Some like it healthy: Can socio-demographic characteristics serve as predictors for a healthy food choice?

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ABSTRACT

Authorising new health claims in Europe will favour the diffusion on the market of a greater number of foods with health claims. This scenario presents new opportunities to promote healthy food choices and launches new challenges to define strategies aimed at promoting products on the market. The literature suggests that our understanding of consumers' sensitivity to health claims is still fragmented and should be further investigated. Our objective is to study the relationship between choice behaviour, attitudes and socio-demographic characteristics in order to evaluate the effectiveness of consumer characteristics in predicting consumers' choice of products with health claims. Towards this end, we have conducted a choice experiment for extra-virgin olive oil on a sample of Danish ($n = 1024$) and Italian ($n = 1000$) consumers. Applying the latent class approach has enabled us to identify a niche of individuals sensitive of health claims and to characterise them with respect to the rest of the population. The results supply insights for the development of more targeted health promotion campaigns, as well as for actions in food marketing.

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1. Introduction

The consumer's response to the supply of foods with health-related information on the label is a question that has attracted the interest of various authors these past years. Studies focusing on consumer-related factors point out the importance of three key aspects that concern the attitudinal sphere, which are personal relevance, interest in nutritionally healthy eating and trust in health-related messages.

As far as the first element is concerned, the literature points out that the vulnerability to diseases is a decisive factor in the choice of products with claims indicating the food's beneficial function. In particular, studies underline that the perception of a benefit on the personal level influences the intention to use the product more significantly than the relevance it may have for a relative or a friend. It is also stressed that a claim represents an effective choice driver for consumers at risk of certain diseases, especially when it refers to specific diseases and carries detailed information on function and health benefits (Dean et al., 2012; Wong et al., 2013).

Another attitudinal factor that plays a role in choosing a health claim is the interest in nutritionally healthy eating. This aspect has been evaluated by means of the general health interest scale (GHI), which consists of eight statements related to an interest in eating healthily (Roininen, Lähteenmäki, & Tuorila, 1999). Studies have demonstrated the capability of the GHI to predict the choice of low fat foods, such as, for example, an apple instead of a chocolate snack, while the relationship between the GHI and the preference for foods with nutrition and health-related claims proves to be more uncertain (Roininen et al., 2001).

Finally, moving on to consider the relationship between trust in health-related messages and food choice, the literature states that the trust in a health claim increases the intention to choose a food with that claim and the propensity to consume it. Trust is indeed the key element so that the consumer effectively uses the information in his decision-making process (Annunziata & Vecchio, 2011; Saba et al., 2010; Worsley & Lea, 2003).

The aforementioned suggests that personal relevance, interest in nutritionally healthy eating and trust in health related messages can be expected to be predictors for food choices involving foods with health-related messages.

On the other hand, the relationships between the interest in health claims and the socio-demographic variables are much less

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evident. This is a problem, as the latter are important indicators in order to develop marketing strategies and health-related policies, as they can be quantified and verified easily and thereby linked to issues of communicational accessibility. In the ambit of socio-demographic characteristics, the most significant predictor proves to be the country of residence (Saba et al., 2010; Van Trijp & Van der Lans, 2007). The literature interprets this phenomenon by associating it to various factors of the sociocultural environment, such as market exposure to health claims, trust in authorities, and familiarity with the carrier and the ingredient (Annunziata & Vecchio, 2011; Grunert et al., 2009; Saba et al., 2010). Conflicting results are recorded for gender, in relation to which several authors find a greater interest among women, while others observe no significant differences between the sexes (Ares & Gámbaro, 2007; Dean et al., 2007; Urala, Arvola, & Lähteenmäki, 2003; Urala & Lähteenmäki, 2007). The scenario for age also turns out somewhat unclear. Several studies indeed show that age has a positive influence on the attention to food healthiness and the interest in health claims (Siegrist, Stampfli, & Kastenholz, 2008), while others indicate that different age brackets evaluate the healthiness of foods with health claims in the same way (Ares, Giménez, & Gámbaro, 2009). Similar considerations can also be made for education, whose influence on consumer preferences has been studied in relation to functional foods. In this ambit, interest proves to be determined by product typology rather than by level of education. Consequently, generalisation does not appear to be justified (de Jong, Ocké, Branderhorst, & Friele, 2003; Verbeke, 2005). Finally, studies indicate that families with pre-adolescent children have a greater interest in information about nutrition on the label (Grunert & Wills, 2007), but the impact of the presence of children on the choice of foods with health claims remains to be further investigated.

