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For quality of life

Evaluation of healthiness perception and authenticity of olive oil: Role of product packaging and consumer attitudes

Msc Thesis - Master Management, Economics and Consumer Studies

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Introduction

Packaging can have a very important role in decision making for the consumer as it provides most of the cues the consumer uses for his decision. Its primary role is to protect food from outside influences or damages, to provide information about the product (Coles, 2003). But it can be also useful to convey to the product a more appealing image or to trigger the attention of the buyer in the supermarket. The consumer tends to do heuristic decisions in the shop while shopping for most of products, especially the ones for which the decision is routinized, so features of the product that the consumer sees without not so much effort can make the difference in the choice. That is why it receives more and more attention by marketers.

Furthermore, sustainability and health issues are becoming increasingly important in our society, and in this case packaging plays a very important role. It can be modified to convey a more sustainable image or it can contain information and symbols to underline certain features of the product.

In this work we will put together all these elements in a framework to fill a gap in the existent literature studying the role that packaging can have in conveying a more healthier image of a product, in this case, extra virgin olive oil, which is a fundamental element in Mediterranean diet that is considered the healthiest one in the world (Trichopoulou et al., 2014).

The framework starts defining perceived quality that is the main element assessed by the consumer while shopping. According to it, consumers make their judgement of value that is what is considered in a trade-off with money. As shown in the picture, this judgement depends both on the product itself and on the characteristics of the consumer. We will consider some of the main factors

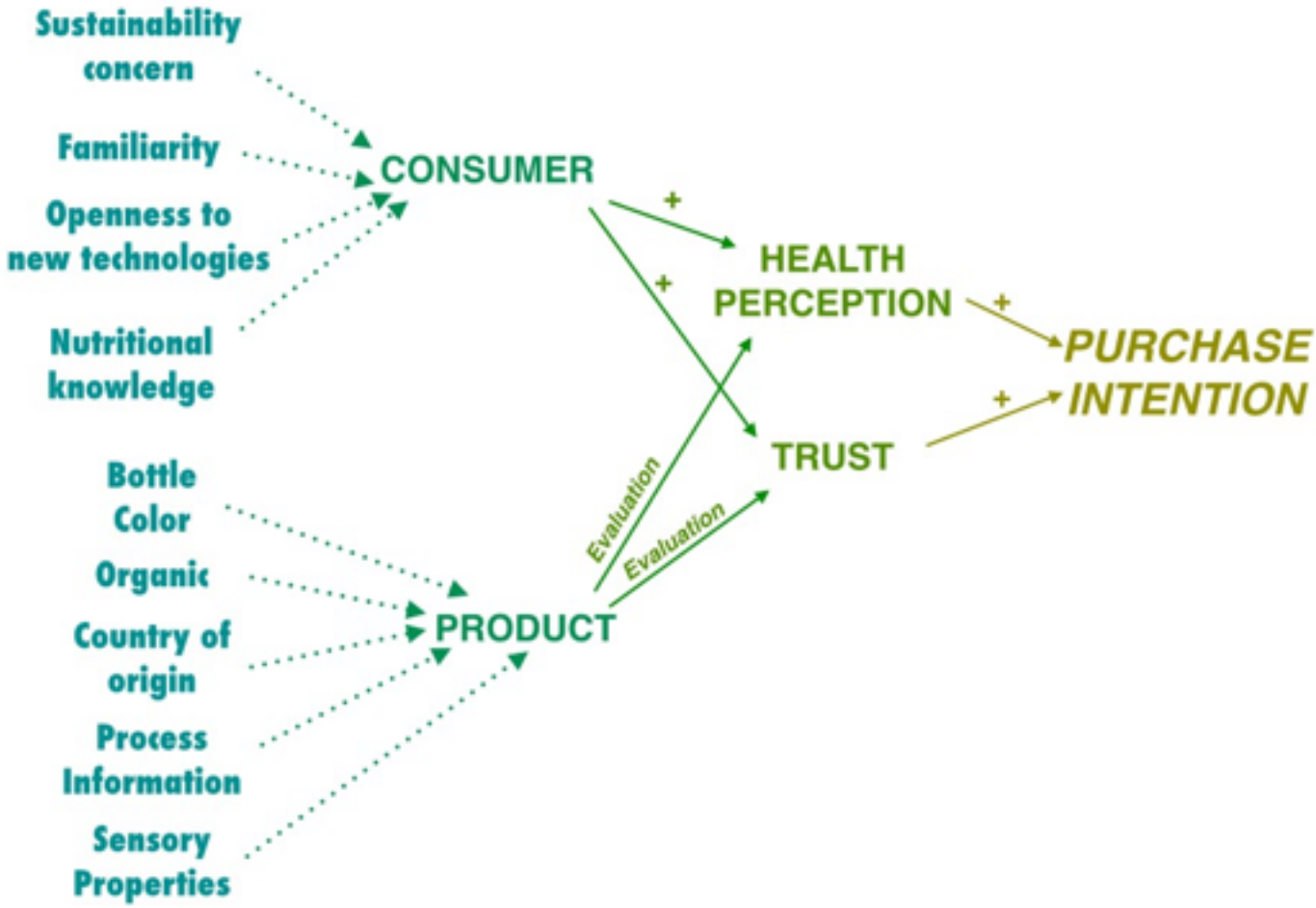

Fig. 1 - The framework of the study that puts together the factors affecting the value judgement of the consumer

that affect how the products are evaluated on both the consumers' and the product's side.

1. The market

Olive oil market is one of the most important ones for European Agriculture, the production is concentrated in Mediterranean countries (Tab.1). The most interesting possibility for the growing of the whole sector is represented by the growing consumption in countries other than Mediterranean ones where the consumption of such products is spreading more and more. The greatest examples are the markets of USA and Australia that represent a good chance for expanding the demand, and leverage the high quality of Italian products (Carbonari & Sarnari, 2013).

	2009	2010	2011
World Total	3087	3105	3181
Spain	1392	1392	1410
Italy	518	513	482
Greece	320	300	300
Tunisia	150	120	180
Turkey	147	160	180
Syria	150	180	200
Morocco	140	130	120
Others	270	290	309

Tab.1 - Worldwide production of olive oil (thousands of tons) - Source: Ismea, 2013

Healthiness is important for olive oil products as these products are rich in vitamin E and they do not contain preservatives (Blery & Sfetsiou, 2008), furthermore it is proved that the use of olive oil lowers the risk of coronary disease, prevents cancer and reduces inflammations (Wildman et al., 2007).

EFSA approved health claim on olive oil polyphenols: olive oil polyphenols contribute to the protection of blood lipids from oxidative stress that is a the base of many cardiovascular diseases and also the monounsaturated fatty acid and oleic acid contribute to the maintenance of normal blood cholesterol levels (Commission Regulation (EU) 432/2012).

The concern of consumers toward healthiness is rising and with the contribution of globalization, the use of olive oil is spreading in whole Europe where the tradition is to use different kinds of fat, due to differences in healthiness perception, the demand for this product is heterogeneous from a preference point of view. A study by Gambaro et al. (2013) shows that people with a higher concern toward health related issues are more likely to consume olive oil, but subjective knowledge is an important factor. Also some sensory properties can be regarded in very different ways according to the culture as found by Nielsen et al. (1998) whose study stated, for example, that strong taste and odor of oil is seen as positive in France and negative in Denmark. In the same study it is shown how consumers link the choice of vegetable oil with healthiness and physical well-being. So for this product, more than others there is some widespread concern for nutritional value. Usually, what consumers look for in a nutritional label is the fat content (Brunsø et al., 2002), and this is not applicable to olive oil that is a fat, so we can consider how is directed the attention that the consumers give to the composition of this fat, also guided by the use of claims or nutritional information, that are generally highly valued. In this case, when the claim is explicit and it is accurately described, it is supposed to be more persuasive, as it appeals also to consumers that are less familiar with the product (Bech-Larsen et al., 2001).

Since compounds that give to the oil a pungent taste are also linked to health benefits provided by olive oil, pungent taste is a good proxy to infer the health

value of an oil (Vitaglione et al., 2013)., but the liking for these aspects of olive oil taste are strictly linked to culture (Jimenez-Guerrero et al., 2012) and overall not much liked by consumers (Vitaglione et al., 2013).

In this study we will analyze the effect of claims and symbols on the perception of healthiness by consumers. The importance of this issue is increasingly important in a situation of information overload. Nowadays assortments of supermarkets are constantly growing, furthermore the products have new features and information, this can create dissatisfaction especially for low familiar consumers (Scheibenne et al. 2010). The consumer reacts to this overload of information using shortcuts and relying on most salient stimuli through heuristic decisions (Scheibenne et al. 2010), this makes the information and symbols salient on the label a key point to understand the perception of products. After understanding how consumers make decisions based on what is present on labels, we can think about what can be the best methods for communicating with consumers according to their segmentation. Labels are the most important way to convey information to the consumer, although information search depends both on the ability and the motivation of the individual (Bettman & Park, 1980; Petty & Cacioppo, 1986). What influences the ability to search is basically education, product knowledge, motivation (Schmidt & Spreng, 1996) and credibility of the source (Verbeke, 2005).

Much is known about preference and labels of olive oil products (Dekhili, 2011; Menapace et al., 2011; Santosa, 2013, van der Lans et al., 2001), and the strong effect on health perception due to labels (Piqueras-Fiszman & Spence, 2015). In Delgado et al. (2013) has been shown how preferences are heavily affected by labels, in detail by country of origin. A particular segment liked the most local products for their features of familiarity not for their intrinsic quality. In other

works, the preferences of consumers are also linked to their lifestyle (Piccolo et al. 2013).

