this case, the first regression run considered all the three categories of the independent variable: *Health*, *Environment*, and *Animals*. Those categories refer to what the positive impact of the advertising message shown in the survey referred to. Indeed, only one of the three possible advertisements was shown to each respondent.

On the other hand, Implicit Theory measure has been considered again as a continuous variable indicating whether the respondents tend to think that health is substantially fixed (higher scores) or malleable (lower scores).

Results from Hayes' Process Model 1¹³ revealed that the main effect of ad appeal was not significant ($\beta = 0.008$, $SE = .27$, $t = 0.03$, $p = .97$), the main effect of implicit theory was not significant ($\beta = -.07$, $SE = .11$, $t = 0.60$, $p = .55$), and the interaction effect of ad appeal and implicit theory was not significant as well ($\beta = .05$, $SE = .08$, $t = 0.57$, $p = .57$).

In addition, another regression was run adding as a control variable: *Age*, *Gender*, *Like vegetables* (continuous variable generated from the answer in a 7-point Likert scale to the question *Do you like vegetables?*). The model result¹⁴ presents no changes in the significance of the predictors or their interaction. The only covariate that show a significant effect is *Like vegetables* ($\beta = .22$, $SE = .07$, $t = 3.26$, $p = .001$).

To further search for any effect on Product evaluation as dependent variable, more moderation analyses were run keeping Advertising appeal as independent variable and Implicit Theory measure as moderator. As seen previously, the difference in these analyses from the previous ones consists of using only two categories of the independent variable Advertising appeal at a time rather than all three together. This method allows comparing couple by couple the three categories of the independent variable: *health vs environment*, *environment vs animals*, *health vs animals*.

Health vs environment

The model built¹⁵ considering only respondents that have been displayed the advertising message related to health or to environment revealed that the main effect of ad appeal was not significant ($\beta = -.002$, $SE = .56$, $t = -0.005$, $p = .99$), the main effect of implicit theory was not significant ($\beta = .07$, $SE = .12$, $t = .56$, $p = .57$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .03$, $SE = .19$, $t = 0.16$, $p = .87$).

Environment vs animals

The model built¹⁶ considering only respondents that have been displayed the advertising message related to environment or to animals revealed that the main effect of ad appeal was not significant ($\beta = 0.02$, $SE = .53$, $t = 0.04$, $p = .97$), the main effect of implicit theory was not significant ($\beta = .04$, $SE = .30$, $t = .13$, $p = .90$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .06$, $SE = .18$, $t = 0.35$, $p = .72$).

¹³ Appendix M

¹⁴ Appendix N

¹⁵ Appendix O

¹⁶ Appendix P

Health vs animals

The model built¹⁷ considering only respondents that have been displayed the advertising message related to health or to animals revealed that the main effect of ad appeal was not significant ($\beta = 0.01$, $SE = .26$, $t = 0.04$, $p = .97$), the main effect of implicit theory was not significant ($\beta = .07$, $SE = .12$, $t = .58$, $p = .56$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .05$, $SE = .08$, $t = 0.57$, $p = .57$).

To sum up, the predictors Advertising appeal and Implicit Theory measure do not allow to predict the value of the dependent variable Product evaluation, neither when considered together or when comparing the categories of Ad appeal two at a time.

3.7.2.3 Moderation analyses on Intention to consume

The third main regression analysis aimed to understand how the predictors influence the dependent variable *Intention to consume*. As done previously with Advertising or Product evaluation as dependent variable, it was used a moderation analysis where Ad appeal was the independent variable and the Implicit Theory measure was the moderator.

Also in this case, the first regression run considered all the three categories of the independent variable Ad appeal: *Health*, *Environment*, and *Animals*, and the continuous variable used as moderator was Implicit Theory measure.

Results from Hayes' Process Model 1¹⁸ revealed that the main effect of ad appeal was not significant ($\beta = -0.04$, $SE = 0.30$, $t = -0.12$, $p = .91$), the main effect of implicit theory was not significant ($\beta = -0.011$, $SE = 0.12$, $t = 0.87$, $p = .38$), and the interaction effect of ad appeal and implicit theory was not significant as well ($\beta = 0.04$, $SE = 0.09$, $t = 0.40$, $p = 0.68$).

In addition, another regression was run adding as a control variable: *Age*, *Gender*, *Like vegetables* (continuous variable generated from the answer in a 7-point Likert scale to the question *Do you like vegetables?*). The model result¹⁹ revealed no changes in the significance of the predictors and of their interaction. The covariates that show a significant effect are *Like vegetables* ($\beta = 0.27$, $SE = 0.07$, $t = 3.70$, $p = 0.001$) and *Age* ($\beta = -0.30$, $SE = 0.13$, $t = -2.36$, $p = 0.02$).

Also this time, to further search for any effect on Intention to consume as dependent variable, more moderation analyses were run keeping Advertising appeal as independent variable and Implicit

¹⁷ Appendix Q

¹⁸ Appendix R

¹⁹ Appendix S

Theory measure as moderator. As seen previously, the difference in these analyses from the previous ones consists of using only two categories of the independent variable Advertising appeal at a time rather than all three together. This method allows comparing couple by couple the three categories of the independent variable: *health vs environment*, *environment vs animals*, *health vs animals*

Health vs animals

The model built²⁰ considering only respondents that have been displayed the advertising message related to health or to animals revealed that the main effect of ad appeal was not significant ($\beta = -0.06$, $SE = .29$, $t = -0.19$, $p = .85$), the main effect of implicit theory was not significant ($\beta = -0.02$, $SE = 0.13$, $t = -0.15$, $p = .88$), and also the interaction effect of ad appeal and implicit theory was not significant ($\beta = .05$, $SE = 0.09$, $t = 0.50$, $p = 0.61$).

Environment vs animals

The model built²¹ considering only respondents that have been displayed the advertising message related to environment or to animals revealed that the main effect of ad appeal was significant ($\beta = 1.32$, $SE = .57$, $t = 2.30$, $p = 0.02$), the main effect of implicit theory was significant ($\beta = 0.79$, $SE = 0.32$, $t = 2.49$, $p = 0.01$), while the interaction effect of ad appeal and implicit theory was not significant ($\beta = -0.36$, $SE = 0.19$, $t = -1.90$, $p = 0.07$).

Health vs environment

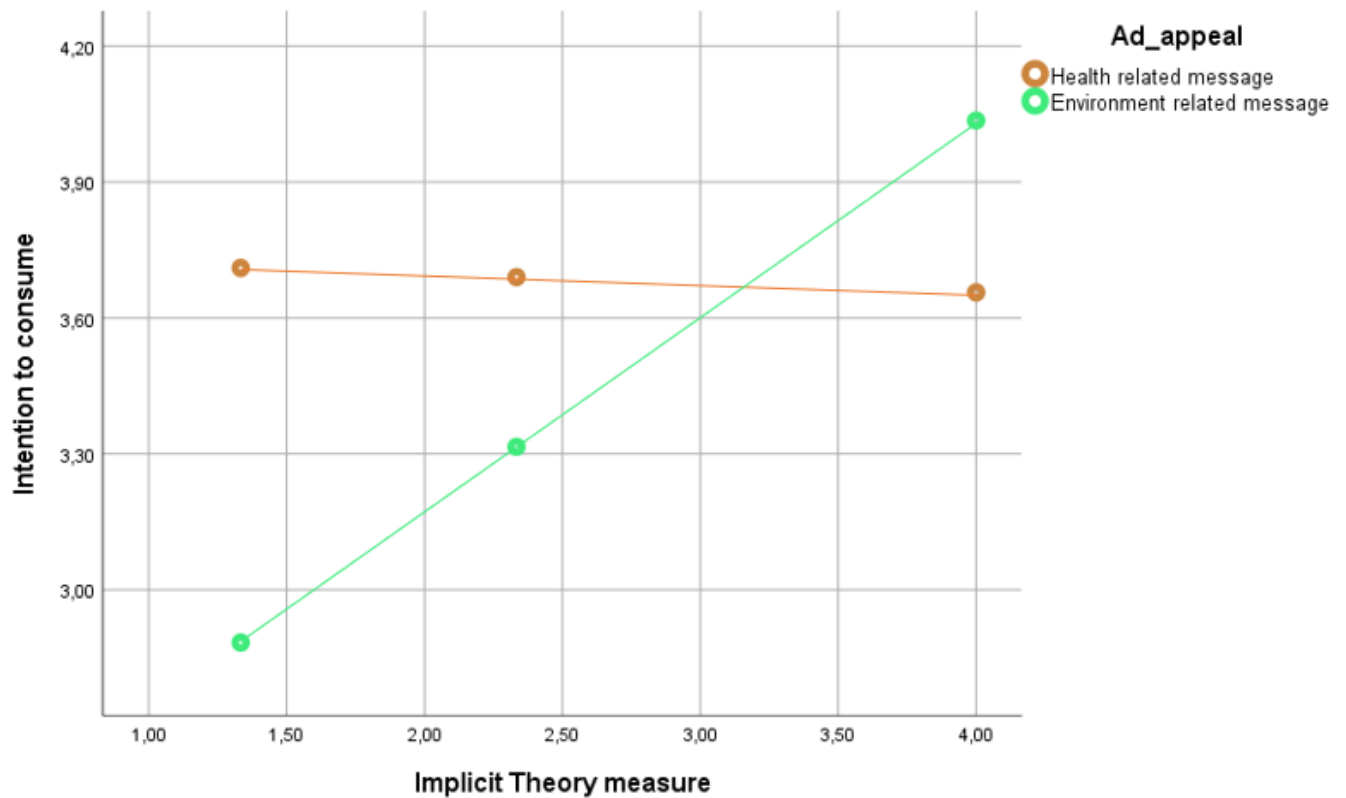
This last combination is the only one that adds insight to what find out so far. Results from Hayes' Process Model 1²² revealed that the main effect of ad appeal was significant ($\beta = -1.43$, $SE = 0.61$, $t = -2.34$, $p = 0.02$), the main effect of implicit theory was not significant ($\beta = -0.02$, $SE = 0.14$, $t = -0.15$, $p = .88$), and, importantly, the interaction effect of ad appeal and implicit theory was significant ($\beta = 0.45$, $SE = 0.20$, $t = 2.21$, $p = .03$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = -0.83$, $SE = 0.38$, $t = -2.16$, $p = 0.03$), while for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = 0.38$, $SE = 0.38$, $t = 1.01$, $p = 0.032$).

