ISCTE Business School
Instituto Universitário de Lisboa

CONSUMER EMOTIONS, PERCEIVED IMAGE AND BEHAVIORAL INTENTIONS TOWARD PORTUGUESE GASTRONOMY

Ana de Oliveira Pais Costa Moura

Dissertation submitted as partial requirement for the conferral of

Master in Marketing

Supervisor:
Prof. Paulo Rita, Professor of Marketing, ISCTE Business School

Co-supervisor:
Prof. Patrícia Arriaga, Assistant Professor, Department of Social and Organizational Psychology (DEPSO), ISCTE-IUL

October 2014

Abstract

The main aim of the present dissertation was to study the general image of Portuguese traditional food, focusing on attribute perceptions, emotional responses and behavioral intentions of both Portuguese and Foreigners. Overall, we expected that Portuguese perceptions, emotions and behavioral intentions regarding traditional Portuguese food would differ from foreigners. Participants (N= 100 college students; 66 females, 44 males; 47 Portuguese and 53 foreigners; age between 18-65 years; M = 26.8 years), were asked to evaluate their emotional responses, attributes and behavioral intentions regarding 28 food images (14 traditional-Portuguese; 14 non-traditional), while skin conductance responses were being registered. Body dissatisfaction and food neophobia were also evaluated for control purposes. We found that although foreigners are familiar to Portuguese traditional food and consider it stimulating and tasty, they perceive it as unhealthy, difficult to prepare and to find. These results could be useful for the Portuguese gastronomy sectors to improve their image and focus on their target audience.

Keywords: Traditional food, emotions, behavioral intentions, perception of food attributes

Resumo

O principal objectivo desta dissertação é estudar a imagem da comida tradicional portuguesa de forma geral, com enfoque na percepção de atributos, respostas emocionais e intenções comportamentais de portugueses e estrangeiros. Esperamos que as percepções, emoções e as intenções comportamentais dos portugueses sejam distintas das dos estrangeiros em relação à comida portuguesa. Foi pedido aos participantes da experiência (N= 100; 66 mulheres, 44 homens; 47 portugueses e 53 estrangeiros; com idades entre os 18-65 anos; M = 26.8 anos) que avaliassem 28 imagens de comida (14 comida tradicional portuguesa; 14 não tradicional) em relação às suas emoções, os atributos das comidas e as intenções comportamentais, enquanto se media a condutividade da pele e se registavam os resultados. Para efeitos de controlo também se avaliou a insatisfação corporal e a neofobia alimentar. Descobrimos que embora os estrangeiros estejam familiarizados com a comida portuguesa e a considerem estimulante e saborosa, esta é percepcionada com pouco saudável e difícil de preparar e de se encontrar. Estes resultados podem ser úteis para os sectores da gastronomia portuguesa melhorarem a sua imagem e focarem-se mais no seu público alvo.

Palavras-chave: Comida tradicional portuguesa, emoções, intenções comportamentais, percepção de atributos alimentares

Acknowledgements

I would like to express my gratitude to my supervisors Professor Paulo Rita and Professor Patrícia Arriaga for their guidance, engagement and support through this process.

I would also like to thank my family. My parents especially, for their role in allowing me to dream on doing this on the first place. Last, to Diogo, for his unconditional presence.

Table of Contents

List of Tables

List of Figures

List of Appendix

Introduction

"Ao mesmo tempo reencontramos a nossa identidade, a nossa maneira original de ser e de sentir – que se manifesta com toda a sua diversidade e exuberância no receituário tradicional."

(Modesto, 1984; p.4)

Most of the food studies attempt to investigate the consumer's emotional responses to food (King and Meiselman, 2010; Desmet and Schifferstein 2008) and the food attribute perceptions (Almil et al., 2011). However, not much is said about the perceptions and emotions of consumers regarding traditional food. Although Almil et al. (2011) developed a research on the attribute perceptions of traditional food among six different countries, the emotions and the behavioral intentions of consumers were not taken into consideration.

Hall et al. (2003) developed several studies regarding the importance of traditional food on the tourist experience and were part of the few that specifically studied the Portuguese case. Tourism organizations are recognizing the potential of culinary tourism as a powerful tool to promote destinations since food, wine, and dining are considered key products of the tourist experience (Ottenbacher & Harrington, 2013). Global Report on Food Tourism (2012) revealed that Portugal should take advantage of traditional food and wine as a way-out of the economic crisis, as both are seen as great economic prospects for the country. In Turismo de Portugal (2007), it is stated that tourism has great strategic importance for the Portuguese economy, although there is still some aspects to be achieved and one of them is "creating a stronger image before demanding customers" (Turismo de Portugal, 2007, p. 1).

Although Portugal has a wide range of products that may turn the country into a food and wine destination with great potential, Portuguese food suffers from a lack of familiarity (Hall et al. 2003), both from people who already visited the country and people who never visited. In one of the authors' research, participants were asked to identify three dishes, which could be considered synonymous with each of the countries. As expected, the matching was higher for countries most visited and poorest for countries less visited. In the case of Portugal, the level of food matching by both visitors and not visitors was lower than the level of food matching concerning countries not visited. In Portugal, both visitors and non-visitors could only identify some products as being typical (like salted codfish) rather than dishes.