2. Theoretical background

2.1 Decision making

When a consumer decides to make a purchase, there are some steps to go through in order to make it: (1) problem recognition (Bruner & Pomazal, 1988); (2) information search (Schmidt & Spreng, 1996) (3) evaluation of alternatives; (4) product choice; (5) evaluation of outcome (Bi et al., 2015).

There are several ways in which the process of decision making can take place, depending upon the needs the consumers have to fulfill and the product in question. Furthermore, sometimes the decision can also be totally spontaneous and occur within the store. For food products that are not so much expensive and that are frequently purchased, the decision is taken in a quick way so little time is devoted to the search for information before purchase. What happens, most of the times, is that common food product purchases are partially planned, so the consumers know what to buy, but within the store they decide the details according to the alternatives available on the shelf. Some elements in the store environment, such as attractive packaging, promotions, or other Point-Of-

Purchase stimuli that can drive the consumer to make some unplanned purchases or drive the choice of a partially planned buy toward some particular brand (Dittmar, 2001).

These elements in the environment have the purpose to drive the attention of the consumers toward some salient cues (Burke & Leykin, 2014). Attention can then follow two ways: top-down and bottom-up, depending upon if it is central controlled or triggered by the available cues. We will concentrate our focus on the bottom-up fashion, through the role of the packaging, that can be designed in a way that conveys detailed information both for consumers that are involved in an extended search, and both for more intuitive buyers that look for quick information.

What is valued by consumers during purchase is quality in a broad sense. The quality is considered in a total way as the superiority of a product, this concept also comprehends the mere product-based quality, as the entire set of attributes that are liked by the consumer as these bring some benefits (Zeithaml, 1988). If we consider that the quality is what brings benefits to the consumer, we can embrace the theory of Lancaster (1966), who defined quality in terms of attributes of the product, which we specify further on. The other element that defines value is the price, it can be defined as what is sacrificed to obtain a product (Zeithaml, 1988). Price can also be defined as an extrinsic attribute to the product as it is sometimes used as a proxy for quality (Shapiro, 1983), even if actual data do not give support to this relationship all the times (Zeithaml, 1988).

Following Holbrook (2006) we can see that value has been identified in a broader set of concepts that comprehends more dimensions than the mere quality of a product: functional, social, hedonic and ethical values.

To understand better how quality information occurs we have to consider the distinction developed by Nelson (1970, 1974) and Darby and Karni (1973) between search, experience, and credence and applying it to product attributes.

In the case of *search attributes,* the information about attributes to the consumers is easily attainable so their purchasing pattern gives incentives to firms to provide the attributes of the products they are willing to pay for. In the case of food products, the purchases are frequent so there is a clear expression of preference from consumers' side (Degeratu et al., 2000).

In the case of *experience attributes*, at the beginning, the producer has more information about the quality of the product compared to the consumer. Anyway is not convenient for him to communicate a different level of quality compared to what is in reality, as consumers will ascertain the level of quality trying the product and, through word of mouth, in a short time, other consumers as well will be informed about it. What is important for firms, in this case, is reputation. It is the ability to provide quality goods over time, that can be reinforced with advertising, warranties and other quality-signaling methods (Srinvasan & Till, 2002).

In the case of *credence attributes* the market works in a different way compared to the other cases. Quality signaling, in this case, can be used in a form of a reputable certification agent which consumers can trust. That is why very often governments are involved in certifying activities to facilitate the quality assessment for consumers. The concern of public policy has been toward turning some credence attributes into search ones, as for example what happened when there has been the introduction of mandatory nutritional labelling that disclosed the composition of all types of food otherwise not possible for the consumer. So it is important to underline the role of labelling in filling a gap of information

between producers and consumers and this role is mediated by the trust between the end user and the certificating body (Caswell & Mojduszka, 1996).

Trust plays a crucial role in the utilization of provided information. It can enhance or lower to zero the value of an information, depending on the credence attributed to the source of information (Verbeke, 2008). Trust is based on experience and it is the result of social interaction as it is a mean to facilitate communication (Thiede, 2005). The experience influences the degree of trust assigned by each individual to different persons and entities. Trust can be expanded through communication and can be considered as a catalyst to information processing (Verbeke, 2008); in addition, and can be easily translated into a consumer's intention to purchase (Pivato et al, 2008). It is based on positive expectations regarding goodwill and ability, so its role is risk-reducing. In the case of product attributes, more concerns are about food safety, but also regarding other attributes that can be important for the consumer and for which he is willing to pay, so it is important that a reliable source fills the gap of information in order to provide the consumer with a superior product.

Much more than quality, in decision making of food products that have never been experienced, it is important the *perceived quality* (Steenkamp,1990). Furthermore, the perceived quality depends on their preferences and purposes that are not homogenous. Quality perception depends upon cues that are available in the environment, from which a personal idea of quality is built, using personal rules of thumb and comparing information with previous knowledge and experience. Cues are different from attributes, as attributes can be ascertained only after consumption (Steenkamp, 1990). The assessment of quality from the consumers depends on the product and on the situation: some important product can lead to a piecemeal evaluation of features, other can lead to a quicker evaluation. According to Petty & Cacioppo (1986), the Elaboration

Likelihood Model (ELM) can explain how the information about products or advertisement are elaborated: through the central route or through the peripheral route (Maheswaran et al., 1992).

According to Steenkamp (1990), quality attribute beliefs formation can occur in three ways: descriptive, informational and inferential. All the available elements will be used to make inferences, even though they are not strictly linked to the actual quality of the product. This phenomenon is known as *halo effect*, in which, in order to have a consistency among ratings, the final judgment of quality of a product is affected by all the ratings of all attributes even if they do not have a strong correlation with quality (Rahman et al., 2013). This is much more important when the decision is made heuristically, so inferences of quality are made on attributes of the product that the consumers decide on rules of thumb, as not all the information is available.

The Total Food Quality Model (Grunert, 2002) explains how consumers form expectations about the product in the case of food, then this expectations are used to build an idea of quality (Parasuraman et al., 1988). The role of expectations is much more important in the domain of food as these products can be potentially poisonous for who ingest them (Koza et al., 2005; Piqueras-Fiszman & Spence, 2015).

Since taste features cannot be ascertained before buying the product, inferences upon the available cues build a certain expectation about the taste experience. When the product has been bought and tried, the experience can be evaluated, and then a repeated purchase can occur or not, according to the final satisfaction. The satisfaction comes from a comparison between expectations and actual performance of the product. According to the value of the comparison we can have different outcomes: assimilation, contrast, generalized negativity,

assimilation/contrast, curiosity hypothesis, prospect theory (Schifferstein et al., 1999; Piqueras-Fiszman & Spence, 2015).

Purchase and consumption are not explained only by low-level attributes, such as flavor or a food's liking, but, sometimes consumers purchase and use goods in order to express a sort of meaning or to achieve higher goals in their life. Every individual has a personal set of core values that represent what is personally important in life and they guide the behavior (Lee et al., 2014). We can identify a hierarchy of values in order to understand how values are linked to consumer behavior: cultural, consumption and product-specific values. Through the use of means-end chain method we can see how everyday consumption is linked to higher goals in life. Consumers, through the choice of products with certain attributes, express their personal values (Reynolds & Gutman, 1988). Underlying values explain the whole meaning of products for the consumers, that is beyond a mere functional sense.

2.2 The product

Drawing on the overview of the theories that are linked to the decision making of the consumers, we can see how these are related to what actually happens when the consumers make trade-offs in order to decide what to buy. So we will review how all these elements combine with the available alternatives and how the consumers respond to them.

A product can be considered successful on the market when it gains a considerable market share, earns profits (Griffin & Page, 1993), has a high degree of differentiation, has a good product quality (Hoch & Banerij, 1993),

customers are satisfied and when it has a considerable loyal customer base. To reach these goals multiple factors can be used to transmit value to consumers.

In this work what we are going to underline is the importance of packaging-related factors that can play a role in helping decision making. Although the store environment and the available alternatives and information in the store are crucial for most of purchases (Kumar & Kim, 2014) we will not consider them here. What we will consider is the influence of: color of packaging, credence attributes, technology information and country of origin.

2.2.1 Color

In purchase context, colors are used to trigger attention from the individual, so contrasting colors are used on package of products in order to be more salient than others on the shelf (Pettigrew & Pescud, 2013) that is very important in low involvement decisions or with time pressure (Petty & Cacioppo, 1986). But colors on the package can also have other roles as they are used to convey some information about the features of products, for example brown and green are linked to naturalness, that is why they are often used for organic products, besides, to convey an idea of healthy products the best color to be used is green (Kauppinen-Räisänen & Luomala, 2010) and this cue is better used by people that consider healthy eating as very important (Schuldt, 2013).

Transparency of the packaging is important especially for food and it is supposed to be very appreciated as it allows to see better the product that is going to be bought (Ragaert et al., 2004; Texeira & Badrie, 2005). So, the product appearance should be good in order to let the product advertise by itself (Venter et al., 2011).

2.2.2. Quality

Extrinsic cues can play an important role in immediate credence quality evaluation. In fact, if the label verifies credence quality, it becomes a search quality attribute (Becker, 2000; Caswell & Mojduszka, 1996; Hsieh et al., 2005). A mediator of this effect is the credibility of the information source (Grunert, 2002). Sometimes no cue at all is available to assess some credence feature of the product and the consumer is not able to evaluate this kind of quality, so the only signal left to the consumers is price (Ostrom & Iacobucci, 1995). Hence, the signaling of cues that inform on credence attributes requires appropriate product labelling strategies (Caswell and Mojduszka, 1996; van Trijp et al., 1997).

