

## Valorisation of menu labelling at fast food restaurants: exploring consumer perceptions

*Importância da presença de informação nutricional no cardápio  
de restaurantes fast food: explorando as percepções do consumidor*

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### ■ Summary

The present study aimed to investigate Portuguese consumers' interest for the provision of nutrition information at fast food restaurants and reactions to alternative presentations of this information. Four focus groups, with 5 to 8 consumers, were conducted in which participants were asked to look at three mock fast food restaurant menus that varied with respect to whether calorie information was provided and whether small portions and salads were available. Participants also discussed about fast food perceptions and attitudes, and fast food meal criteria decisions as well as the influence of nutrition information available at fast food restaurants on consumer meal decisions. Generally, participants were not interested on nutrition information when they eat at fast food restaurants, because eating at fast food restaurants continues to be mainly associated with taste, pleasure and convenience. Except for women with lower education, some participants were very critical regarding healthy menu identification, putting into question the regular menus without nutrition information. Some participants did not think they would do the calculations required to use the information on number of calories in each serving in order to report their estimation of daily energy requirements. Men, compared to women, were more aware of the possible ways in which fast food restaurants could provide point of purchase nutrition information.

**Key words:** Consumer choice; Foodservice; Qualitative research; Nutrition information.

### ■ Resumo

Pretendeu-se investigar o interesse do consumidor português sobre a presença de informação nutricional no espaço de venda de restaurantes *fast food*, bem como avaliar as reações dos consumidores a diferentes formas de informação nutricional. A técnica de recolha de informação utilizada foi o *focus group*. Realizaram-se quatro grupos, sendo cada grupo constituído por 5 a 8 participantes. Os participantes foram convidados a observar três listas de menus de *fast food* fictícios, os quais se diferenciavam entre si pela presença de calorias nos diferentes itens e pela presença de alternativas de menor tamanho, bem como de saladas. As percepções e as atitudes dos participantes em relação ao segmento *fast food*, critérios de escolha da refeição, bem como a influência da informação nutricional presente no espaço de venda do restaurante *fast food* quando da escolha da refeição foram igualmente discutidas. De um modo geral, os participantes não demonstraram interesse na disponibilização de informação nutricional no espaço do restaurante *fast food*, associando sabor, prazer e conveniência às refeições aí realizadas. Com exceção das mulheres sem formação superior, alguns participantes foram críticos em relação ao destaque dado ao menu saudável, pondo em questão o valor nutricional dos menus que não contemplam esta informação. Alguns participantes questionaram a utilidade da informação calórica, presente nos menus, na quantificação das necessidades energéticas diárias. Verificou-se que os homens, em comparação com as mulheres, eram mais conhecedores das diferentes fontes de informação nutricional presentes em restaurantes *fast food*.

**Palavras-chave:** Critérios de escolha; Serviço de alimentação; Pesquisa qualitativa; Informação nutricional.

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### 1 Introduction

Food choice is a complex behaviour and it is influenced by many interrelating factors (MOURA and CUNHA, 2005). Essentially, choice of what to eat is typically made according to: i) what is obtained, relating to the food domain; ii) what is acceptable, reporting to the environmental domain; and iii) what is preferred, referring to the individual domain (SHEPHERD, 1999; KITTLER and SUCHER, 2004). Moreover, some of the chemical and physical properties of the food are perceived by the individual in terms of sensory attributes, such as taste, texture, appearance and smell, and the liking of these attributes influences the choice of the food product. Other chemical components in the foods, for instance the amount of protein or carbohydrates, will have physiological effects, namely on the reduction of hunger. The environmental domain includes factors such as: i) family, peer pressure, cultural, religious and demographic variables; ii) marketing variables; and iii) economical considerations and political values (FURST *et al.*, 1996; NESTLE, *et al.*, 1998; MELA, 1999). Within the limitations of those dietary domains, personal preference is most often concerned with the more immediate aspects, such as sensory attributes, energy density, convenience, well being, variety, monetary constraints (i.e., the cost of the product against the income) and self expression (DREWNOWSKI, 2002). That is, individual food choice determinants range in scope from sensory preferences and psychological (mood, stress and guilty) to practical reasons (convenience, price/income, variety) and personal concerns (well being, self-expression).

Sensory responses to taste are consistently reported as a major influence on food behaviour (STEPTOE *et al.*, 1995; GLANZ *et al.*, 1998; MARTINS and PLINER, 1998; PRESCOTT *et al.*, 2002; ALVES *et al.*, 2005; EERTMANS *et al.*, 2006). These results come in agreement with the fact that concerns about reductions in the quality of sensory attributes of the diet are the most often mentioned obstacles to adopting a healthful diet (WORSLEY and CRAWFORD, 1985; STEPTOE *et al.*, 1995; GLANZ *et al.*, 1998; MENDELSON, 2002).

Palatability is a subjective measure of the pleasantness of food. It is dependent on the sensory attributes of the food such as taste. The consumer concept of "food taste" also includes smell and the oral perception of food texture (DREWNOWSKI, 1997). In general, foods that are described as more palatable tend to be more energy dense (calorie/g) than foods that are not (DREWNOWSKI, 1998). Foods with lower energy density (raw vegetables and fruits) invariably contain more water per unit weight (DREWNOWSKI, 1997; 1998). In contrast, foods with higher energy density tend to present a higher fat content. Energy dense foods are highly preferred across all geographical, ethnic, and cultural boundaries,

suggesting that sensory preferences for sugar and fat may be under physiologic control (DREWNOWSKI, 2002). For European consumers, food continues to be more associated with taste and pleasure than with nutritional concerns (EUROBAROMETER, 2006, 2010).