Considering that there are no studies that combine emotional responses, attribute perceptions and behavioral intention regarding traditional food, and responding to the issue that Portuguese traditional food is seen as a great economic prospect for the country, this study seeks to analyze Portuguese food image by studying the perception of the food products (perceived image).

Therefore, the main aim of this research is to reveal the general image of Portuguese traditional food from three different perspectives: emotional responses, attribute perceptions and behavioral intentions. More specifically, we want to study the differences among Portuguese and foreigners' perceptions of Portuguese traditional food on several attributes and compare it with non-traditional food, in order to gain insights on consumer's expectations.

Based on the country of origin effect we expect differences on the Portuguese traditional food perceptions of Portuguese and foreigners. Plus, we expect that relevant factors like food neophobia, food involvement, body dissatisfaction, dietary restrictions, smoking behavior and gender influence food consumption. Therefore, these should be taken into consideration as control variables.

1. Literature Review

For Anholt (2004) countries and regions are "places trying to compete with one another in the global marketplace by building their brands" (p.4). Tourism offers a "series of experiences", achieved through the combination of a diverse array of products and services. Including gastronomy related ones. For visitors, the product is the total experience, covering the entire set of all aspects and components, including attitudes and expectations (Soteriades, 2012). The ultimate aim of tourism marketing is to create a strong image that can add value to destination preference over time (Stanković & Đukić, 2009). Kotler & Gertner (2002) introduced the concept of country image, "a place's image is defined here as the sum of beliefs, ideas and impressions that people have of that place. Images represent a simplification of a large number of associations and pieces of information connected with a place" (p.251). A place image is both the attribute perceptions of destinations and the holistic impression made by the destination (Echtner & Brent Ritchie, 1991).

Destinations with a strong and positive image have a higher probability of being chosen by tourists (Hunt, 1975) because a positive image creates positive consumer expectations, which lead to product purchase (Almli et al, 2011). Valls (1992) suggests a definition from the consumer's perspective, which defines a brand image of a country as a set of consumer perceptions. However, the brands' image in consumer's mind does not always match with the image of the company (or the place) it intends to transmit (Lopes, 2011). As such, the author suggests three different analyzes: the perceived image (how the target segment perceives the brand); the actual image (strengths and weaknesses), the image perceived by the company (based on an internal audit); and, finally, the analysis of the desire image (how the company wants to be perceived by the target segment). The author suggests these three studies because there are considerable differences between them. Additionally, latest research on this matter admits that the overall image of the destination is a combination of cognitive (destination image is evaluated by the attributes of its resources and attractions) and affective (referring to feelings and emotions raised by tourist destinations) dimensions (Beerli & Martín, 2004).

1.1 Gastronomy in Tourism and Portugal

International organizations are making continually efforts to discover new tourism products that would attract more tourists and provide a great market opportunity. In line with

Mohd et al. (2009), tourism activities can go beyond the accommodation, leisure, recreation, sports, culture, transportation and business.

Dictionaries define Gastronomy as the study of good eating. According to Gastronomy (1994) gastronomy is much more than that; it is the "The art of science of good eating. A style of cooking or eating". Hjalager and Richards (2002) explain that Gastronomy is not only difficult to define, but the word, just like 'culture', has become more loaded over time.

There is a critical relationship between tourism and gastronomy (Ottenbacher & Harrington, 2013) because food is an important element of the "environmental bubble" that surrounds most tourists on their travels. Any destination offers the culinary delights, recipes, chefs and cultural baggage that make gastronomy an ideal product for tourist consumption (Fields, 2002).

For many people, food is highly experiential (i.e. much more than functional) when it is part of the travel event and it can take a new significance and meaning (Hall et al., 2003). "Even the most basic meal can be etched in memory forever when it is eaten surrounded by awe-inspiring scenery or at the end of a special day exploring a new city" stated the authors (Hall et al., 2003, p.60). Memorable food and drink experiences are proposed not only because they significantly contribute to travel motivation and behavior but also because they influence the way in which tourists experience a tourism destination (Wolf, 2006). More and more people travel and visit new countries/regions in order to taste genuine and unique gastronomy products (Smith and Costello, 2009). As a consequence, many organizations are recognizing the importance and potential of gastronomic tourism as a great tool to promote destinations (Hunter, 2006). It is important to recognize gastronomy as an element of the cultural touristic experience as Santich (2004) argues that gastronomy is an experience of participation in other cultures and of a relationship with people and places with a strong sense of their identity. We can expect that a study of tourists' food consumption behaviors and experiences would be extremely important to food related stakeholders, such as restaurant and cafe owners, cooking schools, festival organizers, hotel and resort managers, bed and breakfast operators, and food producers (Hall et al, 2003).