For credence certified attributes an element that is important is also the credibility of the certifying body (Albersmeier et al., 2009; Hatanaka et al., 2005), that is linked to trust, as explained before. The actual trends for governments are now about pushing consumers' knowledge about nutritional attributes of products and on eating patterns, and about shaping firms' offerings in terms of nutritional aspects of food products (Caswell & Mojduszka, 1996).

2.2.3 Organic Production

Much more complex is the case of organic agriculture, which is a concept that embraces multiple credence attributes, the ones linked to organic production of olive oil are: protection of environment, superior health features (Sandalidou et al., 2002), food safety and ethic values (Fernqvist & Ekelund, 2014). At a perceptual level, organic products are not seen much different than conventional ones (Woese et al., 1997) this equality concerns also the taste (Piqueras-Fiszman

& Spence, 2015), so this attribute is used as a marketing tool to differentiate products as there is a conspicuous segment that values organic production (Hoogland et al., 2007). The effect of organic leads positive liking scores (Caporale & Monteleone, 2004) that sometimes can be higher compared to health effects and novelty (Kihlberg et al., 2005). The effect of the organic attribute is mediated by the attitudes of people (Fenrqvist & Ekelund, 2014).

To help the decision making of people, aspects of organic and sustainable production are conveyed to customers through the use of symbols and logos of certifying bodies (Hoogland et al., 2007). Furthermore, this certification and traceability system linked with organic production makes this production system much more transparent for consumers and it adds value in the eyes of customers (Pretty et al., 2005).

2.2.4 Country Of Origin

Country Of Origin (COO) is an important element linked to the traceability of the product (Caporale & Monteleone, 2001; Loureiro & Umberger, 2007). For example, in Caporale et al. (2006) it is shown how the information on the origin of the product can affect sensory expectations in consumers that are familiar with the product, leading to a concept of "typicality".

One reason of the importance of the COO labeling can be referred to the *halo effect*, already discussed before. So what matters is not only the reputation, but also if that particular country triggers negative or positive feelings in customers' minds (Ahmed et al., 2002). Furthermore, in low involvement products, COO can be used for heuristic decisions, especially when there are not so much product information or the consumer is unfamiliar with the product (Ahmed et al., 2002). Another factor affecting COO importance, is the *summary effect*:

when consumers are familiar with a country's products, they infer a country's image from its products information (Han, 1989). Furthermore, the effect of COO is supposed to be higher when consumers are highly involved with the product (Engelbrecht et al., 2013). Sometimes consumers rely on COO labeling for ethnocentrism (Van der Lans et al., 2001) and also because buying products from another country may seem immoral (Shimp and Sharma, 1987) or unpatriotic (Ahmad et al., 2002).

2.2.5 Production

How foods are produced and processed is very important for the intrinsic final quality of the product, but this is an aspect that can be differently valued by consumers. The concern for production methods is raising due to globalization and innovative methods of production (Piqueras-Fiszman & Spence, 2015). Processing techniques linked to sustainability are given increasing importance nowadays, but it is strictly referred to the personal values and beliefs of people, so the importance attached to some production aspects can be heterogenous among consumers (Gil et al., 2000) and expectations play a big role in influencing the final evaluation of the product (Cardello, 2003). There is a certain heterogeneity in the way consumers use information on labels, in some cases they have a certain attention toward it, in others they do not care about labels (Wansink, 2003).

Factors that affect the acceptance of new technologies are related to the risk associated with the type of product and the associations triggered by the technology name (Cardello, 2013). New or complex technologies trigger a feeling of distrust into the consumers due mainly to the lack of knowledge about it and the costs associated for the consumer to search information. But overall, what emerges is that when consumers are informed about the reliability of new

or complex technologies, they overall feel enthusiastic about them (Perrea et al., 2015) and they will be more likely to accept the technology and have positive expectations (Cardello, 2013).

Processing information is disclosed to the consumers to transmit naturalness, that, in turn is related to health, well-being, and enjoyment of life, all values that are very central in modern society's values (Zanoli & Naspetti, 2002). In fact, traditional and natural processing of food has generally a good impact (Siret & Issanchou, 2000), as well as a low degree of processing (Brunsø et al., 2002), while neophobia can have an effect in the opposite direction affecting negatively liking for novel processed food as GMOs (Lähteenmäki et al., 2002).

What can be done to supply consumers with more information, without causing overload, can be the use of symbols that are especially important in decision making for food products (Carrillo et al., 2014). They can be used to generate health-related connotations, in fact their effect is proven even when no direct reference is made to health or nutrition (Carrillo et al., 2014). In this case also the name of technologies should attract attention, as the description can affect consumers' expectations when they have no information about what the process is actually (Fernqvist & Ekelund, 2014; Piqueras-Fizman & Spence, 2015, Tuorila et al., 1994).

The dependent variables of the present study will be: healthiness, authenticity, naturalness, and expected pleasantness of the taste. The importance of credence attributes, such as naturalness and healthfulness, depends much on the values of the individual consumer. In fact, what are the main drives for a person while shopping are strictly personal and heterogeneous, so there is high variance in how people evaluate and make trade-offs when credence goods are involved (Oude Phuis & van Trijp, 1995; Verbeke & Viaene, 1999).

If we consider healthiness, there is also a temporal factor in this choice: the choice that is made now on a healthy product will have long-term benefits, while the consumer is focused on a short-term cost/benefits evaluation, furthermore there is also the belief that healthy products are less tasty. These reasons can drive the choice far from healthy products or, at least, make this feature less salient in the mind of the customer in the choice moment. Another opposite trend is the one that sees consumers more and more concerned about credence factors as health (Bernués, 2003).

2.3 The consumer

Besides external factors affecting the choice, there can be also internal ones that can have an influence in the final decision of the consumer. We will analyze how other factors can influence the way quality is perceived and how the product attributes are evaluated according to different consumers.

2.3.1 Familiarity and neophobia

The first element to be considered is the familiarity with the product, as it can lead to different perception of uncertainty. As a result, the expectations of unfamiliar consumers will be more likely to show an assimilation effect of expectations (Deliza et al., 1996). The consumers, that are not familiar with a product, tend to build a concept about it relying on available information that can also have an effect in shaping the real experience with the product. Furthermore the risk perception is lowered in the case of familiar products (Verneau et al., 2014).

One important personality trait that can have a major impact in food consumption is neophobia that is the reluctance of individuals to try novel food (Pliner & Hobden, 1992; Ritchey et al., 2003). Although it is a natural impulse in children (Cooke et al., 2004; Laureati et al., 2014), also in later stages of life can induce people to like what is already familiar and not trust in new products. The neophobia can be extended also in the reluctance toward new methods of production (Cox et al., 2008; Frewer et al., 2011; Rollin et al., 2011).

2.3.2 Food involvement

A trait that also received some attention has been food involvement, as the importance attached to food in an individual's life, considered as a stable individual's characteristic (Bell & Marshall, 2003). This trait identifies people that are more knowledgeable about food, so they are more able to evaluate characteristics of food. This group also seems to be more acceptant toward novel food (Van Trijp et al., 1996). The motives that drive this trait can be mostly referred to sensory appeal of food (Bell & Marshall, 2003). This trait can be an important mediator in determining: brand loyalty, information search processing, diffusion of innovations and purchase decisions (Mittal, 1989, Laurent and Kapferer, 1985; Zaichkowsky, 1985). The involvement can be directed toward the product, the purchase decision (Mittal & Lee, 1989), or product advertising (Petty & Cacioppo, 1986).

Nutritional information are important in food products, as they provide precious information about the product that cannot be assessed in any other way, they allow credence attributes to become search (Caswell & Mojduszka, 1996). The problem is that most of the times, due to time pressure, the consumer does not consider this information (Zeithaml, 1988). In other cases, familiarity can lead

consumers to be knowledgeable about food products before purchase, without the help of any label. This factor is important in shaping consumer behavior, in fact people with a higher nutritional knowledge are more likely to have a better diet and to try food with health claims (Ares et al., 2008).

Nutritional knowledge can affect healthiness perception of food (Wansink et al., 2005). Consumers are more willing to try foods with health claims when they are familiar with them, that is why there is a need to inform consumers through nutritional claims that should be reliable, and then trusted (Ares et al., 2008). Nutritional knowledge has a direct effect on the attitude toward the product (Crites & Aikman, 2005), but it cannot have a direct effect on the actual consumption (Ares et al., 2008).

When the consumer is more knowledgeable about food, is less likely to be influenced by the external environment, while less knowledge makes external environment influences have more effect on the evaluations of consumers (Cheung et al., 2014). Also the way labels are considered by consumers can change according to their degree of familiarity with food characteristics, in fact knowledgeable consumers are more able to extract information from labels and, thus, they are more willing to give them their attention.

2.3.3 Production method

Consumers are more and more demanding for healthy products and minimum processing methods, to respond to this demand new processing and preservation technologies are being tested (Zink, 1997). Sometimes consumers can be reluctant to new products or method of processing food. This can be strictly linked to the trait of neophobia, but can also be considered from a broader perspective.

When a consumer is not familiar with a processing method of food, information about it have a strong value in shaping the final evaluation, when there is both positive and negative information, negative one prevails and leads to a lower likelihood of trying that product. This is linked mostly to the risk perception of novel processed food, information has the power to lower the risk perception and thus, increases the acceptance (Cardello & McFie, 2007). When there is not complete information, consumers have to rely on trust, this concept is made up by two aspects: trust in food industry in general (Siegrist, 2008) and trust in claims provided by the producer (Verbeke, 2006).