Moreover, modern lifestyles and time restrictions have contributed to an increase in convenience food solutions, as people perceive an increased shortage of time due to multiple demands of work and family roles (NEUMARK-SZTAINER *et al.*, 2003; JABS and DEVINE, 2006). The act of eating may entail different tasks, namely, acquisition, storage, preparation, cooking, service, cleaning and consumption (MARSHALL, 1995), as well as planning and coordination of other tasks in order to fit in food related activities. Convenience in food usually suggests that some kind of effort is saved or reduced (SCHOLDERER and GRUNERT, 2005). According to DARIAN and COHEN (1995), convenience in food can be categorised along two dimensions: i) the type of convenience, regarding the kind of effort is being reduced: time, physical energy or mental energy; and ii) the stage of the consumption process at which convenience is obtained (these stages include deciding what to eat, purchasing, preparation, consumption and cleaning up). That is, consumers' convenience orientation not only relates to physical activities but also to thinking activities involved in meal preparation, intimately related with culinary skills. Considering that women continue to become increasingly important at the workplace and that they are still the "food gatekeeper" at many households, working women have less time to spend on shopping and cooking. Additionally, younger housewives have grown up with almost no experience of foods in a raw state, and with only limited exposure to certain food types (GOFTON and NESS, 1991). Consequently, the relative cost of time spent shopping and preparing meals became much higher for the household. In this context, eating in restaurants takes out the burden of food preparation, cooking and dishwashing (CANDEL, 2001). Given that sensory attributes are a major factor regulating individual food choice of food items, restaurant establishments, take this criterion foremost into account when designing and preparing their menus (THOMAS JUNIOR and MILLS, 2006).

Different studies have shown that eating outside home, contributes to unhealthy diets, due to its association with increased energy intake (BURNS *et al.*, 2002; KANT and GRAUBARD, 2004; ORFANOS *et al.*, 2007), high fat and sodium and low fruit and vegetables intake (FRENCH *et al.*, 2000; FRENCH *et al.*, 2001; PAERATAKUL *et al.*, 2003; SATIA *et al.*, 2004). Additionally, large food portion sizes are normally available, particularly at US fast food restaurants (YOUNG and NESTLE, 2002; HARNACK and FRENCH, 2003; POWERS and HESS,

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2003). Nevertheless, nowadays most fast food restaurants offer consumers some low caloric options (e.g., salads, fruit, grilled chicken sandwiches, yogurt and soup) and some of them display nutrition information. In recognition of the potential role of meals eaten away from home on excess energy intake, one recommended approach to promote more healthful food choices is to increase the availability of nutrition information namely at fast food restaurants (NESTLE and JACOBSON, 2000). Although there is a potential for restaurant environments to promote healthy lifestyles (JONES *et al.*, 2004; BASSETT *et al.*, 2008; DUMANOVSKY *et al.*, 2010; PULOS and LENG, 2010) and discourage consumers from selecting less healthy meal options (BURTON and CREYER, 2004), according to US studies few consumers use information on food when at restaurants (KRUKOWSKI *et al.*, 2006; LANDO and LABINER-WOLFE, 2007; HARNACK *et al.*, 2008; ROBERTO and BROWNELL, 2009). As a result, it is important to investigate consumers' interest for provision of nutrition information in fast food restaurants in order to motivate consumer choices towards healthier eating. These studies are important in European countries where there is a lack of such research (LE FRANCOIS *et al.*, 1996; KEARNEY *et al.*, 2001; ORFANOS *et al.*, 2007). These are particularly relevant in Portugal, considering that the fast food restaurant is the segment that continues to increase in a declining foodservice sector. Demand for fast food restaurants in 2009 was estimated in 595 millions of Euros, corresponding to an increase of 2.1%, when compared with 2009, and a total market share of 49% for the top five fast food chain players operating in Portugal (DBK, 2010).

The present study aimed to investigate Portuguese consumers' interest for the presentation of healthy food information at fast food restaurants and reactions to alternative arrangements of this information.

## 2 Material and methods

Four focus groups were conducted, with participants being chosen based on having eaten at least one meal, during the past month, at a fast food restaurant. The groups were segregated by gender and education, separating those who had a higher education (University/Polytechnic degree) and those who had a lower education (from primary to secondary school): G1 – women with lower education; G2 – women with higher education; G3 – men with lower education; G4 – men with higher education. These segregations were done to help make the discussion accessible to all participants within a group and to ensure that participants felt comfortable speaking candidly about diet and food choices, respectively, as suggested by Lando and Labiner-Wolfe (2007).