²⁰ Appendix T

²¹ Appendix U

²² Appendix V

Figure 23: Moderated multiple regression on Intention to consume, health vs environment



To sum up, the presented regressions analyses show a meaningful relationship:

individuals with an incremental mindset about the nature of human health higher evaluate advertisements with messages communicating the positive impact on health, rather than those with messages communicating the positive impact on the environment.

3.8 Results

The one-way ANOVA analyses conducted show that there are no significant differences in the participants' responses between the different groups of respondents, formed according to which advertising message was shown to them (related to health, environment, or animals). Indeed, comparing the means in Advertising evaluation, Product evaluation, and Intention to consume of the three groups, no significant differences were found.

Further analyses were conducted to explore whether significant effects exist when adding participants' Implicit Theory measure to the research. On this purpose, several moderation analyses were conducted to study the effect on participants' reaction to an advertisement of the message in the advertisement and respondents' beliefs about human health.

Firstly, the result obtained from the moderation analyses with Advertising evaluation as dependent variable, shows that individuals with a fixed mindset respond significantly different according to which advertising message is displayed to them. Specifically, the analyses conducted demonstrate that they give significantly higher evaluations to the advertisement when it contains a message related to animals, rather than one related to the positive impact on health.

Secondly, as expected, the moderation analyses conducted with Product evaluation as dependent variable did not show any significant effect of the predictors Ad appeal and Implicit Theory measure on the dependent variable. Their interaction did not show any significance as well, demonstrating that no moderation effects occur when just evaluating the product shown in the advertisement.

Finally, the moderation analyses conducted with Intention to consume as dependent variable generated interesting results. Indeed, it demonstrated that people who believe that their health is malleable, show a stronger intention to consume the product in the advertisement when the messages displayed communicate a positive impact on their own health rather than on the environment.

These results give an interesting insight into how to deploy a segmentation based on the Implicit theory to predict the effectiveness of different messages to promote plant-based food products. Specifically, taking into consideration the hypotheses done at the beginning of this study, some predictions were proven:

H₂: Consumers with an incremental mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on their health, rather than one communicating the impact on the environment or on animals' lives.

This hypothesis was confirmed by the fact that incremental mindset respondents showed significantly higher scores of the variable *Intention to consume* when comparing advertisement with a positive health message versus one with a positive environmental message.

H₃: Consumers with a fixed mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on the environment or on animals' lives, rather than those communicating the impact on health

This hypothesis was confirmed as well. Indeed, respondents with a fixed mindset showed the highest advertising evaluation for the advertisement communicating a positive impact on animals' lives.

The other two hypotheses were rejected because no statistical significance was found to support them.

H₁: Consumers with an incremental mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on their health, rather than those communicating the impact on the environment or on animals' lives

H₄: Consumers with a fixed mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on the environment or on animals' lives, rather than one communicating the impact on their health

To sum up, a positive answer can be given to the initial research question “*Do individuals with different mindsets about health respond differently to plant-based food promotion messages?*”. Indeed, the present research confirms that individuals that believe human health is substantially fixed, respond more favourably to messages communicating the positive impact of plant-based food consumption on animals' lives. Whereas, individuals that believe their health is malleable respond better to messages highlighting the positive impact of plant-based food on their own health.

CHAPTER 4

4.1 Conclusion

In this text, many aspects concerning the growth of the plant-based trend in the food industry have been presented. Major markets such as the meat and the dairy ones will be strongly impacted in the near future, while on the other hand, plant-based food products will cover an always more important role in world consumption. As illustrated, companies are reacting to this trend by increasing their offer of vegetable products, which are not anymore aimed to a niche of vegetarian or vegan people, but to everybody that pay attention to ethical and sustainability concerns as well as to the consequences of their food choices on their own health. All these considerations highlight the importance of deep in the marketing research concerning plant-food products, which has been coupled in this thesis with the Implicit Theory implications on advertising. Indeed, recent researches showed how individuals with different mindsets, as recognized by this theory, tend to respond differently to advertisements. Therefore, consumers' beliefs about the malleability of health have been considered in conceiving the research question:

“Do individuals with different mindsets about health respond differently to plant-based food promotion messages?”

The experiment conducted allows us to answer positively to this question. Indeed, some of the moderation analyses run demonstrate significant effects, which confirm two of the hypotheses made:

H₂: Consumers with an incremental mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on their health, rather than one communicating the impact on the environment or on animals' lives.

H₃: Consumers with a fixed mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on the environment or on animals' lives, rather than those communicating the impact on health

As a result, the present study proves that consumers that believe health is a human trait substantially fixed, respond better to advertising messages communicating the positive impact on animals' lives of consuming plant-based products; whereas those who believe health as malleable, respond better to messages communicating the positive impact on their own health.

4.2 Managerial implications

Following this study, it is believed that, for the management, it will be easier to evaluate and also, to increase the effectiveness of their advertising messages in promoting plant-based foods. The literature presented in this thesis suggests some options to do this. One would be to include implicit theory measures in customer databases or when building an online customer profile. In this way, businesses could tailor the ad appeals for fixed or incremental mindset customers when sending advertising to them. Another option would be the manipulation of consumer's mindsets because, as explained in this text previously, even though consumers may chronically adopt a fixed or an incremental mindset, these can be also situationally activated or changed in order to improve marketing results. Indeed, psychological and marketing researchers have manipulated consumer mindsets using several techniques, such as exposing them to movie clips, television shows, or conventional marketing tools.

Consequently, possibly using one of these methods or even others, companies could estimate which message would be more effective on certain customers. As already said, the findings of the present thesis suggest when a message related to the positive impact of plant-based food on health would be more effective, or in alternative, when it would be better to use one related to the impact on animals.

4.3 Scientific implications

This thesis is an attempt to further develop the advertising research concerning the use of the Implicit theory. One of the most important articles on this topic was written by Park and John (2012), they demonstrated how individuals with an incremental mindset respond better when a self-improvement appeal message is shown, while those with a fixed mindset are more responsive to signalling appeal messages. In the experiment, they use the traits recognized with the brand personality of the product and they find significant differences in advertising response. They suggested as possible further research to test whether different mindsets respond differently also when the traits used for the message are referred to the product characteristics rather than to the personality brand. They also suggest that it would be interesting to use different advertising stimuli in running the experiment as for example the use of pictures. This thesis followed these suggestions in structuring the experiment because plant-based product impacts were used in creating the messages, and also the stimuli in the

survey were pictures. Consequently, even though the research on Implicit Theory applied to marketing is still at an early stage, this thesis contributes to its development.

4.4 Limitations

The main limitation of this thesis is certainly the modest size of the sample studied. Given the short time available and the chosen data collection method, a web-based survey, released via email, via private messages, and on the main social platforms, the questionnaire resorted to convenience sampling and snowball sampling, by asking respondents to spread the survey by making word of mouth. Another limitation refers to the sample again, indeed even though it consisted of 238 respondents from 15 different nationalities, Italian was the most representative nationality was Italian with 205 respondents, illustrating an overwhelming 86.1% of the sample.