Consumers can be classified according to their degree of openness that can bring them close to novel technologies. There is also an effect played by past experiences (Ronteltap et al., 2007). Innovators are more willing to try new products, although this tendency can be present only with some types of products (Bass, 1969). This in turn can be linked with the involvement with some types of products, topic that we already discussed above.

In the decision making process we already pointed out how consumers come to the evaluation of alternatives, that most of times has a purchase as an outcome, even if consumers can gather information also if they are not willing to buy everything, or in some cases they can also delay the purchase time. Anyway, the information search can happen internally or externally (Schmidt & Spreng, 1996). Sources of information can be of different types: advertising, retailer, third party or word of mouth.

Focusing on the case of labels, we can see that what impacts the use of labels, especially nutritional ones, is the available time for shopping. Furthermore it is possible a segmentation per gender and people with higher education, who are more likely to rely on labels for food information (Drichoutis et al., 2006).

Furthermore individual concerns about diet or environmental issues can drive to focus more attention on claims present on labels (Wansink et al., 2004).

2.4 The study

Since one of the main success factors of the olive oil as a product is healthiness perception (Jimenez Guerrero et al., 2012; Yangui et al., 2014), our aim is to examine the effect of cues such as symbols and/or health claims on the perception of healthiness for olive oil products, on quality evaluation and taste expectations. Then, we will test how characteristics of consumers will moderate this correspondence. In this framework, we found a literature gap about the role of symbols in the case of olive oil labels and what is their role concerning the communication of health benefits, furthermore there are no studies about how consumers perceive healthiness of olive oil and how their choice is affected by those health claims.

Considering the color, what we are going to assess is also the effect of the rest of the packaging on the quality perception of olive oil products. For this reason we will consider the different combinations of color of the bottle of olive oil and color of the box for butter products. In the case of glass, it provides an idea of a product that is more hygienically handled and more expensive, compared to plastic one, so a better quality is conveyed (Venter et al., 2011). A different shade of the glass can more or less highlight the green tones of the appearance of product, apart from having a feature of shield from light (Méndez & Falqué, 2007; Minguez-Mosquera et al., 1991). So different colors of bottles can drive to different evaluation of the color of the product that is the only intrinsic cue

available to the consumer prior to purchase to make inference about the quality of the product.

In modern society it is confusing for consumers to understand where a product is made, as different parts of the production process take place in different places. In the case of olive oil we have to consider: where the olives are grown, where the oil is made, and where the oil is bottled. Only in the case that oil comes from olives that are not grown in the same country there is a mandatory indication on the label, otherwise it is not possible to know more about the traceability of the product (Limbo et al., 2014). At this point, the only cue that can be used to assess origin within a country is the bottling place, that can be more valued by the consumers compared to the origin of the olives (Cicia et al., 2013). Different is the case of PDO (Protected Designation of Origin), where the name of a country or of an area is used to define a particular food product; it is used when the environment is supposed to influence in some way the final product. The origin of the product is important, in fact when the origin of the product can be easily assessed, locally produced products have generated higher expectations among consumers that were familiar with the product (Caporale et al., 2006).

Production practices are very important. In fact this product is linked with the concept of the Mediterranean Diet that has, among its most important features, the ones of healthiness and naturalness. Furthermore, the oil is assumed to be a product that is very susceptible to adulteration, so more information on its production is valued (Sandalidou et al. 2002). Further information, in turn, is assumed to increase the knowledge about the product and thus the willingness to buy the product (Gracia & Magistris, 2008; de Chernatony & Harris, 2000), but, sometimes, negative attitudes can lead to a negative effect played by the production information on the label (Piqueras-Fiszman & Spence, 2015).

The study will be set up on two surveys: one will investigate preferences for attributes of olive oil products and another one will test the same attributes on a product made by a combination of olive oil and butter. The reason of the study on two slightly different products is because Italy and the Netherlands have very different traditions in fats consumption as stated by International Olive Oil Council (2011) the average consumption in Italy of olive oil is 726 drops/person, while in the Netherlands 67 drops/persons. A product made by olive oil and butter can be more familiar for a dutch audience and also is a product that is commonly sold in Italy as well.

3. Materials and methods

3.1 Participants

The study has been conducted on Italian and Dutch consumers, this will contribute to an higher generalization of the results. Dutch consumers can be characterized for the highest level of environmental consciousness in Europe (Miele, 2001) and for the low familiarity with the product, while Italian consumers have an average higher familiarity with the product, so the decision

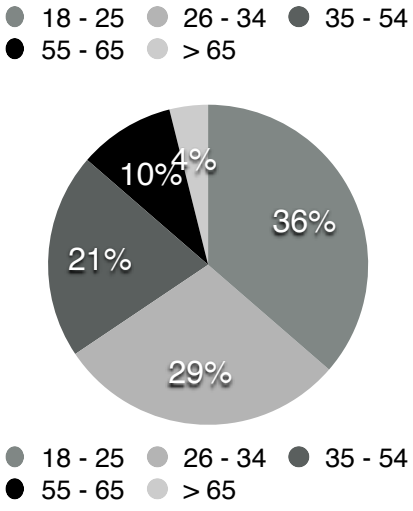

Fig.2 - Distribution of age for the olive oil survey

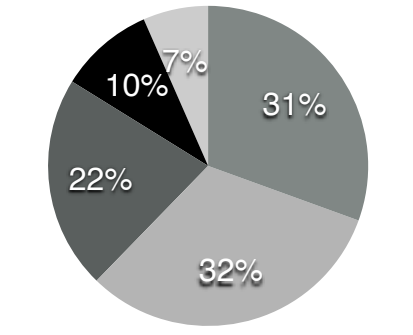

Fig.3 - Distribution of age for the butter with olive oil survey

making process takes place differently. In addition, they will all be regular consumers of olive oil (regardless of the COO).

The sample is made by consumers of olive oil products. The first question of the survey is aimed at screening out the persons that do not use olive oil at all in their diet.

In the end, the sample for the olive oil questionnaire is made by 197 adult respondents, of which 66% female and 35% male. The 46% was made by Italian consumers and the 54% by Dutch consumers. The age category most represented has been the one between 18 and 25 years (fig.2). The sample for the butter with olive oil questionnaire is made by 231 adult respondents, of which 67% female and 33% male. The 51% was made by Italian consumers and the 49% by Dutch consumers. The age category most represented has been the one between 26 and 34 years (fig.3).

3.2 Stimuli

The product attributes and their levels that will be tested on olive oil products and butter combined with olive oil products will be:

- Color of the bottle: dark green or transparent glass bottles in the case of olive oil and plastic boxes in the case of butter combined with oil;
- Cold processing label: products will have or not this claim on the label;
- Organic production: products will have or not the indication of organic production

- Pungent sensory properties: products will have or not this sensory claim on the label;

- Country of Origin: products will have or not the 100% Italian certification.

The experiment will be set in an online environment. The products that will be analyzed will be both bottles of olive oil and butter containing olive oil. For each study, a total of 8 labels will be shown in order to get the preference toward product featuring different attribute. Each label is a profile that is built out of different combinations of the selected attributes. They contain the combinations of all attribute levels specified above following an orthogonal design developed through the Orthoplan procedure with the software SPSS, as shown in the Table 2. Using orthogonal design allows to analyze the effects of the attributes without using all the combination between all the levels of attributes, the results have been proven to be robust (Green & Srinvasan, 1990).

Image	Origin	Pungent	Bottle	Cold processing	Organic
1	Italy	No	Light	Yes	Yes
2	Europe	Yes	Light	Yes	Yes
3	Italy	No	Light	No	No
4	Europe	Yes	Dark	Yes	No
5	Europe	No	Dark	No	Yes
6	Italy	Yes	Light	No	No
7	Italy	Yes	Dark	No	Yes
8	Italy	No	Dark	Yes	No

Tab.2 - The combination of stimuli for each profiles levels

3.3 Questionnaire design

The study uses two different surveys: one will test olive oil products and another butter with olive oil products. They are build in the same way as following.

The eight profiles are built according to the combinations shown before are evaluated by respondents in terms of healthiness, authenticity, naturalness, and expected pleasantness of the taste (5-pt scale from “not at all” to “very”). For this task, four random profiles out of eight have been shown to the single respondent (incomplete balanced design). The ratings asked to the respondents come from the Food Choice Questionnaire (Steptoe et al., 1995). Their expectations about the taste are also included (Wansink & Love, 2014). The question: “Is this product Italian?” is included too, since this helps to understand if Italian origin is confused with Italian claims and brands as often happens (Cembalo et al., 2008).

Then the 8 bottles of extra-virgin olive oil or butter containing olive oil have been shown to all the respondents, who have been asked to rank them in terms of healthiness perception (“If you were looking for an olive oil that you believe is the healthiest for you to use on a regular basis, which one would you prefer?”).

In the following section, a few questions have been asked about their general knowledge about olive oil:

- Are there specific rules about the label indications on origin of olives?

European Union legislation provides a very detailed definition about how origin of the oils should be provided, both in the case of Designation of Origin (PDO) products, both when the product is produced in a single country or if it is a blend of oils from different European countries (Limbo et al., 2014).

- Are there specific rules concerning sensory properties present on label?

This question aimed to understand if the consumers are aware that each sensory claims on olive oil products are regulated by the Commission Implementing Regulation No 29/2012, which allows sensory smell or taste indications to be written on labels only if they respond to particular requirements of panel taste tests analysis and referring to a particular glossary of sensory notes (Limbo et al., 2014).

- Can cold processing enhance the healthiness of the olive oil?