Participants were recruited by a Portuguese food consumer research company (Sense Teste, Portugal), using the above-mentioned criteria. Discussions took

place in its focus group room, during April 2010. Focus groups were conducted by an experimented researcher. Prior to the focus group, participants completed a socio demographic questionnaire. After an initial icebreaker introduction, the focus group discussion began, considering themes emerged from the literature (LANDO and LABINER-WOLFE, 2007; MACKISON *et al.*, 2009) together with concepts considered relevant to address the purpose of this exploratory study:

- i) Fast food perceptions and attitudes and fast food meal criteria decisions. After a brief explanation about the meaning of fast food concept, these main topics were examined: the frequency of eating out at a fast food restaurant; the main reasons why participants eat at fast food restaurants; reporting occasions to eat at a fast food restaurant;
- ii) Influence of nutrition information at fast food restaurants on consumer meal decisions. After a brief explanation about the meaning of nutrition information the following questions were discussed: Do fast food restaurants display nutrition information on their premises, through different fixtures, such as menus boards, pamphlets, tray-liners, napkins or even through a company website?; Do people read nutrition information if presented at fast food restaurants?; What is the role of nutrition information when dining at a fast food restaurant?; How do participants obtain nutrition information regarding foods consumed away from home?; At restaurants, where do participants would like to see nutrition information?; and
- iii) Fictitious fast food menus boards. Participants were asked to look at a series of mock fast food menu boards projected on a screen. Mock menu boards were designed to look similar to those regularly seen at different Portuguese fast food restaurants, being written in both English and Portuguese: menu and items naming in English and item content and nutrition information in Portuguese (Figure 1).

Each menu board offered a unique presentation of information regarding energy value and composition of the menu. The first mock menu board (Figure 1a) presents six combinations of meal alternatives each with the item composition and price (control menu board). The second mock menu board (Figure 1b) presents, on the left side, six combinations of meal alternatives, each with the item composition and price, and on the right side, five combinations of meal alternatives (e.g., small portions and salads), also with item composition and price, with these



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being grouped and identified as healthful menu: the “Fast Healthy Choice” (healthier meal choices, proposition 1). Nevertheless, the Portuguese translation of this menu name was presented at the end of the menu board. The third mock menu board (Figure 1c) presents, on the left side, six combinations of meal alternatives each with item composition and price, and on the right side, five meal combinations that are grouped and identified as healthful menu: the “Fast Healthy Choice”, with energy value, in calories, next to each item, besides item composition and price (healthier meal, proposition 2). Additionally, to define cues that are more helpful the following statement was included on the menu board (here translated into English): “Our healthier meals have 1/3 or less of Daily Value Guidelines in a 2000 calorie diet. Also 1/3 or less of the Daily Value for saturated fat and cholesterol and less than 1/2 of the Daily Value for salt”. Regarding all menu boards, participants were asked to express their overall

impression of each menu board and what items would they eat from each menu and why.

The focus group session was video recorded for accuracy of transcription and analysis, following participants’ permission and the recordings were anonymously transcribed verbatim. Citations used in this study were translated into English by the research team from the discussion transcriptions. Those were analyzed based upon the core themes of the focus group guide, considering similarities and differences (MOURA et al., 2010), based on the Bardin content analysis (BARDIN, 1977).

### 3 Results and discussion

There were 5 to 8 participants in each group, as suggested by the literature (KRUEGER and CASEY, 2000) and a total of 25 participants (Table 1). Each group session lasted, on average, approximately 75 min.



**Figure 1.** Fictitious restaurant menu boards with more healthful combination meals listed separately: a) regular menu; b) regular menu with “Fast Healthy Choice”; and c) regular with “Fast Healthy Choice”, caloric information and dietary Diary Values.

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**Table 1.** Socio-economic characteristics of the focus-group sample.

Characteristics	G1 (n = 8)	G2 (n = 5)	G3 (n = 6)	G4 (n = 6)	Total (n = 25)
Sex					
Female	100.0%	100.0%	-	-	52.0%
Male	-	-	100.0%	100.0%	48.0%
Age group (years)					
20-29	25.0%	60.0%	33.3%	50.0%	40.0%
30-39	37.5%	40.0%	33.3%	50.0%	40.0%
+40	37.5%	-	33.3%	-	20.0%
Average ( $\pm$ s.d.)	37.0 ( $\pm$ 12.4)	30.8 ( $\pm$ 6.4)	35.0 ( $\pm$ 17.1)	29.8 ( $\pm$ 2.7)	33.6 ( $\pm$ 11.1)
Marital status					
Single/divorced/widow	50.0%	40.0%	66.7%	66.7%	56.0%
Married/living as married	50.0%	60.0%	33.3%	33.3%	44.0%
Level of education					
Basic (up to 9 years)	25.0%	-	33.3%	-	16.0%
Secondary (up to 12 years)	75.0%	-	66.7%	-	40.0%
Higher education	-	100.0%	-	100.0%	44.0%
Number of children (under 18 years) in the household					
None	37.5%	60.0%	66.7%	66.7%	56.0%
One child	25.0%	20.0%	16.7%	33.3%	24.0%
Two+	37.5%	20.0%	16.7%	-	20.0%
Frequency of eating out at a fast food restaurant					
Once a month	50.0%	40.0%	33.3%	-	32.0%
2-3 times a month	37.5%	40.0%	33.3%	66.7%	44.0%
1-2 times a week	12.5%	20.0%	16.7%	16.7%	16.0%
3+ times a week	-	-	16.7%	16.7%	8.0%

Socio-demographic characteristics of the sample are summarised in Table 1.

Focus group results are presented thematically, highlighting and sorting out quotes and making comparison between groups. The emerging themes which were posed repeatedly by the focus-group participants were: i) fast food consumption patterns, including: fast food consumption frequency; situational fast food consumption variables; fast food restaurants localisation; reasons to eat at fast food restaurants; ii) nutrition information at fast food restaurants, including: role of nutrition information when dining at fast food restaurants; reactions to fast food nutrition information; and iii) reactions to fictitious fast food menu boards.