4.5 Future research

In the Implicit Theory literature, previous experiments concerning the advertising response of individuals with different mindsets have been done both measuring the participants' mindset or manipulating it. In this thesis, it was adopted a measurement, but it would be interesting to run a similar experiment concerning plant-based food advertising but manipulating the respondents.

Another interesting idea to extend further this study could be expanding the kind of messages used to test the advertising response of the participants. Indeed, the messages used in this thesis refers to the main motivation for people to increase plant-based consumption, as illustrated by the existing literature. However, other messages could be chosen to study the response of people with different mindsets.

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APPENDIX A

Study 1

Read each sentence below and answer stating to what extent you agree with each statement.

You have a certain amount of health, and you really can't do much to change it.

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

Your health is something about you that you can't change very much.

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

To be honest, you can't really change how healthy you are.

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

Study 2

Now you will be displayed an advertisement. Please observe it carefully and then answer the following questions.

(Only one of this picture was shown to each respondent)



Please rate the advertisement

Bad	☐	☐	☐	☐	☐	☐	Good
Unappealing	☐	☐	☐	☐	☐	☐	Appealing
Undesiderable	☐	☐	☐	☐	☐	☐	Desiderable
Unfavourable	☐	☐	☐	☐	☐	☐	Favourable
Dislike	☐	☐	☐	☐	☐	☐	Like

Please rate the product presented in the advertisement

Bad							Good
	☐	☐	☐	☐	☐	☐	☐
Unappealing							Appealing
	☐	☐	☐	☐	☐	☐	☐
Undesiderable							Desiderable
	☐	☐	☐	☐	☐	☐	☐
Unfavourable							Favourable
	☐	☐	☐	☐	☐	☐	☐
Dislike							Like
	☐	☐	☐	☐	☐	☐	☐

Read each sentence below and answer stating to what extent you agree with each statement.

I would eat the product in the advertisement

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

I found the advertisement very appealing.

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

I would definitely try the product in the advertisement.

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

I would prefer the plant-based burger in the advertisement to a meat burger

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

I would purchase the product in the advertisement

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

I feel motivated to have more plant-based meals

Strongly disagree 1	2	3	4	5	6	Strongly agree 7
------------------------	---	---	---	---	---	---------------------

What is the highest price in € you would pay for the veg burger in the advertisement?
(please write a number)

Are you on a vegan or vegetarian diet?

Yes

No

Have you restriceted the meat intake in the last year?

Yes

No

Do you like vegetables?

Not at
all
1

2

3

4

5

6

So
much
7

Please select "Not at all"

Not at
all
1

2

3

4

5

6

So
much
7

What is your age?

0 - 18

19 - 35

36 - 50

51 - 65

>65

What is your gender?

Male

Female

Which is your country of origin?

APPENDIX B

ONE-WAY ANOVA: AD EVAL

Descriptive

Ad_evaluation

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Health	79	3,8481	1,46453	,16477	3,5201	4,1761	1,00	7,00
Environment	78	3,9487	1,63990	,18568	3,5790	4,3185	1,00	7,00
Animals' lives	81	4,1210	1,51019	,16780	3,7871	4,4549	1,00	7,00
Total	238	3,9739	1,53700	,09963	3,7777	4,1702	1,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Ad_evalu	Based on Mean	,573	2	235	,565
	Based on Median	,529	2	235	,590
	Based on Median and with adjusted df	,529	2	233,502	,590
	Based on trimmed mean	,569	2	235	,567

ANOVA

Ad_evalu

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,052	2	1,526	,644	,526
Within Groups	556,826	235	2,369		
Total	559,878	237			

Robust Tests of Equality of Means

Ad_evalu

	Statistic ^a	df1	df2	Sig.
Welch	,682	2	156,060	,507
Brown-Forsythe	,643	2	231,987	,527

a. Asymptotically F distributed.

APPENDIX C

ONE-WAY ANOVA: PRODUCT EVAL

Descriptives

Product_evaluation

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Health	79	4,0658	1,48349	,16691	3,7335	4,3981	1,00	7,00
Environment	78	4,1179	1,52569	,17275	3,7740	4,4619	1,00	7,00
Animals' lives	81	4,3654	1,43485	,15943	4,0482	4,6827	1,00	7,00
Total	238	4,1849	1,48083	,09599	3,9958	4,3740	1,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Product_evaluation	Based on Mean	,150	2	235	,861
	Based on Median	,114	2	235	,892
	Based on Median and with adjusted df	,114	2	233,947	,892
	Based on trimmed mean	,153	2	235	,858

ANOVA

Product_evaluation

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4,110	2	2,055	,937	,393
Within Groups	515,596	235	2,194		
Total	519,706	237			

Robust Tests of Equality of Means

Product_evaluation

	Statistic ^a	df1	df2	Sig.
Welch	,965	2	156,294	,383
Brown-Forsythe	,935	2	233,742	,394

a. Asymptotically F distributed.

APPENDIX D

ONE-WAY ANOVA: INTENTION TO CONSUME

Descriptives

Intention_to_consume

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Health	79	3,6793	1,66448	,18727	3,3065	4,0521	1,00	7,00
Environment	78	3,4060	1,69427	,19184	3,0240	3,7880	1,00	7,00
Animals' lives	81	3,8354	1,55378	,17264	3,4918	4,1790	1,00	7,00
Total	238	3,6429	1,64041	,10633	3,4334	3,8523	1,00	7,00

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Intention_to_consume	Based on Mean	,842	2	235	,432
	Based on Median	,920	2	235	,400
	Based on Median and with adjusted df	,920	2	234,106	,400
	Based on trimmed mean	,831	2	235	,437

ANOVA

Intention_to_consume

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7,484	2	3,742	1,395	,250
Within Groups	630,270	235	2,682		
Total	637,754	237			

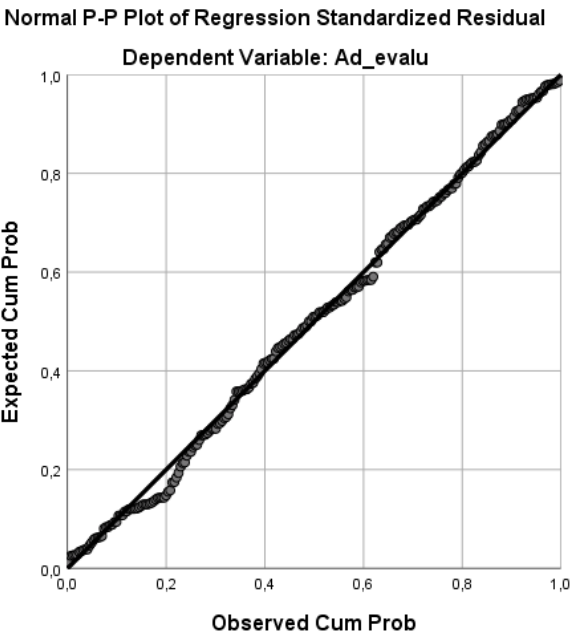
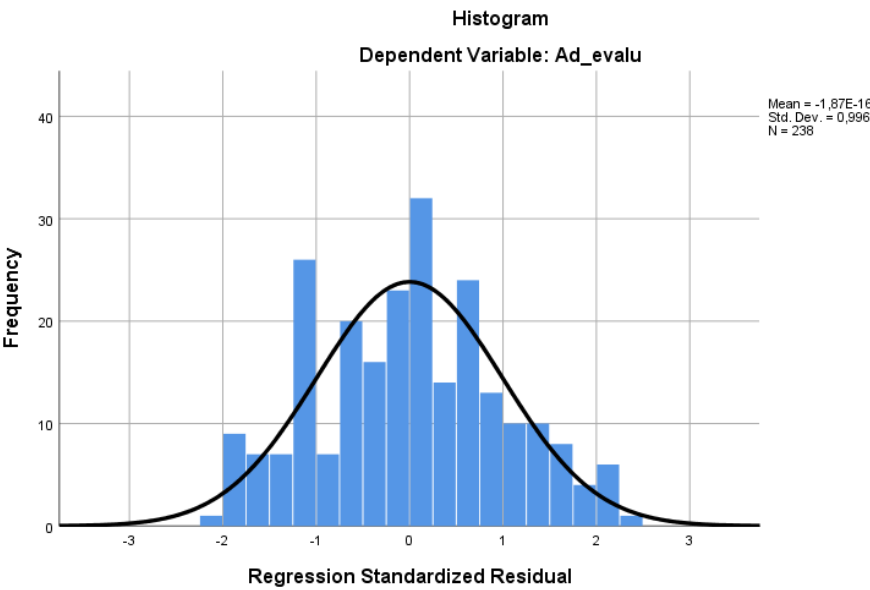
Robust Tests of Equality of Means

