Food Quality and Preference 55 (2017) 1–5

Contents lists available at ScienceDirect

Food Quality and Preference

journal homepage: www.elsevier.com/locate/foodqual

Does hunger matter in consumer purchase decisions? An empirical investigation of processed food products

Tiziana de-Magistris *, Azucena Gracia

Unidad de Economía Agroalimentaria, Centro de Investigación y Tecnología Agroalimentaria de Aragón, Avda Montañana 930, 50059 Zaragoza, Spain
Instituto Agroalimentario de Aragón-IA2 (CITA-Universidad de Zaragoza), Spain

ARTICLE INFO

Article history:
Received 23 January 2016
Received in revised form 4 July 2016
Accepted 3 August 2016
Available online 3 August 2016

Keywords:
Hunger
Purchase
Body Mass Index
Cheese

ABSTRACT

The aim of this study is to investigate whether hunger matters in consumer purchase behaviour relating to processed food products. Therefore, a non-hypothetical experiment was implemented to assess truthful preferences by asking individuals the maximum price that they would pay for various processed cheese products. The findings indicated that consumers were willing to pay more when hungry than when satiated. Moreover, women and obese participants were willing to pay more than men and normal-weight participants. However, older and hungry people were willing to pay less than younger, satiated individuals.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

In recent years, the overweight and obesity rates have increased dramatically across the world, leading to the coining of the currently popular term 'obesity epidemic'. Therefore, numerous studies have been carried out to identify the factors that explain the obesity issue. Part of the current literature has focused on the relation between the obesity issue, the hunger state, and eating behaviour (food intake). In this regard, the physiological aspect of hunger was found to be highly correlated with the personal characteristics of individuals. In other words, hunger was the main determinant of the differences in dietary intake between normal-weight and obese people, men and women, and younger and older people (Howarth, Huang, Roberts, Lin, & Mccrory, 2007; Lindroos et al., 1997; Provencher, Drapeau, Tremblay, Deprés, & Lemiieux, 2003; Van der Meij, Wijmhoven, Finlayson, Oosten, & Visser, 2015). In particular, several studies have pointed out that men, obese people, and younger people displayed a tendency to eat more than women, normal-weight people, and older people. However, other studies have also considered the psychological characteristic of hunger, also known as 'hedonic hunger', which refers to a subjective state of individuals, driven by external stimuli. The findings reported that hungry and obese females showed a high level of responsiveness to food stimuli and thus were also more prone to overeating and to becoming obese (Castellanos et al., 2009; Piech, Pastorino, Michael, & Zald, 2010).

The objective of this study is to provide economic evidence of hunger in purchase behaviour and in particular its relation to the obesity issue. We assessed truthful preferences using a non-hypothetical experiment that incorporated both real products and an incentive-compatible mechanism that simulated a real purchase decision, because individuals were asked for the maximum price that they would pay for various processed cheese products.

To the best of our knowledge, only a few studies have investigated the role of hunger in consumer purchase behaviour. The first study was carried out by Bushong, King, Camerer, and Rangel (2010), who found that the physical presence of an appetite for food items triggered hungry people to be willing to pay more for them. Likewise, Briz, Drichoutis, and House (2015) reported that the hunger state influenced the purchase behaviour of participants regarding a ham and cheese sandwich. Finally, De-Magistris and Gracia (2016) pointed out that hungry participants were willing to pay a higher price premium for products when they predicted being both hungry and satiated in the future.

Although the studies by Briz et al. (2015), Bushong et al. (2010) and De-Magistris and Gracia (2016) brought important information to the literature, none of them reported empirical evidence of a relation between the current hunger state of individuals and their personal characteristics (e.g. BMI, age, or gender). Since a significant gap concerning this relationship remains, our study aims to fill this gap in the literature.

* Corresponding author at: Unidad de Economía Agroalimentaria, Centro de Investigación y Tecnología Agroalimentaria de Aragón, Avda Montañana 930, 50059 Zaragoza, Spain.

E-mail address: tmagistris@aragon.es (T. de-Magistris).

http://dx.doi.org/10.1016/j.foodqual.2016.08.002
0950-3293/© 2016 Elsevier Ltd. All rights reserved.

In our experiment we manipulated the hunger of participants by providing them with some unrelated food to test their initial levels of hunger and satiation. Moreover, to control their eating behaviour, we asked the subjects their level of hunger before and after the hunger manipulation task. Our procedure was different from that of the studies by Briz et al. (2015) and Bushong et al. (2010). To illustrate, in Briz's et al. (2015) study, the hunger of subjects was manipulated by varying the time of the day when they made their choices. Therefore, the hunger and satiation states of individuals were supposed to depend on the time of the day (i.e. before and after lunchtime, respectively). Likewise, in Bushong et al. (2010), the hunger of the participants was not manipulated, because individuals were asked to eat and then fast for three hours before the experiment.