### 3.1 Fast food consumption patterns

The majority (68%) of the participants from these four focus groups ate at fast food restaurants at least twice a month, and up to 24% would do it weekly or more often (Table 1). They reported that they visit fast food restaurants during lunch or dinner breaks at working hours, during the weekend with their family, particularly for participants with children, with their friends, particularly for younger participants. Moreover, they reported usually eating at fast food restaurants inside shopping centres due to its

accessibility. Many times, fast food restaurants are nearby the workplace and they are a convenient solution when shopping at shopping centres. Otherwise, participants reported that they used drive-through fast food restaurant services when having a significant lack of time to take the meal.

- Usually during the week, maybe for professional reasons, lets put it that way, I need fast food, because I have, as I've already told you, little time at... lunch, and on weekends it's always the same, we're still... still young, we want to go out for lunch, a cheap thing, and we always think about something fast. [G3P1]

Three main reasons were given by participants for eating at fast food restaurants: i) good taste of food; ii) convenience of the service; and iii) affordable price. Additionally, women emphasised the fact that their children enjoy fast food, and men from the focus group 4 remarked the importance of food safety assurance given by good hygienic restaurant conditions. Although fast food convenience was generally related to the service promptness, men emphasized the at hand location of fast food restaurants and women the absence of need to carry out culinary tasks.

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- I'm a person that likes it. Don't try to tell me that it makes me fat, that it is bad... just the fact that we don't have to cook, to clean the kitchen, it is worth... when on a rush, everything goes. [G1P7]
- Concerning fast food it's really... only... being quick and breaking the routine a little. And having... sometimes tastier food. Fast food isn't healthy, but tastes better. [G3P2]
- To me it is a matter of accessibility; it is a lot faster to access a fast food restaurant, this also because, for example, in a shopping centre we always find a fast food restaurant so it is easier to be quick... at the meal... [G4P3]

### 3.2 Nutrition information at fast food restaurants

Comparing to women, most men reported that they were aware of the possible ways for fast food restaurants to provide nutrition information (e.g. menu boards, tray liners or packages).

- On the cover of... of the tray [G3P4]
- A huge board, in front, even those who didn't want to would be forced to see. [G4P6]

Nevertheless, this information might not influence the meal selection for participants who were either aware or not aware of nutrition information at fast food restaurants. This could be explained by the fact that participants enjoyed the taste of fast food and considered that they do not regularly eat at fast food restaurants to have this kind of concern. Some reported that they do not have enough knowledge to understand the nutrition information content.

- ... If I am going to eat out, I will have to enjoy it and have pleasure on what I am doing, is not it [G1P7]
- Well, if I... would make that a habit, maybe it... would have a higher influence, obviously. Because eating daily that kind of food, one must... be careful. Now, as I don't do that, no... I really don't... care much about that... Well, those numbers are important, but most of the times to people who know, right? [Because it is not anyone who knows, because it says 7%, who knows that it's going to do harm or good, right? So, no... that information isn't always so relevant. [G3P2]

### 3.3 Reactions to fictitious fast food menu boards

In the same way, most participants reported that if the two healthful menus presented in the session (Figures 1b and 1c) were available in the market they, most

probably, would not choose them. Some would choose a combination from the "Fast Healthy Choice" merely out of curiosity, in order to try the taste. Nevertheless, some may recognized that this kind of information could be relevant for individuals with health problems or following a specific diet.

- I probably would try; even to check if it is similar. If I like it, why not, if it is healthier....If I don't like it I would return back to the same menu. Probably I would try it. [G1P5]

Taking into account the second "Fast Healthy Choice" menu, with energy value next to each item (Figure 1c), participants from different groups (with exception of women from focus group 1) were very critical to this proposal. This was emphasised by the absence of nutrition information regarding the control items (left side of the menu boards – Figures 1b and 1c) which could express high contents of salt and energy values, hence hindering any possible comparison among different menu items.

- Not to me, it would not be a criteria to influence my choice, but I also think that if we have calories on healthy food, so we can understand that those are in fact half of the calories, on the other [control menu board] we should have the inclusion of the calories of each menu item.... [G2P4]
- I think that in this... case, as they have put it, it would not influence my decision because I would not have a comparison term. They said that there it is 1/3, but in the other, they don't say if it is much more. [G4P2]

Additionally, some participants think they would not manage to do the calculations required to use the information on amount of calories in each serving in order to report their estimation of daily energy requirements.

- ... But, honestly, after I leave... fast food restaurant X or fast food restaurant Y or something like that, I know how many calories I've taken but afterwards I go to somewhere else and I won't be asking myself "have I already reached my limit today?" [G2P4]
- ... and I think that not everybody... knows how to read what it means. [G2P1]

Moreover, some participants do not consider that the reduction of portion size at the "Fast Healthy Choice" (Figure 1b) could result in a healthy benefit for consumers.

- First of all, I think that it is misleading publicity. Because what goes on the Fast Burger Small is the same that goes on the burger... is the same that goes on the normal Fast Burger, but in smaller amounts. [G3P5 – nod the head] It's...

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it's the only... the only thing... the only thing I see.  
Nonetheless, all the calories are there... [G3P4]

Nevertheless, some participants reacted favourably to the idea of placing more healthy combination meals in a separate section of the menu board, warning for future meal situations and recognizing that this kind of information could be relevant for individuals with health problems.