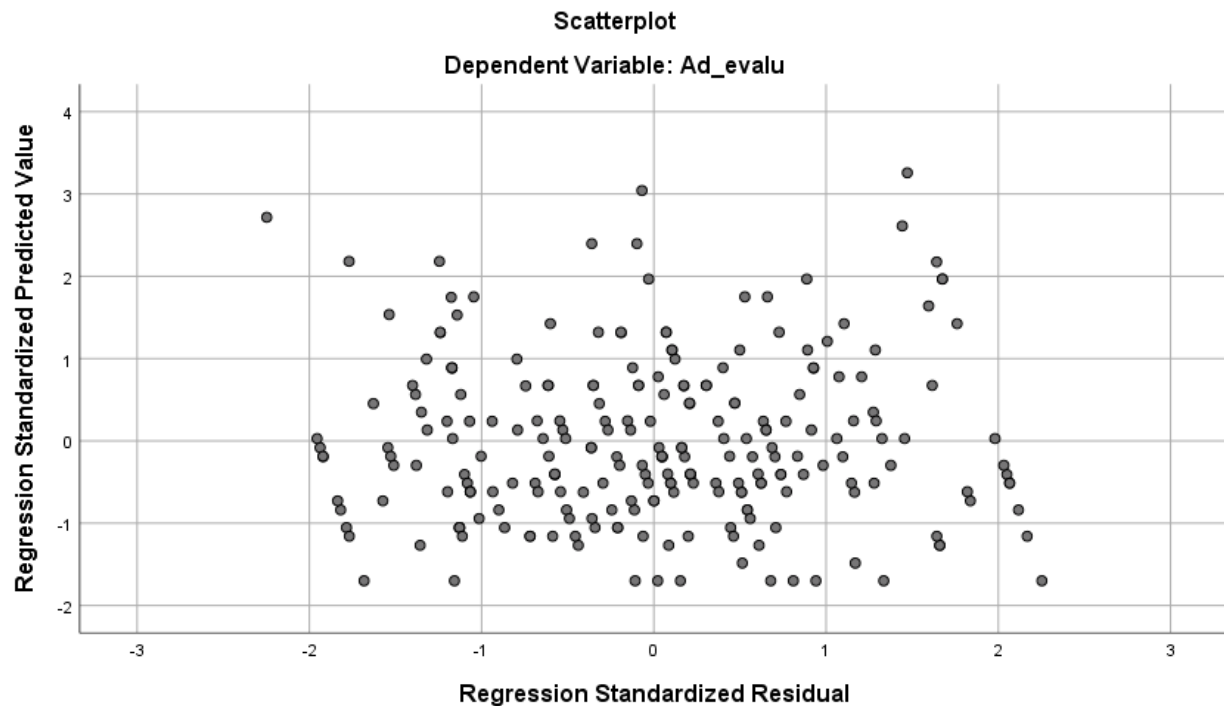
Intention_to_consume

	Statistic ^a	df1	df2	Sig.
Welch	1,391	2	156,072	,252
Brown-Forsythe	1,393	2	232,859	,250

a. Asymptotically F distributed.

APPENDIX E





APPENDIX F

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Ad_evalu
X : Ad_appea
W : Implicit

Sample
Size: 238

OUTCOME VARIABLE:
Ad_evalu

Model Summary						
R	R-sq	MSE	F	df1	df2	p
,1984	,0394	2,2985	3,1960	3,0000	234,0000	,0242

Model	coeff	se	t	p	LLCI	ULCI
constant	3,9035	,3609	10,8172	,0000	3,1925	4,6144
Ad_appea	-,3392	,2738	-1,2387	,2167	-,8787	,2003
Implicit	-,0166	,1153	-,1441	,8855	-,2439	,2106
Int_1	,1616	,0848	1,9059	,0579	-,0054	,3287

Product terms key:

Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0149	3,6326	1,0000	234,0000	,0579

Focal predict: Ad_appea (X)

Mod var: Implicit (W)

Conditional effects of the focal predictor at values of the moderator(s):

Implicit	Effect	se	t	p	LLCI	ULCI
1,3333	-,1237	,1792	-,6904	,4906	-,4767	,2293
2,6667	,0918	,1216	,7551	,4509	-,1477	,3313
4,0000	,3073	,1517	2,0251	,0440	,0083	,6062

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

APPENDIX G

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Ad_evalu
X : Ad_appea
W : Implicit

Covariates:

Age Gender Like_veg

Sample

Size: 238

OUTCOME VARIABLE:

Ad_evalu

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2872	,0825	2,2238	3,4604	6,0000	231,0000	,0027

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,1387	,6567	4,7797	,0000	1,8448	4,4325
Ad_appea	-,2559	,2718	-,9418	,3473	-,7914	,2795
Implicit	,0030	,1139	,0262	,9791	-,2214	,2273
Int_1	,1359	,0845	1,6087	,1090	-,0305	,3024
Age	-,0224	,1263	-,1770	,8597	-,2712	,2265
Gender	-,2996	,2137	-1,4024	,1621	-,7206	,1213
Like_veg	,1586	,0706	2,2458	,0257	,0195	,2978

Product terms key:

Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0103	2,5880	1,0000	231,0000	,1090

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

----- END MATRIX -----

APPENDIX H

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Ad_evalu
X : Ad_appea
W : Implicit

Sample
Size: 157

OUTCOME VARIABLE:
Ad_evalu

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,0948	,0090	2,4275	,4625	3,0000	153,0000	,7089

Model	coeff	se	t	p	LLCI	ULCI
constant	3,9070	,4078	9,5816	,0000	3,1014	4,7125
Ad_appea	-,3609	,5768	-,6257	,5325	-1,5003	,7786
Implicit	-,0205	,1285	-,1599	,8732	-,2744	,2333
Int_1	,1789	,1935	,9245	,3567	-,2034	,5611

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):	R2-chng	F	df1	df2	p
X*W	,0055	,8548	1,0000	153,0000	,3567

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX I

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Ad_evalu
X : Ad_appea
W : Implicit

Sample
Size: 159

OUTCOME VARIABLE:
Ad_evalu

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,2271	,0516	2,3907	2,8103	3,0000	155,0000	,0414

Model	coeff	se	t	p	LLCI	ULCI
constant	3,8658	,8967	4,3112	,0000	2,0945	5,6371
Ad_appea	-,3197	,5590	-,5719	,5682	-1,4239	,7845
Implicit	,0131	,3101	,0422	,9664	-,5994	,6256
Int_1	,1453	,1853	,7841	,4342	-,2207	,5112

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):	R2-chng	F	df1	df2	p
X*W	,0038	,6148	1,0000	155,0000	,4342

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX L

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Ad_evalu
X : Ad_appea
W : Implicit

Sample
Size: 160

OUTCOME VARIABLE:
Ad_evalu

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,2327	,0542	2,1386	2,9783	3,0000	156,0000	,0333

Model	coeff	se	t	p	LLCI	ULCI
constant	3,9070	,3827	10,2082	,0000	3,1510	4,6630
Ad_appea	-,3403	,2643	-1,2875	,1998	-,8623	,1818
Implicit	-,0205	,1206	-,1703	,8650	-,2588	,2177
Int_1	,1621	,0819	1,9794	,0495	,0003	,3238

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0238	3,9182	1,0000	156,0000	,0495

Focal predict: Ad_appea (X)
Mod var: Implicit (W)

Conditional effects of the focal predictor at values of the moderator(s):

Implicit	Effect	se	t	p	LLCI	ULCI
1,3333	-,1242	,1729	-,7183	,4736	-,4656	,2173
2,8333	,1189	,1158	1,0270	,3060	-,1098	,3477
4,3333	,3620	,1646	2,1989	,0294	,0368	,6873

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

APPENDIX M

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Prod_eva
X : Ad_appea
W : Implicit

Sample
Size: 238

OUTCOME VARIABLE:

Prod_eva

Model Summary

R	R-sq	MSE	F	df1	df2	p
,1419	,0201	2,1762	1,6039	3,0000	234,0000	,1892

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,8541	,3511	10,9762	,0000	3,1623	4,5459
Ad_appea	,0085	,2665	,0320	,9745	-,5164	,5335
Implicit	,0676	,1122	,6026	,5474	-,1535	,2887
Int_1	,0471	,0825	,5706	,5688	-,1155	,2096

Product terms key:

Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0014	,3256	1,0000	234,0000	,5688

Focal predict: Ad_appea (X)

Mod var: Implicit (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

----- END MATRIX -----

APPENDIX N

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Prod_eva
X : Ad_appea
W : Implicit

Covariates:
Like_veg Age Gender

Sample
Size: 238

OUTCOME VARIABLE:
Prod_eva

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,2950	,0870	2,0540	3,6709	6,0000	231,0000	,0017

Model	coeff	se	t	p	LLCI	ULCI
constant	3,0096	,6311	4,7689	,0000	1,7662	4,2531
Ad_appea	,0742	,2612	,2841	,7766	-,4404	,5888
Implicit	,0855	,1094	,7813	,4354	-,1301	,3011
Int_1	,0310	,0812	,3814	,7033	-,1290	,1909
Like_veg	,2214	,0679	3,2620	,0013	,0877	,3552
Age	-,1626	,1214	-1,3397	,1817	-,4018	,0766
Gender	-,1547	,2053	-,7535	,4519	-,5593	,2499

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0006	,1454	1,0000	231,0000	,7033

Focal predict: Ad_appea (X)
Mod var: Implicit (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX O

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Prod_eva
X : Ad_appea
W : Implicit

Sample
Size: 157

OUTCOME VARIABLE:
Prod_eva

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0755	,0057	2,2810	,2927	3,0000	153,0000	,8306

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,8650	,3953	9,7783	,0000	3,0842	4,6459
Ad_appea	-,0029	,5591	-,0052	,9958	-1,1075	1,1016
Implicit	,0701	,1246	,5626	,5745	-,1760	,3162
Int_1	,0305	,1876	,1628	,8709	-,3400	,4011

Product terms key:

Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0002	,0265	1,0000	153,0000	,8709

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX P

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Prod_eva
X : Ad_appea
W : Implicit

Sample
Size: 159

OUTCOME VARIABLE:
Prod_eva

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,1543	,0238	2,1814	1,2609	3,0000	155,0000	,2899

Model	coeff	se	t	p	LLCI	ULCI
constant	3,8397	,8566	4,4827	,0000	2,1477	5,5317
Ad_appea	,0224	,5339	,0420	,9665	-1,0323	1,0772
Implicit	,0380	,2962	,1284	,8980	-,5470	,6231
Int_1	,0626	,1770	,3537	,7240	-,2870	,4122

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0008	,1251	1,0000	155,0000	,7240

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX Q

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Prod_eva
X : Ad_appea
W : Implicit

Sample
Size: 160

OUTCOME VARIABLE:
Prod_eva

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	,1623	,0263	2,1218	1,4069	3,0000	156,0000	,2429

Model						
	coeff	se	t	p	LLCI	ULCI
constant	3,8650	,3812	10,1386	,0000	3,1120	4,6181
Ad_appea	,0098	,2632	,0371	,9705	-,5102	,5297
Implicit	,0701	,1201	,5833	,5605	-,1672	,3074
Int_1	,0466	,0816	,5709	,5689	-,1145	,2077

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	,0020	,3260	1,0000	156,0000	,5689

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX R

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Int_cons
X : Ad_appea
W : Implicit

Sample
Size: 238

OUTCOME VARIABLE:

Int_cons

Model Summary

R	R-sq	MSE	F	df1	df2	p
,1333	,0178	2,6770	1,4117	3,0000	234,0000	,2400

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,2674	,3894	8,3898	,0000	2,5001	4,0346
Ad_appea	-,0352	,2955	-,1192	,9052	-,6175	,5470
Implicit	,1094	,1245	,8792	,3802	-,1358	,3547
Int_1	,0373	,0915	,4080	,6836	-,1430	,2176

Product terms key:

Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0007	,1665	1,0000	234,0000	,6836

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

----- END MATRIX -----

APPENDIX S

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Int_cons
X : Ad_appea
W : Implicit

Covariates:
Like_veg Age Gender

Sample
Size: 238

OUTCOME VARIABLE:
Int_cons

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	,3645	,1329	2,3940	5,8987	6,0000	231,0000	,0000

Model	coeff	se	t	p	LLCI	ULCI
constant	2,5662	,6813	3,7664	,0002	1,2238	3,9086
Ad_appea	,0827	,2820	,2935	,7694	-,4728	,6383
Implicit	,1433	,1181	1,2130	,2264	-,0895	,3761
Int_1	,0050	,0877	,0570	,9546	-,1677	,1777
Like_veg	,2710	,0733	3,6981	,0003	,1266	,4154
Age	-,3094	,1311	-2,3609	,0191	-,5676	-,0512
Gender	-,4056	,2217	-1,8296	,0686	-,8424	,0312

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0000	,0032	1,0000	231,0000	,9546

Focal predict: Ad_appea (X)
Mod var: Implicit (W)

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX T

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Int_cons
X : Ad_appea
W : Implicit

Sample
Size: 160

OUTCOME VARIABLE:
Int_cons

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	,0683	,0047	2,6173	,2440	3,0000	156,0000	,8655

Model						
	coeff	se	t	p	LLCI	ULCI
constant	3,7373	,4234	8,8269	,0000	2,9010	4,5737
Ad_appea	-,0557	,2924	-,1907	,8490	-,6333	,5218
Implicit	-,0202	,1334	-,1517	,8796	-,2838	,2433
Int_1	,0457	,0906	,5043	,6147	-,1332	,2246

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	,0016	,2544	1,0000	156,0000	,6147

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

----- END MATRIX -----

APPENDIX U

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Int_cons
X : Ad_appea
W : Implicit

Sample
Size: 159

OUTCOME VARIABLE:
Int_cons

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	,2663	,0709	2,5266	3,9425	3,0000	155,0000	,0096

Model						
	coeff	se	t	p	LLCI	ULCI
constant	,9881	,9218	1,0719	,2854	-,8328	2,8091
Ad_appea	1,3188	,5746	2,2951	,0231	,1837	2,4540
Implicit	,7933	,3187	2,4888	,0139	,1637	1,4229
Int_1	-,3611	,1904	-1,8960	,0698	-,7373	,0151

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0215	3,5949	1,0000	155,0000	,0698

Level of confidence for all confidence intervals in output:
95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

APPENDIX V

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 1
Y : Int_cons
X : Ad_appea
W : Implicit

Sample
Size: 157

OUTCOME VARIABLE:
Int_cons

Model Summary	R	R-sq	MSE	F	df1	df2	p
	,2368	,0561	2,7150	3,0284	3,0000	153,0000	,0313

Model	coeff	se	t	p	LLCI	ULCI
constant	3,7373	,4312	8,6666	,0000	2,8854	4,5893
Ad_appea	-1,4303	,6100	-2,3449	,0203	-2,6354	-,2253
Implicit	-,0202	,1359	-,1490	,8818	-,2887	,2482
Int_1	,4525	,2046	2,2112	,0285	,0482	,8567

Product terms key:
Int_1 : Ad_appea x Implicit

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0302	4,8894	1,0000	153,0000	,0285

Focal predict: Ad_appea (X)
Mod var: Implicit (W)

Conditional effects of the focal predictor at values of the moderator(s):

Implicit	Effect	se	t	p	LLCI	ULCI
1,3333	-,8271	,3831	-2,1591	,0324	-1,5838	-,0703
2,3333	-,3746	,2746	-1,3641	,1746	-,9172	,1679
4,0000	,3795	,3777	1,0047	,3166	-,3667	1,1257

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

Department of Business and Management

Chair: Advanced Marketing Management

**WHICH IS THE MOST EFFECTIVE MESSAGE TO PROMOTE
PLANT-BASED FOOD PRODUCTS? AN ANALYSIS OF
CONSUMERS RESPONSES USING THE IMPLICIT THEORY TO
SEGMENT THE MARKET**

Thesis supervisor:

Prof. Marco Francesco Mazzù

Prof. Natalie Troung

Thesis co-supervisor:

Prof. Alberto Marcati

Candidate:

Marco Tasselli

Student ID: 713561

ACADEMIC YEAR: 2019/2020

SUMMARY

Introduction

One of the most important new trends in the food industry concerns the growth of plant-based products consumption. Major markets such as the meat and the dairy ones will be strongly impacted in the near future, while on the other hand, plant-based food products will cover an always more important role in the world consumption. Companies are reacting to this trend by increasing their offer of these products, which are not anymore aimed to a niche of vegetarian or vegan people, but to everybody that pay attention to ethical and sustainability concerns as well as to the consequences of their food choices on their own health. All these considerations highlight the importance to deep in the marketing research concerning plant-food products, which has been coupled in this thesis with the Implicit Theory implications on advertising. Indeed, recent researches showed how individuals with different mindsets, as recognized by this theory, tend to respond differently to advertisements. Therefore, consumers' beliefs about the malleability of health have been considered in conceiving the research question:

“Do individuals with different mindsets about health respond differently to plant-based food promotion messages?”