Cold extraction method for olive oil preserves the content in important substances as phenolic compounds that are responsible for a richer aroma (Morales & Aparicio, 1999) and for a more antioxidant activity, that is fundamental against important diseases as atherosclerosis and cancer (Gimeno et al., 2002; Tripoli et al., 2005). This question aims to understand what consumers think about this processing claim, even if they are not familiar with the product and do not understand what it means in reality.

- An organic product is any healthier compared to a conventional one?

This question helps to understand how the consumers perceive organic attribute, as explained above, literature reports that organic products have sensory and health properties not so much differences from conventional ones.

- The color of the bottle has any effect in preserving the nutritional value of the olive oil?

This question aims at understanding how the packaging is perceived, if it prevails the view that a dark bottle preserves the health quality of products or

that a transparent bottle allows to check visually what is the actual appearance of the product, that can be used as a cue for quality inference.

Then, more general questions follow, according to the relevant items from Nutritional Knowledge Questionnaire (Parmenter & Wardle, 1999) and from the questionnaire about general knowledge, attitudes, beliefs and behaviors related to sustainability from Laureati et al. (2013). They are aimed at understanding if the consumer has a precise knowledge about the role and the characteristics of the particular types of fat that constitute olive oil. Although olive oil is a fatty substance, it has no cholesterol and, used in low quantities can have an important role in lowering some health risks (Mariotti & Peri, 2014). Then questions about sustainability aimed to assess how the individual is concerned about the effect of his consumption on a global scale.

At the end, some demographic questions helped to define the characteristics of the sample of respondents. The entire text of the questionnaire is in the Appendix.

3.3 Hypotheses

Drawing upon theories, the hypotheses that in this study we aim to test are, in detail:

1. The color of the bottle influences health perception as a dark color is seen as preserving healthy substances and contributing to a healthier product
2. The organic production indication conveys a more healthier product according to what is perceived by consumers

3. The indication of The Country Of Origin (COO) helps the perception of a healthier product
4. Process information, such as cold processing, enhance the healthiness perception of the product
5. Sensory properties, such as pungent taste, contribute negatively to the perception of an healthy product as they are not generally liked by consumers.
6. Nutritional knowledge will enhance healthiness perception of the products
7. Openness to new technologies will enhance the healthiness perception, especially mediating the effect of cold processing label
8. Familiarity with the product will increase the preference toward pungent sensory properties as an indicator for healthiness of products
9. Sustainability concern will increase the effect of organic production on healthiness perception

3.4 Data analysis

The data from the first task have been elaborated with OLS regression following the model: $y= \beta_1 x_1+\beta_2 x_2+\ldots+\beta_n x_n$. The *y* represents the dependent variable that is the phenomenon that is explained, the *x* represent all the independent variables, that are the factors used to explain the phenomenon, and the *β* represent the magnitude associated to each independent variable. At the end, the element that is explained is connected to all the related factors in a specific way. The sign and the magnitude of *βs* explain how this relation takes place.

Data from the choice task have been analyzed through conjoint analysis. Conjoint analysis is a model often used to test what features and attributes

contribute to the consumers' overall product evaluation or preferences. The striking point of this analysis is that the respondents are faced with a realistic decision making situation, so their task of choosing the best combination of attributes is quite simple. In this case we will ask to rank bottle in order to be able to measure the importance of the attributes. Thus, respondent, in filling the survey have to simulate their evaluation as happens when faced with real life situation and have to perform the trade-offs among the different attributes of products (Green & Srinvasan, 1978).

The data from the conjoint task and the subsequent questions have been analyzed using a rank-ordered logit that considers the ranking values as a dependent variable, the attributes and interactions of covariates and attributes as independent variables. The rank variable states that there is a preference from respondent toward the different profiles proposed in the ranking task, so utility levels are ordered and then can be decomposed in the different elements that contribute to the final level of utility. The covariates are elements that can best explain what elements, other that levels and attributes, can explain the final outcome. The results in the tables of the following sections contain the coefficients and the significancy level indicated by stars as follows: *= <0.10; **=<0.05; ***=<0.01.

The questions following the conjoint task have been further analyzed through ANOVA, in order to state if there is a significant difference between what Italian and Dutch consumers answered. This allows to make a better characterization of the decision making style of the consumers belonging to the two different nationalities. In this case the value Prob > F gives the indication of the importance of this difference, the smaller this value, the greater the difference.

4. Results

4.1 Olive oil products

At first, the data of the first task of rating have been evaluated (Table 3). Respondents were asked to rate each bottle of olive oil according to some attributes linked to healthiness, authenticity, naturalness and taste. The table shows the coefficient resulting from an OLS regression of the ratings as dependent variable, and the independent variables used each time were the attribute and the levels of each product. The significancy is indicated with the stars. The results show no consistent results for most of the ratings. In Table 3 are shown the results: we only found a positive relationship between naturalness and organic production for both samples of Italian and Dutch consumers (the coefficient is 0.247), this relationship was found as being stronger for the Italian group (0.323). For the dutch consumers, the naturalness is rated lower for pungent products (-0.181). The authenticity of products is seen only related to the Italian origin of products for both samples (0.196). As expected, pungent taste was rated as being worse for the tastiness of the final product (-0.107), this relationship is stronger within the Dutch sample (-0.188).

Variable	Coef.	
Italian_origin	**0.501**	***
Pungent_taste	**-0.213**	**
Dark_bottle	**-0.643**	***
Cold_processing	-0.071	
Organic	**0.461**	***
*Italian_nationality*Pungent_taste*	0.194	
*Italian_nationality*Dark_bottle*	**0.279**	*
*Importance_to_COO*Dark_bottle*	**0.335**	*
*Importance_to_habit*Italian_origin*	**-0.370**	**
*Importance_to_COO*Dark_bottle*	**0.331**	**
*Sustainable behavior*organic*	**0.336**	**

*Significancy levels *= <0.10; **=<0.05; ***=<0.01*

The coefficients of the table indicate how each dependent variable is connected to the other elements. The sign indicates a positive or negative relationship, the number indicates the magnitude of the relationship between the two elements.

Table 3 - Results of the rating task for olive oil products

Then we analyzed the ranking task. A rank ordered logit allowed to see how the rating of the product was influenced by each attribute of the product, besides, we tested the interactions between the answers to the general questions and the effect on each attribute expresses by the rating. In Table 4 are shown the results, we reported only relevant interactions plus all the attributes of the products. From the analysis of the ranking task seems that the strongest effect on healthiness perception of olive oils seems to be given by Italian origin (the coefficient is 0.501), there is only a difference in the rating of this attribute by the people that state that habit is important in their food who do not see this element as positive (-0.370). Organic production is seen as a positive attribute in healthiness perception (0.461), but this effect is also dependent on sustainability behavior of the respondents: people that score high in this characteristic seems to

Variable	Health	Nutritious	Good for skin/ teeth/hair	Good for heart	Natural	Authentic	Taste
Attribute	*Dutch*						
Origin	0.075	-0.116	-0.158	-0.018	-0.074	0.12	0.046
Pungent Taste	-0.013	-0.17	-0.057	-0.057	**-0.181***	-0.026	**-0.188****
Dark Bottle	0.065	-0.075	-0.059	-0.035	-0.036	-0.124	-0.098
Cold Processing	0.106	0.05	-0.134	0.094	0.006	-0.066	-0.038
Organic	0.014	-0.119	-0.089	-0.051	**0.250****	0.16	0.051
	Italian						
Origin	-0.180	0.070	0.062	0.086	0.122	0.000	0.169
Pungent Taste	-0.005	-0.017	0.046	-0.088	0.121	-0.029	0.004
Dark Bottle	-0.154	-0.113	-0.032	0.048	-0.103	-0.071	-0.085
Cold Processing	-0.184	0.000	0.150	-0.052	0.054	0.012	0.106
Organic	-0.007	0.064	0.122	0.093	**0.323****	0.128	0.026
	Total						
Origin	-0.031	-0.043	-0.050	0.039	0.004	**0.196****	0.108
Pungent Taste	-0.033	-0.118	-0.077	-0.071	-0.031	-0.021	**-0.107***
Dark Bottle	-0.043	-0.083	-0.036	0.008	-0.066	-0.083	-0.068
Cold Processing	-0.025	-0.045	-0.125	0.062	0.024	-0.001	0.026
Organic	-0.018	-0.096	0.004	0.020	**0.247*****	0.123	0.032

*Significancy levels *= <0.10; **=<0.05; ***=<0.01*

Table 4 - Results of the rank ordered logit for olive oil products

perceive lower healthiness in organic production, but the relationship is still positive (0.336). Pungency has a negative effect on healthiness perception (-0.213). This effect is dependent on the Dutch nationality of respondents, in

fact, results suggest for Italian sample it has a neutral effect as the coefficient is not statistically significant. Another point of divergence between the two nationalities of respondents seems to be the color of the bottle: Italians seem to prefer a darker color of glass (0.279), while Dutch consumers prefer a lighter color (dark color has a coefficient of -0.643). From the results there is no significant interaction between cold processing and healthiness of the final product as the coefficient is not statistically significative.

Through an ANOVA analysis it is possible to further characterize the two nationalities samples according to the other questions of the survey. In this way the means are compared in order to understand if there are significant differences between the two groups. The results are shown in Table 5: the mean values are indicated for the Dutch and the Italian sample, while the F values indicate if the difference between the two groups is significant or not. Some questions are ranked from 0 to 1, so the results indicate directly the percentage, while other questions required a rank from 0 to 7.

The first question asked if the consumers are aware about the regulations that allow to indicate the origin of the product on labels: about half of the Dutch respondents is aware of that (54 %), while the majority of Italians do know it (70%), the difference between the two groups is substantial. The opposite can be said about the rules about sensory aspects on labels of products, where the difference between the two groups is significant: 61% of Dutch consumers know about it versus the 34% of Italians.