- As information, it is useful. Because we don't know that... the calories, the amount of salt, we don't know. As information, it is useful to frequent consumers, I'm sure that it will influence, regardless of eating this or that menu... [G3P6]
- Well, I agree because it opens the range to other consumers that care more about those health issues and so. I think it is healthy. Isn't it? In my case, I think that, well... It wouldn't really influence... [G4P5]

### 3.4 General overview

Results of the present study showed that providing nutrition information at fast food restaurants may have little effect on food selection among participants. Taste and convenience appear to be far more important considerations for most participants when eating at fast food restaurants, as supported by other researches (O'DOUGHERTY *et al.*, 2006; LANDO and LABINER-WOLFE, 2007; KOLODINSKY *et al.*, 2008; HARNACK *et al.*, 2008). This could be explained by the fact that participants enjoy the taste of fast food items and few are willing to sacrifice palatability in the pursuit of a healthy diet. On the contrary, participants felt that they must totally profit fast food solutions without restrictions, since they report a low frequency of such meals. Under circumstances in which a hedonic goal is more salient, people are less concern about healthy eating and nutrition information and choose options that they expect to taste better. Furthermore, the provision of nutrition information, such as calorie information does not affect perceptions because foods that claim great taste are not typically expected to be low in calories (RAGHUNATHAN *et al.*, 2006).

Additionally, participants were not interested in having nutrition information available to them when they eat at fast food restaurants. This finding is in contrast with other studies from other countries where consumers were interested in having nutrition information available at fast food restaurants to help them make better choices, even if they do not use it at every eating occasion (O'DOUGHERTY *et al.*, 2006; KRUKOWSKI *et al.*, 2006; LANDO and LABINER-WOLFE, 2007; HARNACK *et al.*, 2008; MACKISON *et al.*, 2009). Nevertheless, some participants may recognize that nutrition information at

fast food restaurants could be relevant for individuals with health problems. This optimistic bias, clearly identified for the Portuguese population (CUNHA *et al.*, 2010), could be a barrier for effective nutrition communication considering that participants are less likely to be affected by unhealthy food if they feel less motivated to protect themselves (BALASUBRAMANIAN and COLE, 2002; KOZUP *et al.*, 2003).

Men were more aware than women of the ways that fast food restaurants use to provide nutrition information to consumers. This finding was not expected, considering that women still act as the gatekeepers of the household food domain (MOURA and CUNHA, 2005), enhancing their health concerns, particularly towards their children.

Moreover, participants reacted negatively to the identification and designation of the "Fast Healthy Choice" (Figures 1b and 1c) in the sense that it raises awareness about the likely unhealthy burden of items from the regular menu. When a low calorie claim was presented, the provision of information had a negative effect on consumers' product perceptions and evaluations. HOWLETT *et al.* (2009) suggested that this effect might occur because consumers' expectations about lower calories may not be confirmed. Furthermore, one may suggest that participants from this research were very critical concerning the identification and designation of the "Fast Healthy Choice" because they did not like to be confronted with the fact that their menu decisions, while closer to the items represented at the control menu board could be unhealthier.

Additionally, some participants felt that they lack knowledge of the total calorie and nutrition content of meals purchased from fast food restaurant chains. This result is consistent with several previous studies, confirming that the knowledge or the basic use of the nutrition facts are low among consumers (O'DOUGHERTY *et al.*, 2006; KRUKOWSKI *et al.*, 2006; LABINER-WOLFE, 2007; BURTON *et al.*, 2009; HOWLETT *et al.*, 2009).

Authors stress that this is an exploratory study and findings are not generalisable to a larger population.

## 4 Conclusions

Taste and convenience appear to be far more important consideration for most participants when eating at fast food restaurants. Participants did not express particular interest on nutrition information and they did not consider healthy issues when deciding what to eat at fast food restaurants.

In sum, consumers who lack motivation and knowledge to use nutrition information during their food selection meal do not directly benefit of the nutrition information at fast food restaurant. As a result, there is a need to increase consumers' concern about nutrition



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when eating at fast food restaurants and improve nutrition knowledge through nutrition education programmes in combination with point-of-purchase nutrition information.

Future research should investigate the consumers' perception of nutrition information on fast food restaurants and identify strategies that promote the reading and use of this type of information at fast food restaurants. Additional research is needed to better understand the short and longer term nutrition and health consequences of eating out at fast food restaurants among Portuguese consumers.