Plant-based trend

The plant-based trend will have a strong influence on the food market demand, and it will heavily impact the meat market. According to an important investment firm (UBS; 2019), the plant-based meat consumption will increase at a 31% CAGR through 2025 versus an animal-meat CAGR of 0.9%, generating a global plant-based meat market worth of € 46 billion. Moreover, plant-based meat is expected to account for 23% of the total meat consumption worldwide by 2035 (ATKearney, 2019). Many changes will also take place also in the dairy industry, where the market for plant-based dairy products is expected to reach € 19.5 billion in 2024, growing at a CAGR of 10.2%, for the duration spanning 2020-2024 (ResearchAndMarkets, 2020).

Some of the biggest companies in the food industry, such as Kellogg's, Nestlé, JNS S.A., Danone, and many others, are launching new vegan products to face this increasing consumer demand. Moreover, several start-ups have born in recent years with exclusive plant-based ranges of products. Some famous examples are Beyond meat, a plant-based meat producer, and Oatly, a dairy alternatives producer, which had three-digit revenue growth rates in 2019 showing the opportunity behind this new market.

A lot of studies have been conducted in order to understand the different motivations for following a plant-based diet. The literature review that aimed to segment people based on their major motivation

for increasing plant-based consumption is quite rich (Dyett et al., 2013; YouGov, 2016; Rothgerber, 2013; YouGov, 2020; Kerschke-Risch, 2015; Radnitz et al., 2015; Timko et al., 2012), but the main motives identified are coherent in all the research analysed and are related to animals, health and environmental concerns. Indeed, plant-based diets have been demonstrated to reduce the incidence of many serious diseases; it has been shown how lower probabilities to experience chronic diseases such as heart disease, obesity, and diabetes (Segasothy and Phillips, 1999) and lower rates of mortality (Lindbloom, 2009) are associated with meat-restricted diets. Furthermore, according to Rosi et al. (2017), the GHG emissions generated by the food consumption are responsible for about 15-35% of the total climate impact and could be reduced of about 4-20% with a transition to a vegan diet and 12% with a vegetarian diet; while others articles have estimated possible reduction up to 50% (Hallstrom et al., 2015). Finally, the ethical concerns related to animals refer to the around 72 billion land animals that are slaughtered yearly, of which 66 billion chickens, 1.5 billion pigs, 656 million turkeys, 574 million sheep, 479 million goats, and 302 million cattle. In addition, 1.2 trillion of aquatic animals are also killed with the same purpose (FAO, 2020).

These motivations have had a strong impact on the change in food consumption and they are also used by many companies in their marketing activities. Indeed, several firms have decided to highlight these facts in their advertising and in some cases also use them as the main message for product promotion, as for instance messages on the product packaging, on advertisement pictures, or on social media advertising.

Implicit theory

Implicit theories, or mindsets, are the beliefs that people have about the nature of human characteristics ((Dweck, 1999; Dweck and Leggett, 1988). These theories have been developed for the first time by the American psychologist Carol S. Dweck. The two recognized mindsets have been objective of many further studies; researchers have found implicit theories influence many aspects of our daily life. According to this theory, people can have two different mindsets which shape their motivation (Dweck, 1999), evaluations, actions, and responses (Rucker and Galinsky, 2016). The two opposed mindsets are fixed (for entity theorists) and incremental (for incremental theorist) mindset. The fundamental distinction is that the two different groups believe in two different theories concerning the nature of the human characteristics: on one side, who subscribe to the entity theory believe that human characteristics, such as intelligence, health, personality, and morality, are fixed, meaning that these traits cannot be significantly changed. On the other side, those who subscribe to an incremental mindset believe that people can substantially change their human characteristics and

how they behave through learning and experience. These people view personal qualities as malleable and capable of being developed. As anticipated before, mindsets play an important role in understanding human motivations. People with a fixed mindset have the priority to prove others their abilities and skills. Since those characteristics in their opinion cannot be significantly changed, they pay major attention to show others they own certain positive traits (Murphy and Dweck, 2016). On the other hand, individuals with an incremental mindset, who believe they can always improve their characteristics, are willing to learn even though this means facing setbacks or making mistakes.

Different mindsets have also different views of what concerns effort (Grant and Dweck, 2003).

The Implicit Theory has been often applied to many aspects of research concerning business:

- customers' difference in mindset implications, studying how customers react to a company's failure in satisfying their expectations (Haselhuhn, Schweitzer, & Wood, 2010), and analysing their response to changes in companies' offers (Wheeler and Omail, 2016);
- the development of a mindset inside a group of people or even in the culture of an organization and its consequences (Murphy & Dweck, 2010).
- brand research concerning the responsiveness of individuals with different mindset on brand appeals (Park and John, 2016), on brand positioning (Murphy and Dweck, 2016), on brand extensions (Yorkston, Nunes, and Matta, 2010); brand architecture (change (Ahluwalia et al., 2000, Dawar and Pillutla, 2000))
- brand research concerning the influence of brands on customers self-confidence (Park and John, 2016), on their self-enhancement (Park & John, 2010), on their performance attribution (Kang, Park, & Kim, 2014), or even when recovering from failure (Park and John, 2010);

advertising implications, which are the most interesting for the purpose of this thesis. Difference in mindset can be useful for companies in order to develop the most persuasive advertising appeal (Park and John, 2012). Indeed, the difference in goals and role of personal effort generates important implications in predicting consumer behaviour and the advertising messages consumers find most compelling (Murphy and Dweck, 2016). Research showed that incremental mindset people are mainly tuned on the process through which something comes to produce an effect (Hong et al., 1997). Indeed, they are more responsive to advertising which highlights the opportunity to improve, to take an effort to reach a goal, or to give them the possibility to stretch their abilities. On the other hand, individuals with a fixed mindset showed to find more compelling ads suggesting the use of certain products as a tool to show desirable traits to others and to feel more positive about themselves (Park and John, 2012). One last important aspect concerns the fact that while consumers may chronically adopt one mindset or the other, these can also be situationally activated or changed (Nussbaum and Dweck, 2008; Dweck, 1999) for advertising effectiveness purposes.

Methodology

The research was structured starting from two initial points, the first concerns the messages chosen to be used in the experiment. Since prior advertising research on this specific topic has not been done yet, the existing literature review concerning consumers' motivation toward plant-based food together with what observed from real companies have been taken into consideration: consumers' response to advertising messages communicating the impact of a plant-based choice on health, environment, and animals' lives has been compared in this study. The second starting point of this research concerns the choice of Implicit Theory to segment the market. The reason is that since one of the messages compared is related to a potential improvement in customers' health, it is fundamental to consider whether consumers believe that health is a malleable human trait or not. Moreover, messages related to having an impact on environment or animals' lives can be recognized as a signalling opportunity by some consumers and consequently, to be preferred by one of the two mindsets.

Considering the fact that some people believe health is a malleable trait led to the first pair of hypotheses done before to run the experiment:

H₁ : Consumers with an incremental mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on their health, rather than those communicating the impact on the environment or on animals' lives

H₂ : Consumers with an incremental mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on their health, rather than one communicating the impact on the environment or on animals' lives

The idea that individuals with an incremental mindset are more responsive when the message displayed concerns the possibility to improve their health, is because these individuals believe they can substantially improve their health with their actions. Indeed, as the literature on this topic shows, they welcome opportunities for self-enhancement. Consequently, they are expected to prefer a message with a self-improvement appeal because it is more congruent with their self-concept.

On the other hand, individuals who believe their health is substantially fixed are probably less responsive to messages highlighting the effect of vegetables on their well-being. These individuals could prefer messages with signalling appeal rather than those with self-enhancement ones and therefore, they are expected to prefer messages highlighting the positive impact on the environment

or animals rather than on health. This is because they could recognize in the advertisement an opportunity to show other desirable traits, such as being a person who cares about nature, or to feel more positive about themselves. This led to the second pair of hypotheses:

H₃ : Consumers with a fixed mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on the environment or on animals' lives, rather than those communicating the impact on health

H₄ : Consumers with a fixed mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on the environment or on animals' lives, rather than one communicating the impact on their health

This experiment has therefore a double aim. The first one is to identify which one can be the most effective advertising message between those referring to a positive impact on health, environment, and animals' lives, when advertising a plant-based food product. Moreover, a more detailed piece of information will be given since this effectiveness will be compared between consumers who have different beliefs about the possibility to substantially change their own health. This knowledge could help companies in enhancing their advertising when promoting a vegetable food product. The second aim of the present study is to further progress the application of the implicit theory in marketing research. Indeed, this theory has been applied to marketing only recently, however, research which examined the topic has already demonstrated interesting results.