Then we asked to what extend some elements are important to the respondents to have a healthy olive oil product, there is a difference between the two groups: only 23% of Dutch respondents said it is important versus the 53% of the Italians. The same is for organic where the two groups are split apart: 25% of the

Dutch compared to the 53% of the Italians believe that organic production can enhance the healthiness perception of the olive oil. The ratings given to the effect of healthiness perception provided to products by the dark bottle confirm what already identified thought the conjoint task: there is a difference between the two nationalities: 70% of Italians stated that there is a positive relationship between a darker color of the bottle and the healthiness perception of the product versus the 48% of Dutch respondents.

Then, we asked the importance of some elements in the decision making for food products in general. The two groups show significant differences in terms of: quality (5.81 of Dutch versus 6.07 of Italians), Country Of Origin (respectively 3.95 and 5.37), taste (6.27 versus 5.89), recycling (4.77 versus 4.87), organic production (4.05 versus 4.58), appearance of the product (4.90 versus 4.63) and habit (4.39 versus 4.79). While there is no substantial difference in terms of health care (both score around 5.8) and environment (both score around 5.1).

Another noticeable difference between the groups is in term of use of oil that, as expected is much higher for Italians (94% of Italian use mostly oil in their diet versus 66% of Dutch respondents). We combined the questions of the Nutritional Knowledge Questionnaire in order to have a scale from 0 to 5 that indicates how much the respondent knows about technical facts about olive oil and fats in general. The results indicate that the groups are different in terms of nutritional knowledge: in fact the mean score for Dutch respondents is higher (3.08), compared to the one of Italians (2.75). The same has been done with the sustainability behavior, in this case the scale is from 0 to 25. The mean scores for Dutch respondents are lower compared to the Italians (14.72 versus 15.70).

Variable	Dutch	Std. Dev.	Italian	Std. Dev.	Mean	F	Prob > F
Knowledge about norms (0-1)							
Rules about origin on labels	0.54	0.499	0.70	0.457	0.61	**34.93**	0.0000
Rules about sensory aspects on labels	0.61	0.487	0.34	0.473	0.49	**101.17**	0.0000
Effects on healthiness perception (0-1)							
Cold processing health	0.23	0.420	0.53	0.499	0.37	**136.66**	0.0000
Organic health	0.25	0.435	0.45	0.498	0.39	**55.30**	0.0000
Dark bottle	0.48	0.500	0.70	0.457	0.58	**65.50**	0.0000
Important elements in food choice (0-7)							
Quality	5.81	0.912	6.07	1.378	5.93	**10.02**	0.0001
Health care	5.84	0.872	5.80	1.308	5.82	0.42	0.5169
COO	3.95	1.553	5.37	1.457	4.60	**268.80**	0.0000
Taste	6.27	0.793	5.89	1.329	6.09	**37.89**	0.0000
Environment	5.11	1.163	5.13	1.548	5.12	0.06	0.8128
Recycling	4.77	1.485	4.99	1.701	4.87	**5.60**	0.0181
Organic	4.05	1.621	4.58	1.643	4.29	**32.23**	0.0000
Appearance	4.90	1.159	4.63	1.457	4.78	**13.09**	0.0003
Habit	4.39	1.568	4.79	1.729	4.57	**18.42**	0.0000
Demographics							
Diet	0.14	0.352	0.18	0.387	0.16	3.34	0.0677
Useoil	0.66	0.473	0.94	0.231	0.78	**166.46**	0.0000
Other traits							
Nutritional knowledge (0-5)	3.08	1.793	2.75	1.582	2.93	**12.10**	0.0005
Sustainable behavior (0-25)	14.72	3.949	16.85	3.945	15.70	**88.47**	0.0000

Table 5 - ANOVA comparison of the means

4.2 Butter products

The experiment used for olive oil products has been replicated to a different target: a product made by butter and olive oil combined together. The structure and the elaborations to the data set are the same compared to the previous experiment. The results are as indicated in Table 6.

As happened for the olive oil products, the evaluation of rating of healthiness and nutritional value did not show any pattern of linking the levels of the attribute to the perception of consumers (Table 6). For both samples of consumers, the naturalness and authenticity are rated lower for pungent products. In the end, taste is negatively correlated to the pungency of products, but only for the Italian sample. In the end , the willingness to buy the product is correlated with pungency only according to the Italian sample.

Variable	Health	Nutritious	Good for skin/ teeth/ hair	Good for heart	Natural	Authentic	Taste	WTB
Attribute	*Dutch*							
Origin	-0.113	-0.204	-0.077	-0.132	-0.195	-0.148	0.027	0.031
Pungent Taste	-0.038	-0.041	-0.007	0.002	-0.147	-0.145	0.033	0.000
Dark Bottle	-0.054	-0.084	-0.050	0.000	0.041	-0.044	-0.040	0.005
Cold Processing	-0.059	-0.171	-0.190	-0.168	-0.105	-0.106	-0.024	0.016
Organic	0.220	-0.009	-0.032	0.022	0.116	-0.070	0.054	-0.022
	Italian							
Origin	-0.098	-0.038	0.046	-0.072	-0.024	-0.017	0.064	-0.075
Pungent Taste	-0.183	-0.043	-0.092	-0.156	**-0.244***	**-0.334***	**-0.172***	**0.112****
Dark Bottle	-0.052	-0.057	-0.910	-0.110	0.058	0.078	-0.012	-0.05
Cold Processing	-0.016	0.073	0.086	0.099	0.112	0.048	0.037	0.051
Organic	0.018	0.029	0.130	-0.126	0.194	-0.052	0.007	-0.029
	Total							
Origin	-0.103	-0.127	-0.024	-0.101	-0.120	-0.096	0.037	-0.011
Pungent Taste	-0.104	-0.038	-0.041	-0.067	**-0.186***	**-0.228***	-0.094	0.047
Dark Bottle	-0.044	-0.070	-0.061	-0.070	0.053	0.010	-0.031	-0.017
Cold Processing	0.004	-0.042	-0.046	-0.009	0.012	-0.035	-0.007	-0.008
Organic	0.009	0.002	0.031	-0.055	0.144	-0.063	0.035	-0.025

Significancy levels *= <0.10; **=<0.05; ***=<0.01

Table 6 - Results for the rating task of butter products

As we did in the olive oil experiment, also in this case we analyzed the results of the ranking task through a rank ordered logit to understand how the attributes of the profiles presented affected the ranking of the consumers. We also tested all the possible interactions between the answers to the other questions of the survey to check if they influenced the ratings of the butter packages. From the analysis of the ranking task (Table 7) the element that mostly affects healthiness perception is cold processing that is seen as positively correlated with healthiness of the product. But there are some differences within the sample: people that state that taste is important for their food choice, show a negative correlation between cold processing and healthiness perception. This effect seems to be also mediated by the importance of the appearance of food. Then, organic production is seen as negatively correlated with it, this effect is mediated by several elements: first of all, there is a nationality difference in that: Italian consumers score lower on the negativity between organic production and healthiness of the product. The effect is reversed for people that state that environmental issues are important in their food choice; also organic production is positively correlated for the ones that score high in nutritional knowledge. Then, the results also suggest an important effect of the packaging on healthiness perception, but, also in this case, there is a difference between the two nationalities of the sample: Dutch respondents seems to prefer a lighter packaging, while Italians prefer a darker one. Dark packaging is also seen as positive for healthiness by people that state that origin of products and organic production is important for their food choice. The mean effect of pungency for Dutch respondents is negative in terms of healthiness perception, but this effect is different according to the nationality as this element is not statistically

significant for Italians.

Variable	Coef.	
Italian_origin	**0.305**	***
Pungent_taste	**-0.159**	**
Dark_bottle	**0.601**	***
Cold_processing	**1.986**	***
Organic	**-0.997**	**
*Italian_nationality*Importance_to_Origin*	**0.432**	***
*Italian_nationality*Organic*	**-0.303**	**
*Gender*Pungent_taste*	**0.362**	***
*Importance_to_health_care*Organic*	**1.167**	***
*Importance_to_taste*Cold_processing*	**-1.920**	***
*Importance_to_environment*Organic*	**0.606**	**
*Importance_to_appearance*Dark_bottle*	**-0.415**	***
*Importance_to_appearance*Cold_processing*	**0.295**	*
*On_a_diet*Italian_origin*	**-0.442**	**
*Nutritional Knowledge*Organic*	**0.310**	**

Significancy levels *= <0.10; **=<0.05; ***=<0.01

Table 7 - Results of the rank ordered logit for butter products

In the case of butter products too, we proceed to compare the means of other questions of the survey, in order to characterize the two samples. Through an ANOVA analysis it is possible to check if the differences between the two groups are statistically significant or not. The results are shown in Table 8, the mean values are indicated for the Dutch and the Italian sample, while the F values indicate if the difference between the two groups is significant or not.

The first two question asked if the consumers are aware about the regulations that involve labels of olive oil products. Less than half of the Dutch respondents is aware of how indication of origin on labels is regulated (41%), while the majority of Italians is aware about them (72%), the difference between the two groups is substantial. The opposite can be said about the rules about sensory aspects on labels of products, where the difference between the two groups is significant: 47% of Dutch consumers know about it versus the 26% of Italians.