We often regard eating as a necessity rather than a leisure activity, but Hjalager & Richards (2002) pointed, "food structures the tourist day" and eating out is a rising form of leisure where meals are consumed for pleasure, more than for necessity (Global Report on Food Tourism, 2012). As large numbers of the tourist's experiences are spent either

consuming food or deciding what and where to consume it, one important task is to find a strategy to add value to the eating experience in order to make it unforgettable.

Gastronomy is the only form of tourism that combines all 5 senses – visions, tactile, auditory, taste, and olfaction (Kivela & Crotts, 2006), and it is the most important and relevant determinant of tourist satisfaction, followed by "price and quality" and "atmosphere" aspects (Correia, Moital, da Costa, & Peres, 2008).

We grow up eating what our parents and our society tell us to eat. "We eat what is available" (Lovatt, 1989) but there is a difference in the manner in which different societies prepare similar food products (Hegarty & O'Mahony, 2011). Hjalager & Richards (2002) argue the consumption of food has recently become global, and tourism is a key piece in this change. Even though the growing globalization of the food markets has promoted the production of uniform and cheap food products (Vanhonacker et al. 2013) the consumer demands for traditional food has increased in many western countries.

There is a wide literature available on traditional food, mostly related to temporal, territorial and cultural dimensions (Bertozzi, 1998; EU, 2006; Jordana, 2000; Truefood, 2006). However, these are the food professionals' perspective definitions, and they don't necessarily match with consumers' reality (Almil et al, 2011). Many studies were conducted to measure consumers envision of traditional food and, as provided by Pieniak et al. (2009), European consumers perceive traditional food as "a product frequently consumed or associated with specific celebrations and/or seasons, normally transmitted from one generation to another, made accurately in a specific way according to the gastronomic heritage, with little or no processing/manipulation, distinguished and known because of its sensory properties and associated with a certain local area, region or country" (p. 348).

Food and wine are strategic elements for Portugal and they could be considered differentiated components of the destination's tourism offer. Variety and contrasts are two aspects that characterize Portuguese cuisine "[…] from seafood and fish (considered one of the best in the world) through meat, cheese, sweets, olive oil and wines of international standards. Portugal is a food and wine destination with a great potential to be exploited" (Global Report on Food Tourism, 2012, p.49). Correia et al. (2008) expected that tourists' expenses on both product categories would account for a large part of Portuguese restaurants' income.

Additionally, according to Turismo de Portugal (2007), the tourism plan in a 10-year perspective include gastronomy and wines as the main motivation for visiting Portugal and expect that 30% of the tourists should be familiar with at least 1 Portuguese dish.

Many European countries have an identifiable gastronomy or, rather, key dishes that are strongly identifiable with a specific country. Tourists with only the slightest involvement with food could probably identify the countries connected to pizza, paella, escargot, goulash, bierwurst and roast beef (Italy, Spain, France, Hungary, Germany and England, respectively), these products, and others, have marketing value - they help build an image (Hall et al, 2003). However, Portuguese food suffers from a lack of familiarity. According to the authors, tourists don't identify the country of origin of Portuguese dishes, unless they have a high involvement with gastronomy or had actually spent time in a variety of Portuguese regions. Therefore, addressing the information needs of the first-time tourist (to Portugal) seem to be a key priority. But these reactions were not expected considering that Portugal played such a crucial part in the development of European gastronomy by introducing a wide range of food items on everyday shopping list across Europe. Items like paprika, pineapples, peppers, tomatoes and potatoes were discovered by Portuguese explorers and are now important components of various national dishes outside Portugal (Hall et al, 2003).

1.2 Factors influencing food consumption

1.2.1 Country of Origin

The region, from which the food comes, is a significant factor for the consumers. Due to globalization, consumers are exposed to a large range of products and services, both domestic and foreigner, and this trend crosses all product categories, from cars to food. The introduction of words as "Coca-Cola", "McDonald's", "Nike", and many others, has raised the concept of country of origin", which can influence consumers' purchasing decisions. While some consumers buy these foreigner products, other hesitates to do it (Kavak & Gumusluoglu, 2006). On the late 80's, Shimp & Sharma (1987) defined "consumer ethnocentrism" as the beliefs about the appropriateness, indeed morality, of purchasing foreign-made goods/services, which gives to the individual a sense of identity and belongingness in a group. This term was adapted from the general concept of "ethnocentrism" introduced by Summer & Keller (1906). Most studies conclude that there is a tendency for consumers to evaluate more favorably their own country's products than consumers from other countries (Apil, 2006). These studies lead us to the country of origin (COO) concept, which refers to the effect of a consumer knowing where a product was made on his or her evaluation of those products (Kavak and Gumusluoglu, 2006). According to Apil (2006), COO influences purchase decisions and consumption behaviors in foreigner markets.

