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Title

Energy value information and consumers' preferences for different wine attributes: A choice experiment approach

I want to submit an abstract for:

Conference Presentation

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Keywords

calories, choice experiment, clean labels, consumers' preference, wine consumption, wine cues

Research Question

To determine how information about calories content may affect consumers' evaluation for wine quality cues and how a change in calories content may influence individuals' wine choice behavior

Methods

Online survey on 499 Italia red wine consumers, where consumers' attitudes and evaluation for wine attributes were elicited using a Choice Experiment approach

Results

Nutritional information did impact consumers' evaluations for different wine cues. We observed a general increase in mWTP for quality cues when calories information were displayed.

Abstract

Introduction

Apart from fat, the macronutrient with the highest energy value is ethanol. Alcohol represents, indeed, a significant source of calories (i.e. 7 kcal/g). Evidence suggests a relation between alcohol consumption and increased Body Mass Index (BMI) and obesity risk among young adults, particularly young female (Berkey et al., 2008; Vågstrand et al., 2007). While policy regulations related to responsible drinking have been severely implemented, limited attention has been given to the potential impact of excess calories intake due to alcoholic beverage consumption.

To illustrate, according to Petticrew et al. (2017) mandatory labelling of alcohol calorie content is not yet present in any country worldwide. However, in some countries, voluntary agreements on alcoholic beverages labelling with nutritional information have been proposed to alcoholic industries, i.e. the American Voluntary Nutrient Content Statements in the Labelling and Advertising of Wines, Distilled Spirits, and Malt Beverages (US Department of Treasury, 2013) – and the English Public Health Responsibility Deal (UK Department of Health, 2011).

In Europe the debate about alcohol nutritional labeling has raised in the last decade. The European Commission (EC) has recently presented a report (i.e. COM(2017)58), encouraging the alcoholic beverage industry to present a self-voluntary proposal. However, an European legal framework regarding nutritional information of alcoholic beverages does not yet exist, contrary to the food industry where nutritional labelling regulations have been adopted since 2011.

It is well documented that nutritional labels have a pivotal role in supporting consumers to making healthier choices as they convey information on the product that would otherwise be unknown to them (Drivan Herpen and Trijp, 2011, Drichoutis, Lazaridis and Nayga, 2005). Moreover, as Martin-Moreno et al. (2013) point out, it would seem reasonable providing nutritional information on alcoholic beverages in the same way as on pre-packed foods in order to have a sort of homogeneity across food and alcoholic beverages products.

Generally speaking, labels represent a key source information for consumers, both for extrinsic and intrinsic product characteristics (Caswell, 1999). In the literature related to alcoholic beverage, the effect of labels on consumers' purchase behavior has been particularly investigated in the wine sector, given the high variety of quality cues that characterize this product, such as brand, origin, variety, method of production, and transformation process (Lockshin and Corsi, 2012). These studies observed that labels are important determinants of consumers' wine preferences.

However, to the best of our knowledge, a limited number of studies have investigated how nutritional information may affect consumers' wine choices. The studies of Kypri et al. (2007), Thomson et al. (2012) and Bui et al. (2008) focused on the investigation of consumers' interest towards wine nutritional properties, giving contradictory results. Annunziata et al. (2016) used a conjoint analysis approach to determine consumers' evaluation for different health-related aspects, such as health warnings and nutritional value information, observing that consumers positively valued the presence of these information on the back-pack label. On the other hand, Vecchio et al. (2018) used an experimental auction approach to elicit consumers' marginal Willingness to Pay (mWTP) for four different formats of wine nutritional labelling, namely: indication of kcal only for glass of wine, nutritional panel referred to 100 mL, link to an external website, and Guideline Daily Amount (GDA) labelling with the indication of key nutrients for glass of wine. Their results show that participants revealed higher mWTP for the nutritional panel.

Aims and originality

Previous studies generally suggest that nutritional information on wine is perceived positively by consumers. However, authors limited the attention to health-related aspects, such as health warnings. As previously mentioned, wine products are usually characterized by different quality attributes and the question of how information about calories content may affect consumers' evaluation for wine quality cues has not been investigated yet. Moreover, previous studies did not consider how a change in calories content may influence individuals' wine choice behavior.

In order to fill this knowledge gap, we conducted an online survey on 499 Italian red wine consumers. The survey contained a Choice Experiment (CE) that allowed us to elicit consumers' mWTP for different characteristics on a bottle of Italian red wine, including information on the back label regarding method of production, transformation process, alcohol content and calories content.