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### References

- ALVES, H.; CUNHA, L. M.; LOPES, Z.; SANTOS, M. C.; COSTA LIMA, R.; MOURA, A. P. Motives underlying food choice: a study of individual factors used by the Portuguese population. In: PANGBORN SENSORY SCIENCE SYMPOSIUM, 6., 2005, Harrogate International Centre, Harrogate. **Abstract Book**. Harrogate North Yorkshire, UK: Elsevier, 2005. p. 19.
- BALASUBRAMANIAN, S. K.; COLE, C. Consumers' search and use of nutrition information: The challenge and promise of the nutrition labeling and education act. **Journal of Marketing**, Chicago, v. 66, n. 3, p. 112-127, 2002.
- BARDIN, L. **L'Analyse de Contenu**. Paris: Presses Universitaires de France, 1977. 291 p.
- BASSETT, M. T.; DUMANOVSKY, T.; HUANG, C.; SILVER, L. D.; YOUNG, C.; NONAS, C.; MATTE, T. D.; CHIDEYA, S.; FRIEDEN, T. R. Purchasing behaviour and calorie information at fast-food chains in New York City, 2007. **American Journal of Health Behavior**, Oak Ridge, v. 98, n. 8, p. 1457-1459, 2008.
- BURNS, C.; JACKSON, M.; GIBBONS, C.; STONEY, R. M. Foods prepared outside the home: association with selected nutrients and body mass index in adult Australians. **Public Health Nutrition**, Norway, v. 5, n. 3, p. 441-448, 2002.
- BURTON, S.; CREYER, E. H. What consumers don't know can hurt them: consumer evaluations and disease risk perceptions of restaurant menu items. **Journal Consumer Affairs**, Auburn, v. 38, p. 121-145, 2004.
- BURTON, S.; HOWLETT, E.; TANGARI, A. H. Food for thought: how will the nutrition labeling of quick service restaurant menu items influence consumers' product evaluations, purchase intentions, and choices? **Journal of Retailing**, New York, v. 85, n. 3, p. 258-273, 2009. <http://dx.doi.org/10.1016/j.jretai.2009.04.007>
- CANDEL, M. J. J. M. Consumers' convenience orientation towards meal preparation: conceptualisation and measurement. **Appetite**, London, v. 36, p. 15-28, 2001.
- CUNHA, L. M.; MOURA, A. P.; LOPES, Z.; SANTOS, M. C.; SILVA, I. Public perceptions of food-related hazards: an application to Portuguese consumers. **British Food Journal**, Bradford, v. 112, n. 5, 2010, p. 522-543.
- DARIAN, J. C.; COHEN, J. Segmenting by consumer time shortage. **Journal of Consumer Marketing**, Bradford, v. 12, n. 1, p. 32-44, 1995.
- DBK. **Sumario - Estudio Sectores Portugal de DBK: Restaurantes**. 7. ed. Madrid: DBK, 2010. 2 p.
- DREWNOWSKI, A. Taste preference and food intake. **Annual Review of Nutrition**, Palo Alto, v. 17, p. 237-253, 1997.
- DREWNOWSKI, A. Energy density, palatability, and satiety: implications for weight control. **Nutrition Reviews**, New York, v. 56, n. 12, p. 347-353, 1998.
- DREWNOWSKI, A. Taste, genetics and food choices. In: ANDERSON, H.; BLUNDELL, J.; CHIVA, M. (Ed). **From Genes to Culture**. Belgium: Danone Institute, 2002, p. 27-39.
- DUMANOVSKY, T.; HUANG, C. Y.; BASSETT, M. T.; SILVER, L. D. Consumer awareness of fast-food calorie information in New York city after implementation of a menu labeling regulation. **American Journal of Public Health**, Boston, v. 100, n. 12, p. 2520-2525, 2010.
- EERTMANS, A.; VICTOIR, A.; NOTELAERS, G.; VANSANT, G.; VAN DEN BERG, O. The Food Choice Questionnaire: factorial invariant over western urban populations? **Food Quality and Preference**, Barking, v. 17, p. 344-352, 2006.
- EUROBAROMETER. **Risk issues, Special Eurobarometer 238/Wave 64.1**. Belgium: European Commission, 2006. 232 p.
- EUROBAROMETER. **Food-related risks, Special Eurobarometer 354/Wave 73.5**. Belgium: European Commission, 2010. 78 p.
- FRENCH, S. A.; HARNACK, L.; JEFFERY, R. W. Fast food restaurant use among women in the Pound of Prevention study: dietary, behavioral and demographic correlates. **International Journal of Obesity**, London, v. 24, p. 1353-1359, 2000.
- FRENCH, S. A.; STORY, M.; NEUMARK-SZTAINER, D.; FULKERSON, J. A.; HANNAN, P. Fast food restaurant use among adolescents: associations with nutrient intake, food choices and behavioural and psychosocial variables. **International Journal of Obesity**, London, v. 25, p. 1823-1833, 2001.
- FURST, T.; CONNORS, M.; BISOGNI, C. A.; SOBAL, J.; FALK, W. Food choice: a conceptual model of the process. **Appetite**, London, v. 26, p. 247-266, 1996.
- GLANZ, K.; BASIL, M.; MAIBACH, E.; GOLDBERG, J.; SNYDER. Why Americans eat what they do: taste, nutrition, cost, convenience, and weight control concerns as influences on food