Additionally, the country image effect has been known to be product-specific and according to a study made by Kaynak & Cavusgil (1983) food is the product most culturally sensitive. For example Schnettler, Ruiz, Sepúlveda, & Sepúlveda (2008) concluded that for Chileans a country image is the most important information to be on a product label. In other words, COO has a significant effect on people's perception of gastronomy and consumer attitudes, such as ethnocentrism are assumed to be the antecedents of purchasing behavior (Kavak and Gumusluoglu, 2006).

1.2.2. Food neophobia and involvement

A concept that might be relevant to explain some of the differences observed between various food perceptions is food involvement (Hall et al, 2003). Involvement is a key concept because the consumer behavior and the decision-making process in tourism entail a high level of involvement (Swarbrooke & Horner, 1999). Havitz and Dimanche (1999) concluded that while most 'products' score low in involvement, leisure activities always score high levels of involvement.

One of the key measures of involvement is risk (Havitz & Dimanche, 1999), which is also an essential concept when discussing the individual differences observed in relation to the experience of food and wine (Hall et al, 2003). High risk-takers (people with high levels of involvement) tend to search for extreme novel situations and they have an allocentric type of personality; in contrast, psychocentrics tend to seek a more familiar and less threatening environment (Plog, 1994). The work of Plog (1994) suggests that allocentrics are neophilic (they seek for novel settings) while psychocentrics are neophobic (they fear newness).

Neophobia and involvement are, therefore, important concepts in the discussion of the food experience because they can help to understand why individuals avoid certain foods (Fenko et al. 2015). Fischler (1988) distinguished "neophobic[1]" from "neophylic[2]" tendencies. A tendency to neophobia may be noted in foreigner individuals because some traditional products may be perceived as too culturally remote (Bessiere & Tibere, 2013). The reluctance to eat may provide protection from possible consumption of toxic or nutritional inadequate foods. Nevertheless, neophilia has also positive functions as it increases the probability that the individual will consume foods from a wide range of sources, thereby making him/her more likely to ingest all nutrients required. Rozin & Fallon (1987) developed a taxonomy of

[1] Neophobic is an individual reluctant to try novel foods.

[2] Neophylic is an individual that overtly willing to try novel foods.

motives underlying the rejection of food and conclude that foods are rejected if they are believed to possess negative sensory properties (i.e. bad taste, smell, texture…); if they are believed to promote harmful consequences (i.e. they are bad for you) and finally, based on the origin of the substance.

People may have uncertainties regarding some foreign gastronomy dishes because what is perceived as disgusting is normally culturally bounded. "Items that may be considered to be desirable foods in one culture can often evoke a disgust response from members of another culture" (Martins & Pliner, 2005, p.215).

1.2.3 Body dissatisfaction and dietary restrictions

Other factor that is important to take in account because it might affect responses to food is the dissatisfaction with the body. Body dissatisfaction can be understood by the discrepancies between the actual image and the ideal image of the body (Valutis et al. 2009)

According to McNamara et al. (2008) emotion responses to food are correlated positively with eating concerns and body dissatisfaction. The level of body dissatisfaction is important to address when evaluating the emotional responses to food stimuli because the degree to which people are satisfied with their own bodies may influence behaviors (Silberstein et al. 1988).

According to The European Food Information Council (Bellisle, 2005), the major psychological determinants of food choice are mood, stress and guilt. In a study developed by (Dewberrya & Ussherb, 1994), people with high dietary restraints reported feeling guilty because of not eating what they think they should, and efforts to restrict food intake can increase the desire for particular foods and lead to what is described as food craving. Dietary restrictions is also an important factor to control when examine perceptions regarding food.

1.2.4 Gender

Wansink et al. (2003) investigated the "comfort" food preferences and they have shown that females identify sweet snack foods (e.g. chocolate, ice cream) as comfort foods, while males select savory foods (e.g. steak, casseroles) as comfort foods. Also, according to the authors females are more likely to report feelings of guilt after the consumption of comfort foods, when compared to males. It is important to take into account the gender of the participants when evaluating their responses to food products.

1.2.5 Smoking behavior

When studying the perceptions and feelings towards a certain food stimulus it is relevant to take in consideration the smoking behavior of the participants because like some other drugs, nicotine increases central nervous system levels of hormones (e.g. dopamine, serotonin) and suppresses appetite and increase body metabolism (facilitate weight loss) (Audrain-McGovern & Benowitz, 2011).

1.3. Emotions, perceptions and behaviors concerning food

1.3.1 Emotional Responses to Food

According to King and Meiselman (2010), food affects the way people feel, and there are lots of researches that study the take into account the association between emotions and foods (Desmet & Schifferstein, 2008). Bernabé et al. (2013) used Self-Assessment Manikin (SAM; Bradley & Lang, 1994) and Skin Conductance to measure emotional responses and psychological reactivity of women towards food images. The electrodermal activity (EDA) can be measured by skin conductance responses (SCR) that have been used in several studies to adress a wide range of topics, including physiological arousal (Boucsein, et al., 2012).

1.3.2 Food attributes perceptions

Almli et al (2011) reached conclusions on the general image of traditional food products, among six different countries, by measuring different attribute perceptions and covering a selection of sensory, health, ethnics, purchasing and convenience factors.