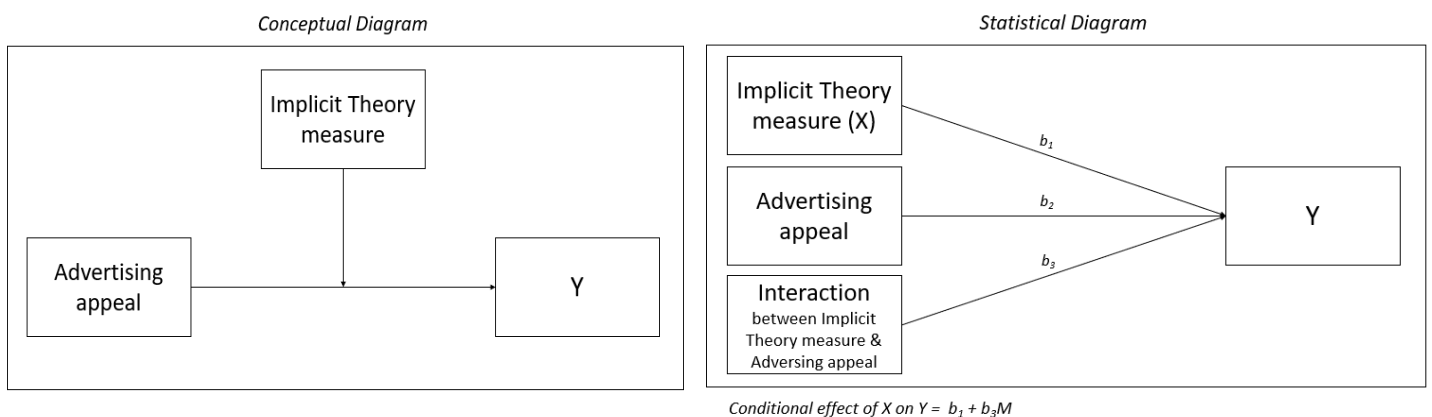
A survey was conducted in order to run the experiment and it was structured in two separate parts. The first consists of a measure of the respondents' Implicit Theory when considering health. The second part investigate the respondents' reaction when being exposed to an advertisement, by analysing their evaluation of the advertisement, the product evaluation, and their intention to consume the advertised product. This procedure was already adopted in a similar study conducted by Park and John (2012). The sample consisted of 238 respondents from 15 different nationalities. The most representative nationality is Italian with 205 respondents, illustrating 86.1% of the sample. Moreover, 108 respondents are male (45.4%) and 130 are female (54.6%).

Participants' belief in entity versus incremental theories of health was assessed using an adaptation of the Dweck Mindset Instrument (Dweck, 1999). In these scales, the implicit theory of health has been measured as a continuum, where high rates represent a tendency to believe that health is a fixed human trait (i.e. an entity theory), while lower score that health is a malleable trait (i.e. an entity theory).

The stimuli included messages communicating the positive impact of consuming a plant-based burger on the environment, in health, or on animals' lives. After being exposed to a stimulus, the participants were asked to answer several questions in order to evaluate their attitude toward the advertisement as well as toward the product, and also to evaluate their potential intention to consume the advertised product. Moreover, some more questions were made to be used as control variables in the analysis of the experiment results. The scales used to measure the effect were taken or adapted from a similar study conducted by Park and John (2012).

The first analyses performed aimed to verify whether exist a preference in advertising appeal between messages related to health, environment, and animals, without taking into consideration the participants' Implicit Theory mindsets. On this purpose, a series of one-way ANOVA were conducted to explore whether there were statistically significant differences in the means the dependent variable scores considered (Avertising evaluation, Product evaluation, Intention to consume) between the different groups of respondents, formed according to which advertising message was shown to them (related to health, environment, or animals). None of three ANOVA analyses showed significant differences in the mean of the three Ad appeal categories.

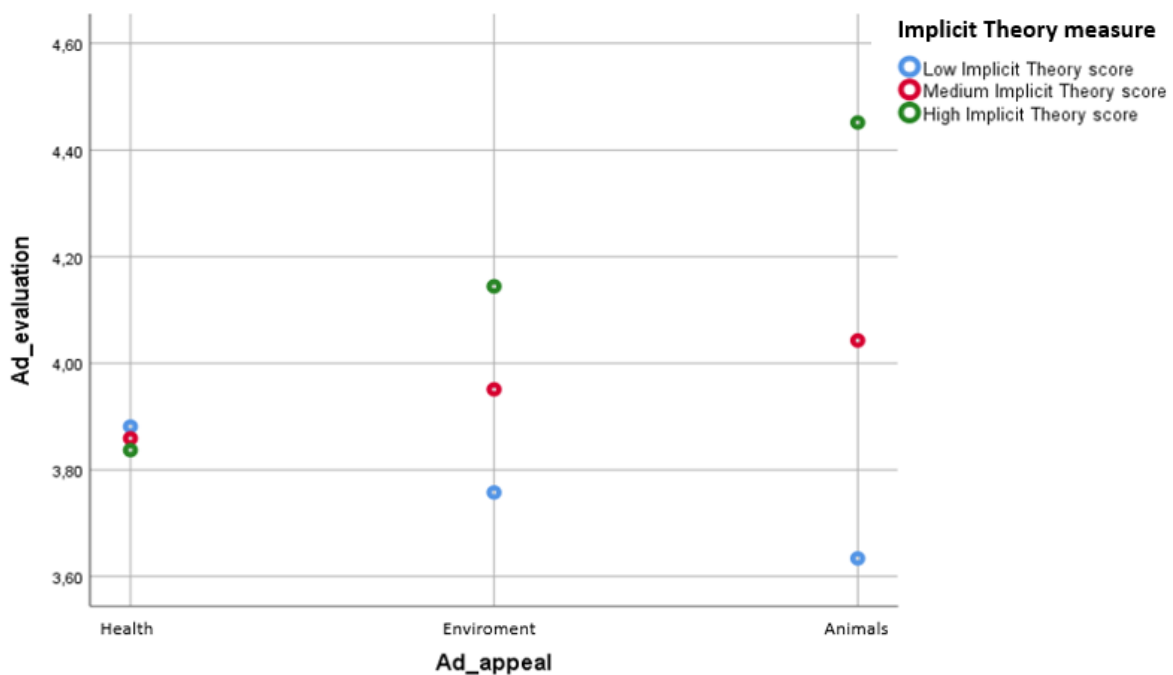
More complex statistical tests were done adding into consideration also the Implicit Theory mindsets of the consumers. Therefore, a series of moderation analyses (model 1; Hayes (2013)) were conducted to examine whether the conditional indirect effect of the independent variable ("Ad appeal shown", with three categories: message related to *health*, *environment*, *animals*) on each dependent variable ("Advertising Evaluation", "Product Evaluation", "Intention to consume") was influenced by the moderator ("Implicit Theory measure").



Where Y is ADVERTISING EVALUATION in the first analysis, then PRODUCT EVALUATION, and finally INTENTION TO CONSUME

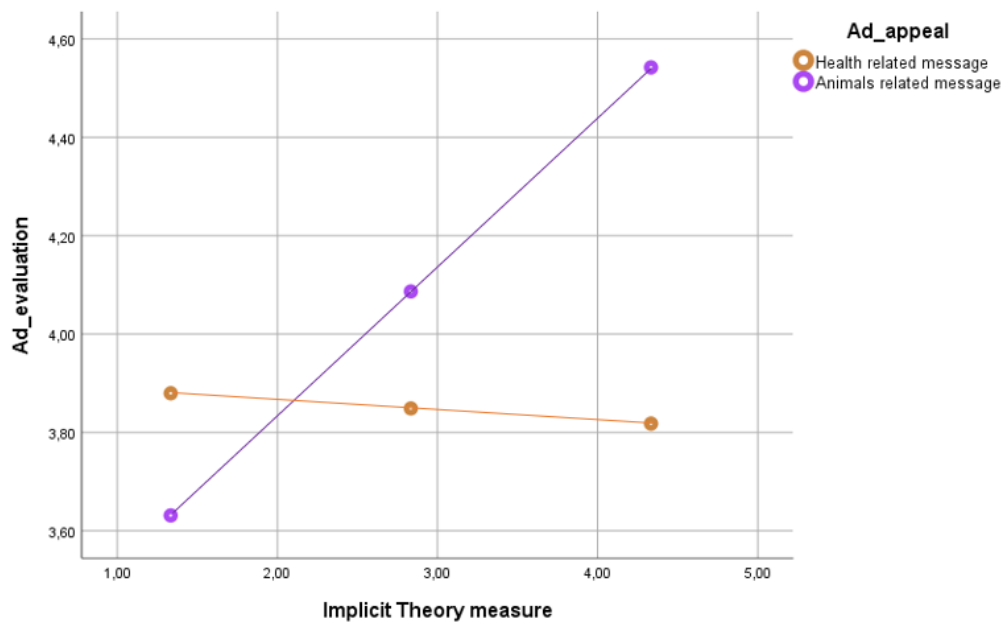
The first regression analysis aimed to understand how the predictors influence the dependent variable *Advertising evaluation*. Results from Hayes' Process Model 1 revealed that the interaction effect of ad appeal and implicit theory was marginally significant ($\beta = .16$, $SE = .08$, $t = 1.91$, $p = .058$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = -0.12$, $SE = 0.18$, $t = -0.69$, $p = 0.49$). However, for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = 0.31$, $SE = 0.15$, $t = 2.03$, $p = 0.04$).