Then we asked to what extent some elements are important to the respondents to have a healthy olive oil product, we notices that there is a difference between the two groups: only 31% of Dutch respondents said it is important versus the 52% of the Italians. The ratings given to the effect of healthiness provided to products by the dark bottle confirm what already identified thought the conjoint task: there is a difference between the two nationalities: 63% of Italians stated that there is a positive relationship between a darker color of the bottle and the healthiness of the product versus the 43% of Dutch respondents. The groups show no difference in rating the importance of organic production for healthiness: in both cases around 40% of people stated that it can be important. Then, we asked the importance of some elements in the decision making for food products in general. The two groups show significant differences in terms of: quality (6.06 of Dutch versus 6.35 of Italians), Country Of Origin (respectively 4,25 and 5.22), recycling (5.16 versus 4.94), organic production (4.29 versus 4.49) and habit (4.05 versus 5.14). While there is no substantial difference in terms of health care (both score around 6), taste (both score around 6.10) and environment (both score around 5.3) and appearance (they both score around 4.5).

Also in this case, another noticeable difference between the groups is in term of use of oil that, as expected is much higher for Italians (95% of Italian use mostly

oil in their diet versus 57% of Dutch respondents). Then, also the average of people on special diet are quite low: 12% of Dutch and 16% of Italians. We combined the questions of the Nutritional Knowledge Questionnaire in order to have a scale from 0 to 5 that indicates how much the respondent knows about technical facts about olive oil and fats in general. The results indicate that the groups are different in terms of nutritional knowledge: in fact the mean score for Dutch respondents is higher (3.02), compared to the one of Italians (2.68). The same has been done with the sustainability behavior, in this case the scale is from 0 to 25. The mean scores for Dutch respondents are lower compared to the Italians (15.51 versus 16.45).

Variable	Mean (dutch)	Std. Dev.	Mean (italian)	Std. Dev.	Mean	F	Prob > F
Knowledge about norms (0-1)							
Rules about origin on labels	0.41	0.49	0.72	0.45	0.56	**147.19**	0.000
Rules about sensory aspects on labels	0.47	0.50	0.26	0.44	0.37	**68.21**	0.000
Effects on healthiness perception (0-1)							
Cold processing health	0.31	0.46	0.52	0.50	0.41	**64.35**	0.000
Organic health	0.42	0.49	0.44	0.50	0.43	0.24	0.622
Dark bottle	0.43	0.50	0.64	0.48	0.53	**59.64**	0.000
Important elements in food choice (0-7)							
Quality	6.06	0.76	6.35	0.78	6.20	**50.50**	0.000
Health care	5.95	1.06	6.04	0.98	5.99	2.18	0.140
COO	4.25	1.50	5.22	1.14	4.73	**182.37**	0.000
Taste	6.18	0.77	6.18	0.83	6.18	0.03	0.863
Environment	5.25	1.18	5.34	1.44	5.30	1.56	0.212
Recycling	5.16	1.20	4.94	1.47	5.05	**9.25**	0.002
Organic	4.29	1.55	4.49	1.56	4.39	**6.08**	0.014
Appearance	4.47	1.38	4.59	1.40	4.53	2.43	0.119
Habit	4.05	1.52	5.14	1.49	4.59	**181.63**	0.000
Demographics							
Diet	0.12	0.33	0.17	0.37	0.14	**4.97**	0.026
Useoil	0.57	0.50	0.95	0.21	0.77	**336.37**	0.000
Other traits							
Nutritional knowledge (0-5)	3.02	1.63	2.68	1.56	2.86	**15.72**	0.000
Sustainable behavior (0-25)	15.51	4.02	16.45	3.75	15.97	**20.14**	0.000

Table 8 - ANOVA comparison of the means

4.3 Discussion

From the results of the first task we can see that respondents link the organic production with an idea of naturalness. This is in line with with expected as

organic products are already defined as being more natural than conventional ones, the concepts of organic production and naturalness already are strictly linked into the minds of consumers (Schifferstein & Oude Ophuis, 1998).

Pungent taste of the products resulted to affect the naturalness perception as the pungent taste is judged as being not appropriate to the taste profile of both tested products tested and then, a result of sophistication. This link can find its reason as, culturally, pungency is related to food danger (Drenowski & Gomez-Carneros, 2000). As a result, also ratings of tastiness of pungent products are worse (Delgado et al., 2013). As we said in the previous sections, we expected the reaction to pungent products would have been different according to the nationality, this is not true in any case, but Italians seem to be more willing to buy products with a pungent taste and this can be linked to the familiarity with the product (Delgado & Guinard, 2011; Chan-Halbrendt et al.,2010; Nielsen et al. 1998; Recchia et al., 2012).

Another finding from the analysis of the first task is about authenticity that, according to respondents, is related to the knowledge of the origin of the product. This is confirmed by what is already existent in literature as a food can be considered "*authenthic*" when is perceived as truly regional (Kuznesof et al., 1997); so knowing the origin of a product can enhance its features of being more linked to the origin territory, that, in turn, conveys more quality conceived in a broad sense.

The results of the conjoint task say that, firstly, healthiness perception, in this case, depends on the origin of the product and this is confirmed by the literature, which states that origin is one of the most important attributes regarding the preferences for olive oil products (Dekhili et al., 2011; Nielsen et al., 1998; Santosa & Guinard, 2011; Scarpa et al., 2005; Ward et al., 2003). The effect of pungent taste depends on the nationality of the respondents and this is also already expected prior to the experiment. The effect of the dark bottle depends

on the nationality of the consumers: Dutch respondent seem to prefer a lighter packaging while Italians a darker one. This can be linked to the familiarity of use of the olive oil products. A great effect was found also due to cold processing label. Although, only about half of the sample stated explicitly that it can contribute to a healthier product. Besides, mostly people who said that the appearance of the product is important have a more positive score for this element. The results for the effect of organic production were opposite in the two experiments: in the first one organic production was identified as a driver for healthiness, while in the second one it was considered positive only to people that cared much about environmental issues linked to food. While pungency is seen as negative for healthiness perception for the reasons that we already explained before, the overall effect of pungency is negative, but, in the case of Italian respondents, we have less negative scores in terms of liking and healthiness perception. The results are summarized in Table 9, that reports all the results relative to each of the initial hypotheses we built on the basis of existent literature.

Factor	Effect
Product	
Color of the bottle	Depends on the nationality
Organic production	Positive
Country of Origin	Positive
Process Information	Positive
Sensory properties	Negative
Consumer	
Nutritional Knowledge	No effect
Openness to new technologies	Negative
Familiarity	Positive
Sustainability Concern	Positive

Table 9 - The model with the effects tested in the study

From the other questions of the survey we can get other insights. At first it is clear that the greater difference between the two samples is represented by the use of oil as the main source of fat in their diets: almost the whole sample of Italians use oil with a certain regularity in their diet while rates for Dutch respondents were lower. Another big difference is in the consideration of Country Of Origin as a determinant for decision making for food products, in fact this appears to be higher for the Italian sample. There is also a difference in the correlation assigned to the cold processing and healthiness of an olive oil: in fact, this is rated higher by Italians, maybe due to their greater familiarity with the product, even if the scores for Nutritional Knowledge indicate that Dutch are more aware about technical facts on olive oil. Further differences rely in the importance of habit for food choice: as we expected, Italians value more traditional products compared to Dutch consumers.

Conclusion

In this study we investigated how the perception of healthiness takes place into the mind of consumers. We tested how different elements of the packaging can influence the evaluation of the consumers. The importance of the packaging relies into two main reasons: due to information overload and to quick decision making, environmental stimuli, as the one salient on the package, can influence the way decisions are taken and the evaluations regarding the product.

As a case study, we used olive oil for several reasons. First of all, olive oil is seen as a key product for an healthy diet as it is a source of fat with different characteristics compared to the other substitute products. Then, it is a product with which consumers across Europe have different degree of familiarity and tradition of use. This is why we tested the perception of the consumers of two different nationalities: Italian and Dutch.

The results suggest that there is less expected difference between the two samples of consumers: the first noticeable difference is in the evaluation of packaging. In fact Dutch consumers think that a lighter packaging can better provide an image of an healthy product, while the opposite is for the Italian sample. Another point of discrepancy between the two groups of consumers is about the pungent taste of olive oil products. Although this can be an indicator of the healthiness of the product, this element is seen as negative for the overall healthiness perception. Besides, there is a slight difference between the two samples: Italians show to be more willing to accept products with a pungent taste. Both evaluations of these two elements seem to be influenced by the familiarity with the product that is what mainly differentiates the two groups.

The other elements of the study tell that there is not so much difference between the two samples, that on most of questions seem to have common views. Regarding the characteristics of the product, organic production, indication of the country of origin and processing information on the label have a positive effect in enhancing the healthiness perception of products. On the consumer's side, nutritional knowledge has no effect, openness to new technologies has a negative effect in evaluating the healthiness of products, while familiarity with the product and sustainability concern seem to have a positive effect.

The implications for market research are that most of the elements of the packaging are not seen differently from consumers with different nationality, this entails that there is no need to create different labels for products sold in different countries. The only indication that we have about different preferences of packaging suggest to use dark bottles for products sold in Italy and transparent ones for products sold in the Netherlands. Besides, we also have an indication that pungent products, even if with superior healthy features, cannot still be used for mainstream products, so they can represent a niche product for the small portion of population that show a preference for them. Although, the possibility to find a niche that prefers this type of products seem to be more likely to occur in Italy, in our case. This means that pungent products can gain attention firstly in countries in which the olive oil is more traditionally used.

Furthermore we had an indication that communicating the characteristics of the product through the label and packaging can enhance the healthiness perception of the products, so indicating the origin, organic production and process information can be useful for companies, regardless of the country in which they operate.