Although in the modern society the attribute convenience is more valued, it had significant negative connections with traditional food (Vanhonacker et al. 2010). Almli et al. (2011), for instance, concluded that convenience may act as a barrier to traditional food consumption. According to Sloan (2008) the main reasons why people rely on convenience foods when preparing dinner are because it “required little effort” or “was easy to make” and “took little time/no planning”. Traub & Odland (1979) suggested the following definition for convenience food: “fully or partially prepared food in which significant preparation time, culinary skills, or energy inputs have been transferred from the homemaker’s kitchen to the food processor and distributor.” (p.3). Other two reasons were added to the previous ones

when Costa et al. (2007) concluded that Dutch individuals prepare meals because it has a positive impact on work (i.e., allow participants to avoid stress) and a positive impact on athletic performance (i.e., allow participants to lead a more leisurely life). Almil et al. (2011) found that consumers in five of the six countries studied [Spain, Norway, France, Poland, Italy] reported that their own traditional food is not fast to prepare.

Research conducted by Pieniak et al. (2009) has shown that perceived convenience and healthiness are negatively associated with traditional food, while familiarity and natural content constructs are positive correlated. However, Portugal, as a country with a Mediterranean diet, which more than a eating habit is a lifestyle, has the triad breath, olive oil and wine as the base of its food. Mediterranean diet is characterized by a high consumption of vegetables and fruit, and a moderate consumption of protein, especially red meat. A Mediterranean diet has been revealed a positive effect on the occurrence of diseases and it is associated to a significant improvement in health status (Sofi et al., 2008). Almli et al (2011) found out that Spain and Italy report high levels of healthiness perception concerning their traditional food while, Norway gives relatively low score to the level of healthiness of their own food. In practice, northern countries have more unhealthy and low nutritional food than southern European countries, which are influenced by the Mediterranean lifestyle.

In order to study the perceptions of both Portuguese and foreigners regarding traditional Portuguese food we select three different important constructs from Almil et al. (2011) paper – convenience factors (ease of preparation and availability) and health factors (healthiness). We based this parameter selection on research made by Pieniak et al. (2009) that considered convenice and healthiness as barriers to traditional food consumption. Plus, we also applied in our study a question from the study of Almil et. (20011) which evaluate the personal opion/feelings about traditional food, in our case, Portuguese traditional food. With the inclusion of this direct measurement we gain insights on the general image of Portuguese traditional food.

Moreover, Blechert et al. (2014) developed a database of food-pictures that were evaluated on commonly used perceptual and psychological paramteres like valence, arousal, palatability, desire to eat and recognizability. These parameters are relevant not only because they were previously tested but also because they are recommended for experimental research on eating and appetite. In our study, we considered valence, arousal, palatability and recognizability as attributes of foods, and the parameter desire to eat a emotional response to food, instead of an attribute of the food.

1.3.3 Behavioral Intentions

Martins & Pliner (2005) investigated the factors that contribute to the acceptance of novel foods. In their research the authors presented both familiar and novel foods and asked participants to rate these foods on a variety of measures including: beliefs and feelings about the foods and willingness o try those foods later on this session. Willingness to try is a relevant factor to take into account when studying novel foods so, in order to measure the behavioral intentions of participants concerning traditional Portuguese food, we also took in consideration the parameter “willingness to try”.

2. Research Hypotheses

Our hypothesis will focus on the Portuguese traditional gastronomy as perceived by Portuguese and by foreigners since it has been addressed in the literature review that gastronomy has a great strategic importance for Portugal, but it has little familiarity outside of the country (Hall, 2003).

Taking the latter into consideration and based on the COO paradigm (Kavak and Gumusluoglu, 2006; Apil, 2006), we developed our hypothesis by choosing two dimensions, for comparison purposes (Vanhonacker, Lengard, Hersleth, & Verbeke, 2010): nationality (Portuguese or foreigners) and food type (traditional Portuguese and non-traditional).

In order to test the general image regarding traditional food comparing Portuguese with foreigner participants we expect that:

Hypothesis 1: We expected that Portuguese would evaluate more positively Portuguese food than foreigners.

In order to test the emotional responses, the food attributes perceptions and the behavioural intentions regarding traditional Portuguese food comparing Portuguese with foreigner participants' responses towards the Portuguese traditional food stimuli, we expected that:

Hypothesis 2a: Portuguese would have stronger emotional responses when exposed to Portuguese traditional food pictures than foreigners, i.e., would have higher levels of physiological arousal (skin conductance response) and self-report arousal, as well as self-reported valence (i.e., pleasure) and desire**.**

Hypothesis 2b: Portuguese would evaluate Portuguese food attributes, such as valence, arousal, palatability, availability, ease of preparation, and healthiness, in a more favorable way than foreigners.

Hypothesis 2c: Portuguese would be more willing to try Portuguese traditional food than foreigners.