2. Methods

2.1. Participants

In total 145 individuals were recruited from different districts, using a random procedure stratified by age, gender, and education level. The participants were the food buyers in their household, and they were all cheese consumers. However, 16 participants who stated that they were satiated before starting the experiment were eliminated from the experimental analysis. Most of the participants were female (51.0%), and 27.7% of the participants had undertaken university studies. Furthermore, 25.2% of the participants had a net monthly income higher than €2500. Finally, 49.6% of the participants were people of normal weight (<25 kg/m^2), 41.9% were overweight (25 kg/m^2 < BMI < 30 kg/m^2), and 8.53% were obese (>30 kg/m^2).

2.2. Products

For our experiment we selected the product of cheese for two reasons. Firstly, since cheese is a high-density product, it may evoke a hedonic pleasure response from participants due to an associated cue (e.g. smell) (Blass, Anderson, Kirkorian, & Pemperk, 2006). In this regard, some studies have reported positive associations between cravings for high-density food and body mass index (Castellanos et al., 2009). Secondly, the empirical evidence has shown that consumers prefer conventional products and those with hedonic labels (e.g. PDO labels) to products bearing health labels (e.g. nutritional claims and organic production), because they perceive products with health labels as being less tasty (Cavaliere, Ricci, & Banterle, 2015; Schuldt & Hannahn, 2013). Therefore, we selected four different versions of semi-cured pasteurized sheep milk (conventional cheese, light cheese, PDO cheese, and organic cheese) to test the robustness of our results indicating that the hunger effect holds across different versions of cheese products. Finally, as lying can affect behaviour in experiments, we did not deceive the participants, because we provided true information about the cheese products and we used real products.

2.3. Experimental design

The experimental sessions were held at the same time before lunch (1:00 p.m.) during weekdays when people were expected to be hungry, to avoid the time-of-day effect (Menkhaus, Borden, Whipple, Hoffman, & Field, 1992; Morawetz, De Groote, & Kimenju, 2011). Since we did not ask the participants to abstain from drinking and eating before starting the auction, we controlled their eating behaviour through a manipulation check question (How hungry are you?) to measure the subjective degree of feelings of starvation beforehand. This question was also used to check whether the hunger manipulation task had been behaviourally relevant when the participants had eaten the food. The responses to self-reported hunger were given on a Likert scale on which 1 indicates 'not at all' and 5 indicates the greatest intensity of hunger (Keim, Stern, & Havel, 1998).

The experimental design was within subjects and the experiment consisted of experimental manipulation of hunger after the third round. The first control condition, named HUNGRY, consisted of the first three rounds of the auction, in which the participants did not receive any manipulation of their hunger state. The second condition, named SATIATED, consisted of the last three rounds, when the subjects were supposed to be satiated because they had consumed the same amount of unrelated food and water.

The participants were asked to submit simultaneously a bid for each of the four cheese products, and we opted to use the nth random price with six repeated rounds to benefit from the learning effect (Shogren, Margolis, Koo, & List, 2001). To prevent possible bid affiliation effects (Corrigan, Drichoutis, Lusk, Nayga, & Rousu, 2012) from the participants' level of self-reported hunger, we did not use price feedback. Finally, we eliminated in-lab-delivered products to ensure that the subjects did not disproportionately prefer being in the lab. Therefore, the subjects were given a document in which the experimenters stated that they were obliged to hand deliver cheese to the winners outside the lab immediately after the end of the experiment.

2.4. Procedure

When the participants arrived, they received the product information and the experimental auction instructions and were allowed to inspect the cheese products and their characteristics. They were also asked not to communicate with each other for any reason, because any attempt to communicate would lead to the failure of the experiment. They were asked to complete a questionnaire on their personal and socio-demographic characteristics and their self-reported level of hunger. Then, the experimenter read the auction instructions aloud, emphasizing that their dominant strategy was to reveal their true values and that one round and one product would be randomly drawn as binding.

A practice task using different chocolate bars to familiarize participants with the auction mechanism was implemented (Shogren et al., 2001). After the practice procedure, the cheese auction was undertaken. The subjects simultaneously submitted a bid for each of the cheese products for three rounds. In each round the bids were collected and ranked from highest to lowest, but they were not posted to the participants. After the end of the third round, the hunger status of the participants was manipulated by providing them with an amount of unrelated food and water, and they were asked to eat until they felt satiated. After eating, the participants returned to the lab, and they were asked again to assess their self-reported hunger. Then, they were asked to submit a bid for each of the cheese products for three additional rounds simultaneously. The bids were collected and ranked from highest to lowest, but they were not posted. When all the rounds had been conducted, a random draw determined which of the six rounds was binding. Another random draw determined which of the cheese products was binding.

3. Results

The experimental groups of self-reported hungry individuals did not differ in the percentage of women and men (χ^2 (3) = 3.0113, p-value = 0.3902), age (χ^2 (6) = 6.1052, p-value = 0.412), education (χ^2 (6) = 6.8732, p-value = 0.333), income (χ^2 (15) = 13.105, p-value = 0.594), or Body Mass Index (IBM) (χ^2 (6) = 3.0763, p-value = 0.799). The results of these tests suggest that our

Download English Version:

https://daneshyari.com/en/article/4316839

Download Persian Version:

https://daneshyari.com/article/4316839

Daneshyari.com