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CUNHA, L. M. *et al.*

- consumption. **Journal of the American Dietetic Association**, Chicago, v. 98, n. 10, p. 1118-1126, 1998.
- GOFTON, L.; NESS, M. Twin trends: health and convenience in food change or who killed the lazy housewife? **British Food Journal**, Bradford, v. 93, n. 7, p. 17-23, 1991.
- HARNACK, L. J.; FRENCH, S. Fattening up on fast food. **Journal of the American Dietetic Association**, Chicago, v. 103, n. 10, p. 1296-1297, 2003.
- HARNACK, L. J.; FRENCH, S. A.; OAKES, J. M.; STORY, M. T.; JEFFERY, R. W.; RYDELL, S. A. Effects of calorie labeling and value size pricing on fast food meal choices: Results from an experimental trial. **International Journal of Behavioral Nutrition and Physical Activity**, London, v. 5, n. 51, 2008.
- HOWLETT, E. A.; BURTON, S.; BATES, K.; HUGGINS, K. Coming to a restaurant near you? Potential consumer responses to nutrition information disclosure on menus. **Journal of Consumer Research**, Gainesville, v. 36, n. 3, p. 494-503, 2009.
- JABS, J.; DEVINE, C. M. Time scarcity and food choices: an overview. **Appetite**, London, v. 47, p. 196-204, 2006.
- JONES, J. L.; KRUMMEL, D. A.; WHEELER, K.; FORBES, B.; FITCH, C. The prevalence of heart-healthy menu items in West Virginia restaurants. **American Journal of Health Behavior**, Oak Ridge, v. 28, n. 4, p. 328-334, 2004.
- KANT, A. K.; GRAUBARD, B. I. Eating out in America, 1987-2000: trends and nutritional correlates. **Preventive Medicine**, San Diego, v. 38, n. 2, p. 243-249, 2004. PMID:14715218. <http://dx.doi.org/10.1016/j.ypmed.2003.10.004>
- KEARNEY, J. M.; HULSHOF, K. F. A. M.; GIBNEY, M. J. Eating patterns-temporal distribution, converging and diverging foods, meals eaten inside and outside of the home-implications for developing FBDG. **Public Health Nutrition**, Norway, v. 4, n. 2B, p. 693-698, 2001.
- KITTLER, P. G.; SUCHER, K. **Food and culture**. 4<sup>th</sup> ed. Canada: Thomson Wadsworth, 2004. 552 p.
- KOLODINSKY, J.; GREEN, J.; MICHAHELLES, M.; HARVEY-BERINO, J. R. The use of nutritional labels by college students in a food-court setting. **Journal of American College Health**, Washington, v. 57, n. 3, p. 297-302, 2008. PMID:18980885. <http://dx.doi.org/10.3200/JACH.57.3.297-302>
- KOZUP, J. C.; CREYER, E. H.; BURTON, S. Making healthful food choices: the influence of health claims and nutrition information on consumers' evaluations of packaged food products and restaurant menu items. **Journal of Marketing**, Chicago, v. 67, p. 19-34, 2003. <http://dx.doi.org/10.1509/jmkg.67.2.19.18608>
- KRUEGER, R.; CASEY, M. N. **Focus Groups: a Practical Guide for Applied Research**. 3<sup>th</sup> ed. Thousand Oaks: Sage Publications, 2000. 310 p.
- KRUKOWSKI, R. A.; HARVEY-BERINO, J.; KOLODINSKY, J.; NARSANA, R. T.; DESISTO, T. P. Consumers may not use or understand calorie labelling in restaurants. **Journal of the American Dietetic Association**, Chicago, v. 106, n. 6, p. 917-920, 2006.
- LANDO, A. M.; LABINER-WOLF, J. Helping consumers make more healthful food choices: consumer views on modifying food labels and providing point-of-purchase nutrition information at quick-service restaurants. **Journal of Nutrition Education and Behavior**, Indianapolis, v. 39, n. 3, 2007.
- LE FRANCOIS, P.; CALAMASSI-TRAN, G.; HEBEL, P.; RENAULT, C.; LEBRETON, S.; VOLATIER, J. L. Food and nutrient intake outside the home of 629 French people of fifteen years and over. **European Journal of Clinical Nutrition**, London, v. 50, n. 12, p. 826-831, 1996.
- MACKISON, D.; WRIEDENT, W. L.; ANDERSON, A. S. Making an informed choice in the catering environment: what do consumers want to know? **Journal of Human Nutrition and Dietetics**, Oxford, v. 22, p. 567-573, 2009.
- MARSHALL, D. W. Introduction: food choice, the food consumer and food provisioning. In: MARSHALL, D. W. (Ed). **Food choice and the consumer**. London: Blackie Academic, 1995. p. 3-17.
- MARTINS, Y.; PLINER, P. The development of the food motivation scale. **Appetite**, London, v. 30, p. 94, 1998. PMID:9515047. <http://dx.doi.org/10.1006/appe.1997.0127>
- MELA, D. J. Food choice and intake: the human factor. **Proceedings of the Nutrition Society**, Cambridge, v. 58, p. 513-521, 1999.
- MENDELSON, R. Barriers to changing food selection in Food Selection. In: ANDERSON, H.; BLUNDELL, J.; CHIVA, M. (Ed). **From Genes to Culture**. Belgium: Danone Institute, 2002. p. 117-131.
- MOURA, A. P.; CUNHA, L. M. Why consumers eat what they do: an approach to improve nutrition education and promote healthy eating. In: DOYLE, D. (Ed). **Consumer Citizenship: Promoting New Responses**. Harmar: Forfatterne, 2005, v. 1, p. 144-156.
- MOURA, A. P.; CUNHA, L. M.; AZEITEIRO, U. M.; AIRES, L.; GRAÇA, P.; DE ALMEIDA, M. D. V. Food consumer science post-graduate courses: comparison of face to face versus online delivery systems. **British Food Journal**, Bradford, v. 112, n. 5, p. 544-556, 2010. <http://dx.doi.org/10.1108/00070701011043781>
- NESTLE, M.; WING, R.; BIRCH, L.; DISOGRA, L.; DREWNOWSKI, A.; MIDDLETON, S.; SIGMAN-GRANT, M.; SOBAL, J.; WINSTON, M.; ECONOMOS, C. Behavioral and social influences on food choice. **Nutrition Reviews**, New York, v. 56, n. 5, p. S50-S74, 1998.
- NESTLE, M.; JACOBSON, M. F. Halting the obesity epidemic: a public health policy approach. **Public Health Report**, Washington, v. 115, n. 1, p. 12-24, 2000. PMID:10968581. PMCid:1308552. <http://dx.doi.org/10.1093/phr/115.1.12>

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CUNHA, L. M. et al.