When comparing Portuguese responses to traditional food versus non-traditional food stimuli we expected that:

Hypothesis 3a: The traditional Portuguese food would trigger stronger emotional

responses than the non-traditional food, i.e., Portuguese participants would react with high levels physiological arousal (measured by skin conductance responses), and would report higher levels of emotional arousal, high desire, and positive valence, i.e., pleasure, during exposure to Portuguese traditional food than to non-traditional.

Hypothesis 3b: The traditional Portuguese food would be evaluated in a more favorable way than the non-traditional Portuguese food, concerning valence, arousal, palatability, availability and healthiness.

Hypothesis 3c: Portuguese would be more willing to try traditional Portuguese food than to try non-traditional food.

Hypothesis 3d: The traditional Portuguese food would be evaluated as more difficult to prepare than the non-traditional Portuguese food.

Since foreign participants are not from a specific country we have no priori hypothesis regarding their perceptions of both traditional and non-traditional Portuguese food, thus these analyses were exploratory. We also did an exploratory analysis of the attribute familiarity, since we did not have priori literature to support a hypothesis.

Since foreign participants are not from a specific country we have no priori hypothesis regarding their perceptions of both traditional and non-traditional Portuguese food, thus these analyses were exploratory. We also did an exploratory analysis of the attribute familiarity, since we did not have priori literature to support a hypothesis.

Based on previous literature (Hall et al, 2003; Bessiere & Tibere, 2013; McNamara et al, 2008; Wansink, Cheney, & Chan, 2003; Audrain-McGovern & Benowitz, 2011), we took into consideration the following variables to be controlled: food neophobia, food involvement, gender, body dissatisfaction, smoking behavior, and dietary restriction.

3. Method

3.1 Participants

Participants were 100 (66 females, 44 males; age between 18-65 years; M = 26.8 years, SD = 8.9), most of whom were studying, working or visiting the ISCTE-IUL's campus and recruited randomly inside the university facilities. From the 100 participants, 47 were Portuguese (47%) and the other 53 (53%) were foreigners. The 53 non-Portuguese participants were from 21 different countries among ISCTE international students (see table 1). The proportion of Portuguese and foreigner participants did not statistically differ by Gender, χ^2 (1, N = 100) = 2.83, p = .092, "Dietary restriction" χ^2 (1, N = 100) = 4.19, p = .123, and "Smoking Behavior" χ^2 (1, N = 100) = 2.32, p = .068 (see table 2).

Table 1 | Nationality of the Foreigner Participants

Number of People of Each Nationality	Nationality
1	Indian, Estonian, Czech, Iranian, Angolan, Belgian, Argentina, English, Polish, Swiss
2	Dutch, Colombian, Cape Verdeans, American
3	Russian, Croatian
4	German, French
6	Brazilian
7	Spanish, Italian

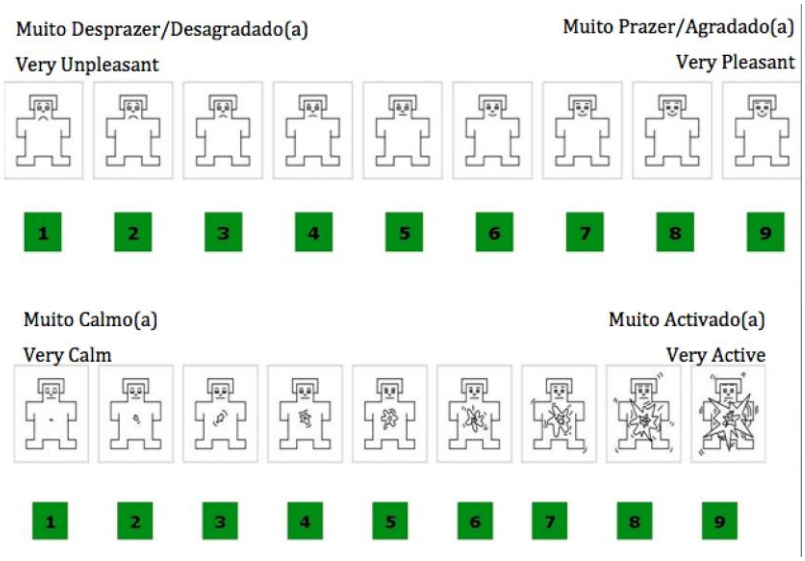
Table 2 | Gender, Smoking and Dietary Restriction as a function of Nationality

	Portuguese	Foreigner	χ^2
	N	*N*	
Gender			
Feminine	35	32	2.83
Masculine	12	22	
Smoking Behaviour			
Yes	13	24	3.32
No	34	29	
Diet Restrictions			
Yes	5	1	4.19
No	42	51	

3.2 Measures and Stimuli

Emotional responses. To measure the emotional responses of participants to all stimuli we used the Self-Assessment Manikin (SAM) (Bradley & Lang, 1994). These subjective ratings were distributed over a 9-point pictorial scale (see figure 1).