The current findings suggest that our understanding of consumers' sensitivity to health claims is still fragmented and should be further investigated. The objective of our study is to clarify consumer behaviour regarding foods with health claims, analysing the relationship between the choice, the attitudinal factors and the socio-demographic characteristics in order to evaluate the effectiveness of consumer characteristics in predicting consumers' choice of products with health claims.

This analysis is fundamental for the European food sector, where the authorisation of new claims by the European institutions will favour the entry and diffusion on the market of a greater number of products with health claims. In this framework, knowing consumer preferences is of prime importance for public stakeholders, so that they can orient food choices towards a healthier diet and contribute to increasing public health and social wellbeing. Furthermore, a better knowledge of consumer behaviour represents a key element in defining strategies that target the promotion of products with health claims for marketers, too.

Proposing to shed greater light on the relationship between consumer characteristics and the response to health claims, we have conducted a choice experiment on extra-virgin olive oil, which in 2012 obtained the authorisation to present a health claim on the label from the European Commission (European Commission, Reg. 432/2012). The recent acknowledgement of this product's health-promoting properties on the European level makes the case study particularly interesting, as its results can provide significant practical implications for public and private operators of the agri-food system.

The impact of the health claim on consumer preferences was evaluated in association with other attributes that contribute to the choice of the product. This approach enables us to analyse the importance of health claims in a context that includes important elements of the package information found in real purchase situations and to apply the analysis to a plausible context.

Another interesting aspect of the study lies in the fact that the experiment is conducted in two countries, Denmark and Italy, characterised by a different setting as far as the exposure to health claims, culinary tradition, and familiarity with the product are concerned.

With the aim of finding out whether there is a segment of consumers responsive to health claims and how it differs from the rest of the population, we applied the latent class (LC) approach which permits an analysis of determinants of consumer choices, taking into account heterogeneity that may exist between different segments. In the result section, after describing the main segments that emerged, the paper will concentrate on the group most sensitive to health claims, analysing its attitudes and socio-demographic characteristics. The discussions propose new insights for the development of more targeted health consciousness campaigns and actions in food marketing.

2. Methodology

2.1. Overall approach

Consumer preferences observed in both Italy and Denmark were merged into one dataset and analysed employing discrete choice models (McFadden, 1974). In addition, we adopted the latent class (LC) analysis approach to model estimation, which makes it possible to investigate heterogeneity by means of segmenting into groups with similar preferences (Greene & Hensher, 2003). The LC analysis outperforms the traditional segmentation techniques inasmuch as it is based on a likelihood model that permits statistical inference; furthermore, it permits us to evaluate the sufficient number of segments by comparing the information criteria as a function of the number of specified segments (Magidson & Vermunt, 2002; Train, 2003).

In our study, the LC analysis was applied utilising the statistical software Latent Gold Choice 4.5 (Statistical Innovation Inc.). Then the predictors of preferences for health claims were identified, comparing the consumers most sensitive to health claims to the rest of the sample by means of Chi-squared Automatic Interaction Detection (CHAID) analysis. To do this we used SI-CHAID software, which is integrated with Latent Gold and makes it possible to grasp the degree of uncertainty associated with each individual's belonging to a class. The CHAID analysis was also used to analyse the relationships between socio-demographic characteristics and the importance of attitudinal characteristics for the choice of olive oil in the sample.

2.2. Design of choice experiment

The most important attributes of extra-virgin olive oil in consumer choice were selected by means of a literature review (Dekhili, Sirieix, & Cohen, 2011; Delgado, Santosa, & Guinard, 2013; García, Aragonés, & Poole, 2002; Manapace, Colson, Grebitus, & Facendola, 2011). The attributes identified were price, site of production and a health-related message.

Regarding the choice of price level, 4 levels were considered. These were DKK 60, DKK 140, DKK 220, and DKK 300 for Denmark, and € 3, € 8, € 13, and € 18 for Italy (Table 1). They were identified starting from the 1st and the 99th percentiles of the price spread at which extra-virgin olive oil is purchased in the two countries (Nielsen data 2012). In particular, the two extreme levels were calculated increasing the 1st and 99th percentile by 50%. The other levels were defined by dividing the price interval defined by the extreme values into equal parts. Concerning the sites of production, the levels used in the analysis were Tuscany, Italy, EU, and Extra-EU (Table 1). Finally, the health related