The graph below illustrates the differences in advertising evaluation between the three different advertising appeals, which are significant only for individuals with high Implicit Theory scores (green dots in the graph).



This regression gives insights on how the effects on advertising messages and the consumers' mindset on advertising evaluation when considered together. Specifically, significant differences are present in the advertising evaluation of individuals with a fixed belief of health, they seem to prefer advertising messages that communicate the positive impact of plant-based foods in saving animals' lives. To deep in these effects, more moderation analyses were run using only two categories of the independent variable Advertising appeal at a time rather than all three together. This method allows comparing couple by couple the three categories of the independent variable: *health* vs *environment*,

environment vs animals, health vs animals. The only combination that added insight was the one comparing health and animals related messages, where the interaction effect of ad appeal and implicit theory was significant ($\beta = .16$, $SE = .08$, $t = 1.98$, $p = .049$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = -0.12$, $SE = 0.17$, $t = -0.72$, $p = 0.47$). However, for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = 0.36$, $SE = 0.16$, $t = 2.20$, $p = 0.03$).

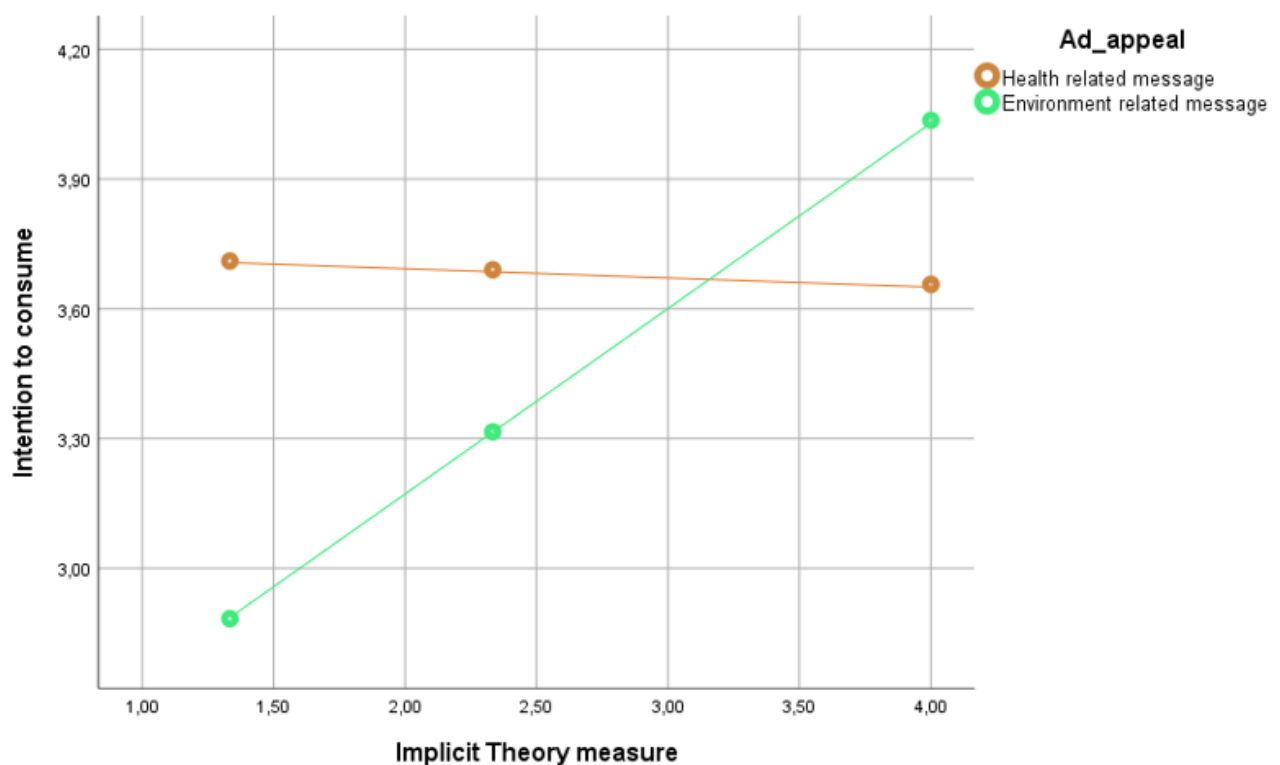


As shown by the graph, individuals with fixed mindset about the nature of human health higher evaluate advertisements with messages communicating the positive impact on animals' lives, rather than those with messages communicating the positive impact on health.

Successively, a second group of moderation analyses were conducted aiming to understand how the predictors influence the dependent variable *Product evaluation*. No significant effects were found neither when considering the independent variable Ad appeal with all the three categories nor when using only two categories at a time. Consequently, the predictors Advertising appeal and Implicit Theory measure do not allow to predict in anyway the value of the dependent variable Product evaluation.

Finally, a third group of moderation analyses were conducted aiming to understand how the predictors influence the dependent variable *Intention to consume*. Also in this case, the first regression run considered all the three categories of the independent variable Ad appeal: *Health, Environment,*

and *Animals*, and the continuous variable used as moderator was Implicit Theory measure. Results from Hayes' Process Model 1 revealed neither the main effects of Ad appeal and Implicit theory measure were significant nor their interaction. However, when comparing couple by couple the three categories of the independent variable: *health vs environment*, *environment vs animals*, *health vs animals*, the moderated analysis considering only respondents who were shown a message related to health or to the environment, showed significant effects. Indeed, in this case, the interaction effect of ad appeal and implicit theory was significant ($\beta = 0.45$, $SE = 0.20$, $t = 2.21$, $p = .03$). Specifically, for incremental theorists (i.e. who have a low score in the implicit theory measure), the effect of ad appeal on ad evaluation was significant ($\beta = -0.83$, $SE = 0.38$, $t = -2.16$, $p = 0.03$), while for entity theorists (i.e. who have a high score in the implicit theory measure), the effect of ad appeal on ad evaluation was not significant ($\beta = 0.38$, $SE = 0.38$, $t = 1.01$, $p = 0.032$).



As shown by the graph, individuals with an incremental mindset about the nature of human health higher evaluate advertisements with messages communicating the positive impact on health, rather than those with messages communicating the positive impact on the environment.

Results

These results give interesting insight into how to deploy a segmentation based on the Implicit theory to predict the effectiveness of different messages to promote plant-based food products. Specifically, taking into consideration the hypotheses done at the beginning of this study, some predictions were proven:

H₂: Consumers with an incremental mindset are expected to show stronger intention to consume a plant-based food product when the advertisement communicates a positive impact of the product on their health, rather than one communicating the impact on the environment or on animals' lives.

This hypothesis was confirmed by the fact that incremental mindset respondents showed significantly higher scores of the variable *Intention to consume* when comparing advertisement with a positive health message versus one with a positive environmental message.

H₃: Consumers with a fixed mindset are expected to prefer plant-based food product advertisements with a message communicating the positive impact of the product on the environment or on animals' lives, rather than those communicating the impact on health

This hypothesis was confirmed as well. Indeed, respondents with a fixed mindset showed the highest advertising evaluation for the advertisement communicating a positive impact on animals 'lives.

The other two hypotheses were rejected because no statistical significance was found to support them.

To sum up, a positive answer can be given to the initial research question “*Do individuals with different mindsets about health respond differently to plant-based food promotion messages?*”. Indeed, the present research confirms that individuals with a fixed mindset about human health, respond more favourably to messages communicating the positive impact of plant-based food consumption on animals' lives. Whereas, individuals with an incremental mindset respond better to messages highlighting the positive impact of plant-based food on their own health.