Since familiarity with the product has a positive effect on healthiness perception of the product, we expect a positive trend of preference toward the product in the emerging countries for the consume of olive oil, such as the Netherlands, as the

use of the product is spreading within the population as healthy features of the products constituting the diet become increasingly important.

Limitations and further research

Limitations of this study rely firstly in the sample, an analogous study on a larger basis and on a sample more representative of the population can give a clearer picture on how the packaging can influence the healthiness perception of products. Also these factors can be tested in studies involving consumers from other European nationalities, this would allow to state if the differences between consumers with several degrees of familiarity with the product are persistent or not in a broader sense.

The results of the first rating task of the olive oil bottles and the olive oil and butter products report not much significant relationships between the perception of the products and the manipulated elements of the packaging, this express that consumers do not notice enough difference among the products. We expect that a differently designed experiment can provide sharper relationships between the elements of the packaging and the evaluation of products in terms of all the healthiness features (good for heart, good for skin, etc.), naturalness and authenticity.

Furthermore, the results of this study can be compared with products that are elaborated differently in the mind of consumers, for example the ones that are evaluated more extensively in which the stimuli of the packaging can have a different role. This allows a broader understanding of the role of packaging and symbols in the decision making process occurring in the mind of consumers.

Appendix

Olive oil questionnaire

Health perception oil survey

Hi, welcome to this online survey by Wageningen University!
This survey will be about olive oil products and it will take you just few minutes to complete it. We really appreciate your contribution to this important research!
We just remind you that there is no wrong or right question, so just answer sincerely to what is asked.
The data from the questionnaire will be used only for research purposes, no commercial use will be done of your information.
We thank you in advance

How often do you use olive oil?
- ❍ Never
- ❍ Less than Once a Month
- ❍ Once a Month
- ❍ 2-3 Times a Month
- ❍ Once a Week
- ❍ 2-3 Times a Week
- ❍ Daily

In the following section you will see four of the olive oil bottles.
For each, please complete a few simple questions about your perception of it.

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at this olive oil product:

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Look at these bottles of extra virgin olive oil (very similar in price).
You'll enlarge them by clicking on them
If you were looking for an olive oil that you believe is the healthiest for you to use on a regular basis, which one would you choose?
Indicate the ranking from the MOST preferred option (1) to
the LEAST preferred option (8) writing the rank in the boxes at the side of the bottle.

The following questions will be about general facts on olive oil products.
As far as you know…

	Yes	Maybe/ I don't know	No
Are there specific rules about the label indications on origin of olives?			
Are there specific rules concerning sensory properties present on label?			
Can cold processing enhance the healthiness of the olive oil?			
An organic product is any healthier compared to a conventional one?			
The color of the bottle has any effect in preserving the nutritional value of the olive oil?			

The following questions will about about some nutritional issues not strictly correlated to olive oil. Feel free to answer what is the most appropriate for you.

Which fat do experts say is most important for people to cut down on?
- ❍ Monounsaturated fat
- ❍ Polyunsaturated fat
- ❍ Saturated fat
- ❍ I don't know

Some foods contain a lot of fat but no cholesterol
- ❍ Agree
- ❍ Disagree
- ❍ I don't know

Saturated fats are mainly found in:
- ❍ Vegetable oils
- ❍ Dairy products
- ❍ Both vegetable oils and dairy products
- ❍ I don't know

Harder fats contain more:
- ❍ Monosaturates
- ❍ Polyunsaturates
- ❍ Saturates
- ❍ I don't know

Polyunsaturated fats are mainly found in
- ❍ Vegetable oils
- ❍ Dairy products
- ❍ Both vegetable oils and dairy products
- ❍ I don't know

The following questions will be about some sustainability related to your everyday behavior.

Are you willing to perform the following actions within the next months?

	Definitely will not	Probably will not	Don't know	Probably will	Definitely will
Buying organic food					
Avoid shopping in the supermarkets					
Buying local food					
Buying products with little packaging					
Buying eco-products					

Considering the choice of food products, how important are the following factors for you?

	Not at all Important	Very Unimportant	Somewhat Unimportant	Neither Important nor Unimportant	Somewhat Important	Very Important	Extremely Important
Quality							
Health care							
Product geographic origin							
Taste pleasure							
Respect of the environment							
Possibility of recycling the packaging							
Organic farming origin							
Attractive appearance of the product							
Family habit							

Finally, some general questions about you.
We do not use your personal details for other than statistical issues.

1. What is your gender?
- ❍ Male
- ❍ Female

How old are you?
- ❍ <18
- ❍ 18-25
- ❍ 26-34
- ❍ 35-54
- ❍ 55-65
- ❍ >65

What is the country where you lived most of your life?

Are you on a special diet?
- ❍ Yes
- ❍ No

What are the main uses you see for these three products? Select all those that apply.

	Olive oil	Butter	Butter with olive oil
Mainly cooking (e.g., stir fry)			
Mainly dressing (e.g., salads)			
Mainly for breads (in toasts)			
Mainly to bake (e.g., cakes)			
Generally for all purposes			

In general, what do you use more? Butter or olive oil?
- ❍ Butter
- ❍ Olive oil
- ❍ A product that combines butter and olive oil

Butter and olive oil questionnaire

Health perception butter

Hi, welcome to this online survey by Wageningen University!
This survey will be about olive oil and butter products and it will take you just few minutes to complete it. We really appreciate your contribution to this important research!
We just remind you that there is no wrong or right question, so just answer sincerely to what is asked.
The data from the questionnaire will be used only for research purposes, no commercial use will be done of your information.
We thank you in advance

How often do you use olive oil?
- ❍ Never
- ❍ Less than Once a Month
- ❍ Once a Month
- ❍ 2-3 Times a Month
- ❍ Once a Week
- ❍ 2-3 Times a Week
- ❍ Daily

In the following section you will see four of the butter boxes.
For each, please complete a few simple questions about your perception of it.

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?

- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?

- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?
- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?
- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?
- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?

- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?
- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?
- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?
- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?
- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?
- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?
- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?

- ❍ Yes
- ❍ No

In your opinion, this product...

	Not at all	Little	Neutral	Somewhat	Very
will be beneficial for my health					
is nutritious					
is good for skin/ teeth/hair/etc.					
is good for my heart					
is pure/natural					
is authentic					

How do you expect this product to taste like?

- ❍ Very unpleasant
- ❍ Bad
- ❍ Neither Good nor Bad
- ❍ Good
- ❍ Very pleasant

Is this product Italian?

- ❍ Yes
- ❍ Maybe
- ❍ No

Would you ever consider to buy it?

- ❍ Yes
- ❍ No

Look at these butter products (very similar in price). You'll enlarge them by clicking on them.
If you were looking for a butter product that you believe is the healthiest for you to use on a regular basis, which one would you choose?
Indicate the ranking from the MOST preferred option (1) to
the LEAST preferred option (8) dragging the images in the ordered boxes

The following questions will be about general facts on olive oil products.

As far as you know…

	Yes	Maybe/ I don't know	No
Are there specific rules about the label indications on origin of olives?			
Are there specific rules concerning sensory properties present on label?			
Can cold processing enhance the healthiness of the olive oil?			
An organic product is any healthier compared to a conventional one?			
The color of the bottle has any effect in preserving the nutritional value of the olive oil?			

The following questions will about about some nutritional issues not strictly correlated to olive oil.
Feel free to answer what is the most appropriate for you.

Which fat do experts say is most important for people to cut down on?
- ❍ Monounsaturated fat
- ❍ Polyunsaturated fat
- ❍ Saturated fat
- ❍ I don't know

Some foods contain a lot of fat but no cholesterol
- ❍ Agree
- ❍ Disagree
- ❍ I don't know

Saturated fats are mainly found in:
- ❍ Vegetable oils
- ❍ Dairy products
- ❍ Both vegetable oils and dairy products
- ❍ I don't know

Harder fats contain more:
- ❍ Monosaturates
- ❍ Polyunsaturates
- ❍ Saturates
- ❍ I don't know

Polyunsaturated fats are mainly found in
- ❍ Vegetable oils
- ❍ Dairy products
- ❍ Both vegetable oils and dairy products
- ❍ I don't know

The following questions will be about some sustainability related to your everyday behavior.

Are you willing to perform the following actions within the next months?

	Definitely will not	Probably will not	Don't know	Probably will	Definitely will
Buying organic food					
Avoid shopping in the supermarkets					
Buying local food					
Buying products with little packaging					
Buying eco-products					

Considering the choice of food products, how important are the following factors for you?

	Not at all Important	Very Unimportant	Somewhat Unimportant	Neither Important nor Unimportant	Somewhat Important	Very Important	Extremely Important
Quality							
Health care							
Product geographic origin							
Taste pleasure							
Respect of the environment							
Possibility of recycling the packaging							
Organic farming origin							
Attractive appearance of the product							
Family habit							

Finally, some general questions about you.
We do not use your personal details for other than statistical issues.

1. What is your gender?
❍ Male
❍ Female

How old are you?
❍ <18
❍ 18-25
❍ 26-34
❍ 35-54
❍ 55-65
❍ >65

What is the country where you lived most of your life?
_____

Are you on a special diet?
❍ Yes
❍ No

What are the main uses you see for these three products? Select all those that apply.

	Olive oil	Butter	Butter with olive oil
Mainly cooking (e.g., stir fry)			
Mainly dressing (e.g., salads)			
Mainly for breads (in toasts)			
Mainly to bake (e.g., cakes)			
Generally for all purposes			

In general, what do you use more? Butter or olive oil?
❍ Butter
❍ Olive oil
❍ A product that combines butter and olive oil

Compared to a plain butter/margarine product, why/ when would you consider buying a butter product with olive oil?_____

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