Specifically, we used "clean labels" (e.g. sustainable production labels) as attributes in question since nowadays consumers have gained an increased attention towards cues which may embed a meaning of "naturalness" (Asioli et al., 2018). In addition, the literature concerning individuals' food choice behavior has recently raised the attention on consumers' tradeoffs between environmental and health attributes (Cerroni et al., 2018), contrary to the wine sector, where, instead, this topic has not been investigated so far.

Materials and Methods

The survey was administered in November 2018 in Italy using the Qualtrics panel. Only legal drinking age respondents who consume red wine at home took part in the survey.

The survey consisted in the following sections:

1) Wine consumption habits and attitudes towards wine in general: this section concerned frequency of consumption and wine purchasing behavior; habitual purchasing location and consumption; perception towards wine attributes; assessment of wine label use.

2) Choice experiment: CEs are one of the most popular preference elicitation method used in marketing and applied economics. Their popularity is due to their ability to estimate simultaneously the evaluation of different attributes and attribute levels.

In our survey we focused on the consumption of wine at home since studies have observed that individuals give more relevance to nutritional information for meals at home (Nayga et al., 2000). Hence, in our CE, respondents were asked to imagine to purchase a 750 ml bottle of red wine for a home consumption occasion. The CE consisted in a series of 12 choice tasks portraying two bottle alternatives with the respective back labels and a no-buy option. For each choice task respondents were asked to indicate the alternative they preferred.

In order to determine the effect of nutritional information on consumers' preference formation, we used a between-subject treatment approach, meaning that half of the respondents were presented with label alternatives indicating calories content (Cal Treatment, n=250), while to the other half of the sample this information was not given (No-cal treatment, n=249). Specifically, the calories content was calculated on the basis of the alcohol content, since wine energy value depends on its alcohol strength.

- Attributes and attribute levels were selected on the basis of results of a two-phase pre-test. In the case of the No-cal treatment, the wine attributes consisted in: sustainable logos (no logo, Organic certification logo, Biodynamic certification logo, Biodiversity certification logo), "Hand-harvest grapes" claim (absent, present), "Unfiltered wine" claim (absent, present), Alcohol content (11%, 12%, 13%, 14%) and price (2.10€, 3.60€, 5.10€, 8.10€, 11.10€, 14.10€). In the case of the Cal treatment same attributes and attribute levels of the no-cal treatment were used, but the calories content information respective to the levels of alcohol content was added (252kj/62kcal, 275kj/66kcal, 297kj/72kcal, 320kj/77kcal).

A sequential WTP efficient Bayesian design was used to allocate attributes and attribute levels across 60 choice tasks which were divided into 5 blocks of 12 choice tasks each. Each respondent was randomly selected to one of the 5 blocks.

3) Specific attitudinal questions: this section concerned attitudes towards the attributes in question, health consciousness, health orientation and health lifestyle attitude, environmental orientation

4) Socio-demographic information

At the current stage of data analysis, section 1, 3, and 4 were analyzed using descriptive statistics, while the choice experiment was analyzed using a discrete choice model (Train, 2009), specifically the Multinomial Logit Model (MNL).

Results

Preliminary results from the MNL model showed that consumers from both treatments revealed positive WTP for the sustainable labels, except biodynamic production, "Hand-harvest grapes" claim and "Unfiltered wine" claim. Regarding the alcohol content we did not observe any statistically significant mWTP, except a negative sign for the 14% level in the case of the No-cal treatment. Indeed, in the case of the 14% alcohol content we observed significant difference in consumers' evaluation across the two treatments. Specifically, respondents from the Cal treatment showed a higher WTP for this information.

Moreover, we analyzed WTP formation across different consumer segments on the basis of health consciousness, health orientation and environmental orientation attitudes observing that more health conscious consumers had higher WTP for the "clean labels" only in the case of the cal treatment, while environmental attitudes did not impact on differences in mWTP across the two treatments. On the other hand, when calories information was reported, we observed a decrease in mWTP at an increase of the alcohol, and therefore of the calories content, only in the case of respondents following healthy lifestyles.

Discussion and conclusion:

Our results show that nutritional information did impact on consumers' evaluations for different wine cues. Interestingly we observed a general increase in mWTP for quality cues, suggesting that consumers value positively the nutritional information, even at an increase of calories content. This relevant for policy makers and wine producers who might find encouragement from our results in adopting nutritional information. Future studies may focus on attributes, such as Denomination of Origin, wine type and brands in order to confirm our results in the case of other quality cues.

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Introduction

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