Figure 1 | Self-Assessment Manikin



Font: (Bhuiyan, Gustat, Srinivasan, & Berenson, 2003)

For *valence*, the ratings ranged from 1 (very sad/ unpleasant) to 5 (neutral) to 9 (very happy/very pleasant) affective states. For *arousal*, the ratings ranged from 1 (very calm/low arousal) to 9 (very excited/ high arousal). We choose SAM because according to Arriaga et al. (2011), "it is language- and culture-neutral". For *desire*, the ratings ranged from 1 (nothing) to 5 (extremely).

Food attributes and willingness to try. Participants evaluated the food images in the following ten parameters: *familiarity*, *valence*, *arousal*, *palatability*, *healthiness*, *ease preparation*, *availability*, *traditional Portuguese*, *traditional non-Portuguese*. *Willingness to try* the food after the session was also measured. We adapted these attributes from the work conducted by Almli et al (2011). All these parameters were evaluated on a scale from 1 (Nothing) to 5 (Extremely) (see appendix 1).

Body dissatisfaction. To measure participants' perceptions of ideal body image and how it compares with their current body image, we used the nine figure silhouettes developed by (Stunkard, Sorenson, & Schlusinger, 1983) (see appendix 1).

Participants had to rate how they perceived their current body silhouette (the mental representation of their body) by choosing an image that corresponded to their figure. Images 1 and 2 = underweight; images 3 and 4 = appropriate weight; image 5 = slightly overweight; images 6 and 7 = moderately overweight; images 8 and 9 = very overweight. To determine the discrepancy between their own body perceptions and their ideal body, we asked them to rate how they perceived an ideal body by using the same scale. Calculating the absolute value of the difference between the subject's current body size and the subject's ideal body size will correspond to *body dissatisfaction*. For example, if one participant indicated her/his current body size as a 5 and her/his ideal body size as a 3, her score would be 2. If another participant indicated her current body size as a 3 and her ideal body size as a 5, her/his score would be the absolute value of -2, equaling 2. Thus her/his *body dissatisfaction* would be equal to subject one. Larger scores indicate greater *body dissatisfaction*. This scale was already reported in various previous studies in several countries, including Portugal, revealing internal consistency, which provide certainty as to the psychometric quality of the instrument and endorses its use in Portuguese empirical studies (Matos & Arriaga, 2010; Leal, 2009).

Food involvement. The level o *food involvement* was measured by Food Involvement Scale FIS (Bell & Marshall, 2003) and it includes 12 items that measures a person involvement with activities relating to food (acquisition, preparation, cooking, eating and disposal). Participants rated their agreement with each of the twelve items on a 7-point scale with labeled endpoints (1 disagree strongly, 7 agree strongly) (see appendix 1). Half of the items were stated positively and the remaining were negatively. Therefore, for analysis, scoring on the scales for the negatively stated items were reversed (1, 2, 4, 8, 9 and 11). Once reversed, the mean scores for all 12 items were calculated, resulting in a total FIS score. A high score means high *food involvement*, which means that the individual is concerned with food acquisition, preparation, cooking, eating and disposal. We developed reliability test for both scales. With regard to FIS, the mean values ranged from 4 to 6.15 (M = 4,9).

Although the reliability was adequate for the global sample (Cronbach's α = .75) and for the foreigner sample (Cronbach's α = .82), it was not adequate for the Portuguese sample (Cronbach's α = .67). Since our objective is to compare both groups we cannot implement

this scale because it is not adequate for one of the group sample, so we excluded the variable *food involvement* from our study. The authors Bell & Marshall (2003) divided the items in two different involvement categories: "set and disposal" and preparation and eating". We also calculated the relibility of both dimensions: Portuguese sample and "set and disposal" dimension (Cronbach's α = .65); Foreigner sample and "set and disposal" dimension (Cronbach's α = .62); Portuguese sample and "preparation and eating" dimension (Cronbach's α = .67); Foreigner sample and "preparation and eating" dimension (Cronbach's α = .78). Our study only reported a good reliability for the foreigner sample on the dimension "preparing and eating".

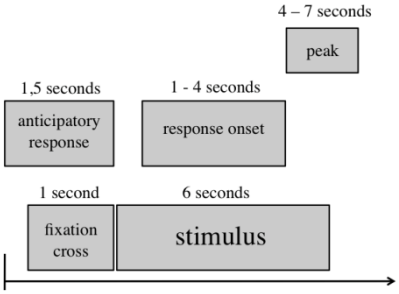
Food neophobia. The level of *food neophobia* was measured by measured by Food Neophobia Scale FNS (Pliner & Hodben, 1992). It was presented a set of 10 items to be evaluated by the respondents along with a scale of 5-point Likert with labeled endpoints (1 disagree strongly, 5 agree strongly) (Asperin et al. 2011; Woo & Lee, 2013; Aguiar et al. 2009). This scale has been validated several times and it has become one of the standard measures of *food neophobia* (see appendix 1). Mean scores from all 10 items were calculated resulting in a total FNS score. Higher scores are indicative of greater neophobia since a subject who behaved as neophobically as possible would have ranked the novel foods in each category with a 4, 5, and 6. The FNS proved to be a reliable scale (Cronbach's α = .88) and the mean values ranged from 1.97 to 2.98 (M = 2,39).