- NEUMARK-SZTAINER, D.; HANNAN, P. J.; STORY, M.; CROLL, J.; PERRY, C. Family meal patterns: associations with sociodemographic characteristics and improved dietary intake among adolescents. **Journal of the American Dietetic Association**, Chicago, v. 103, n. 3, p. 317-22, 2003.
- O'DOUGHERTY, M.; HARNACK, L. J.; FRENCH, S. A.; STORY, M.; OAKES, J. M.; JEFFERY, R. W. Nutrition labeling and value size pricing at fast-food restaurants: a consumer perspective. **American Journal of Health Promotion**, Troy, v. 20, n. 4, p. 247-250, 2006.
- ORFANOS, P.; NASKA, A.; TRICHOPOULOS, D.; SLIMANI, N.; FERRARI, P.; VAN BAKEL, M.; DEHARVING, G.; OVERVAD, K.; TJØNNELAND, A.; HALKJAER, J.; SANTUCCI DE MAGISTRIS, M.; TUMINO, R.; PALA, V.; SACERDOTE, C.; MASALA, G.; SKEIE, G.; ENGESET, D.; LUND, E.; JAKSZYN, P.; BARRICARTE, A.; CHIRLAQUE, M. D.; MARTINEZ-GARCIA, C.; AMIANO, P.; QUIRÓS, J. R.; BINGHAM, S.; WELCH, A.; SPENCER, E. A.; KEY, T. J.; ROHRMANN, S.; LINSEISEN, J.; RAY, J.; BOEING, H.; PEETERS, P. H.; BUENO-DE-MESQUITA, H. B.; OCKE, M.; JOHANSSON, I.; JOHANSSON, G.; BERGLUND, G.; MANJER, J.; BOUTRON-ROUAULT, M. C.; TOUVIER, M.; CLAVEL-CHAPELON, F.; TRICHOPOULOU, A. Eating out of home and its correlates in 10 European countries: the European Prospective Investigation into Cancer and Nutrition (EPIC) study. **Public Health Nutrition**, Norway, v. 10, n. 12, p. 1515-1525, 2007.
- PAERATAKUL, S.; FERDINAND, D. P.; CHAMPAGNE, C. M.; RYAN, D. H.; BRAY, G. A. Fast food consumption among US adults and children: dietary and nutrient intake profile. **Journal of the American Dietetic Association**, Chicago, v. 103, n. 10, p. 1332-1338, 2003.
- PRESCOTT, J.; YOUNG, O.; O'NEILL, L.; YAU, N. J. N.; STEVENS, R. Motives for food choice: a comparison of consumers from Japan, Taiwan, Malaysia and New Zealand. **Food Quality and Preference**, Barking, v. 13, p. 489-495, 2002.
- POWERS, C. H.; HESS, M. A. A message to the restaurant industry: it's time to "step up to the plate". **Journal of the American Dietetic Association**, Chicago, v. 103, n. 9, p. 1136-1138, 2003.
- PULOS, E.; LENG, K. Evaluation of a Voluntary Menu-Labeling Program in Full-Service Restaurants. **American Journal of Public Health**, Boston, v. 100, n. 6, p. 1035-1039, 2010.
- RAGHUNATHAN, R.; WALKER, R.; NAYLOR; HOYER, W. D. The Unhealthy: Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products. **Journal of Marketing**, Chicago, v. 70, n. 4, p. 170-184, 2006.
- ROBERTO, C. A.; BROWNELL, K. D. An observational study of consumers' accessing of nutrition information in chain restaurants. **American Journal of Public Health**, Boston, v. 99, n. 5, p. 1-2, 2009.
- SATIA, J. A.; GALANKO, J. A.; SIEGA-RIZ, A. M. Eating at fast-food restaurants is associated with dietary intake, demographic, psychosocial and behavioural factors among African Americans in North Carolina. **Public Health Nutrition**, Cambridge, v. 7, n. 8, p. 1089-1096, 2004.
- SCHOLDERER, J.; GRUNERT, K. G. Consumers, food and convenience: the long way from resource constraints to actual consumption patterns. **Journal of Economic Psychology**, Amsterdam, v. 26, p. 105-128, 2005.
- SHEPHERD, R. Social determinants of food choice. **Proceedings of the Nutrition Society**, Cambridge, v. 58, p. 807-812, 1999.
- STEPTOE, A.; POLLARD, T. M.; WARDLE, J. Development of a measure of the motives underlying the selection of food: the food choice questionnaire. **Appetite**, London, v. 25, p. 267-284, 1995.
- THOMAS JUNIOR, L.; MILLS, J. E. Consumer knowledge and expectations of restaurants menus and their governing legislation: a qualitative assessment. **Journal of Foodservice**, Massachusetts, v. 17, p. 6-22, 2006.
- WORSLEY, A.; CRAWFORD, D. Awareness and compliance with the Australian dietary guidelines: a descriptive analysis of perceived barriers for healthy eating. **Nutrition Research**, Tarrytown, v. 5, p. 1291-1308, 1985.
- YOUNG, L. R.; NESTLE, M. The contribution of expanding portion sizes to the US obesity epidemic. **American Journal of Public Health**, Boston, v. 92, n. 2, p. 246-249, 2002.