General image of the Portuguese traditional food. Participants were asked "How would you describe your personal opinion/feelings about Portuguese traditional food?". For this measurement, a five-point Likert scale anchored with 1 ("extremely negative") and 5 ("extremely positive") was used. High scores indicate that participants have a positive opinion regarding the Portuguese gastronomy.

Physiological arousal. Because we want to focus on the emotional reactions to the stimuli (arousal) we measured their skin conductance responses (SCRs) (Radin, 2004). SCRs were measured as the change in electrodermal activity from the pre-stimulus value to the peak 4-7 seconds, with onset between 1 and 4 seconds after stimulus onset. Trials in which SCR did not rise, steadily declined, or began outside the onset window specified above, were assigned a value of zero and included in all subsequent analysis. Trials that showed

movement artefact were removed from analysis. SCRs were quantified in the following manner: the amplitude of the largest SCR greater than .01 microsiemens that occurred between the first and the fourth second was scored as a response to that stimulus. Following standards set by Boucsein, et al. (2012), SCR magnitudes were recorded, meaning that SCR amplitudes of zero were included in analyses. Based on their pre-established criteria, subjects who exhibited SCR magnitudes of zero to all stimuli were classified as SCR non-responders. We also considered anticipatory responses to changes greater than .01 microsiemens that occurred 1.5 seconds before the stimulus (see figure 2). We had some problems with recording skin conductance data in eight participants, so these participants were excluded from the skin conductance analyses.

Figure 2 | Illustration of the experiment



Food Stimuli. We cooked prepared and photographed 15 traditional Portuguese dishes that were selected with the help of Maria de Lourdes Modesto, author of the Portuguese gastronomy book "Cozinha Tradicional Portuguesa" (Modesto, 1984). In addition to these dishes, and also to compare their responses to non-traditional Portuguese food images, we selected non-Portuguese dishes from a food picture database featuring food images for research (Blechert, Meule, Busch, & Ohla, 2014); also see www.food-pics.sbg.ac.at).

In order to select the most appropriate traditional and non-traditional Portuguese food images, a pilot study was previously conducted. Twenty-one Psychology students were asked to evaluate a total of 45 images of food dishes in nine parameters (familiarity, desire, valence, arousal, palatability, healthiness, traditional Portuguese, non-traditional Portuguese and willingness to try). Based on this pilot study, we select 14 Portuguese dishes (see appendix 4) and 14 non-Portuguese dishes (see appendix 5) that were similar regarding the parameter healthiness, arousal, valence and palatability. We only selected to the category traditional Portuguese dishes the ones that were recognized as Traditional Portuguese dishes ($M < 2.5$).

The traditional Portuguese dishes contrast with the non-traditional Portuguese ones in terms of the parameters: traditional Portuguese and non-traditional Portuguese (see table 3).

Analyses of the final set of images (28 images) in which we compared Portuguese traditional (n = 14) with non-traditional Portuguese food images (n = 14) on the previous parameters have shown that these two types of stimuli only differed in one category, the familiarity. Portuguese dishes were considered more familiar and than the non-Portuguese dishes Familiarity*:* $t(20) = 3{,}754$ *,* $p = 0{,}001$ (see table 4). The other stimuli attributes were relatively similar (all $p > .05$). The category of the pictures also did not differ in terms of RGB brightness and contrast (see table 4).

Table 3 | Characterization and subjective evaluation of the stimuli

Image No	Item Specific	Category food [1]	Traditional Portuguese	Traditional Non-Portuguese	Familiarity	Desire	Valence	Arousal	Palatability	Healthiness	Willingness to taste	Red	Green	Blue	Object size	Brightness	Contrast	Complexity	Norm. Complexity
1008	**Kale and potato broth**	**Traditional Portuguese**	**5.0**	**1.4**	**4.9**	**3.1**	**3.4**	**3.1**	**3.4**	**4.3**	**3.0**	**.34**	**.35**	**.30**	**.62**	**47.42**	**5.66**	**.07**	**.12**
1013	**Custard cake**	**Traditional Portuguese**	**5.0**	**1.4**	**4.9**	**4.5**	**4.5**	**4.3**	**4.5**	**2.2**	**4.4**	**.42**	**.33**	**.25**	**.66**	**6.45**	**61.84**	**.16**	**.25**
1006	**Golden Codfish**	**Traditional Portuguese**	**4.9**	**1.5**	**4.7**	**4.3**	**4.5**	**4.5**	**4.6**	**3.1**	**4.1**	**.38**	**.35**	**.27**	**.63**	**56.06**	**57.19**	**.09**	**.15**
1005	**Codfish in olive oil**	**Traditional Portuguese**	**4.7**	**1.7**	**4.7**	**3.4**	**3.7**	**3.4**	**3.9**	**3.9**	**3.1**	**.37**	**.34**	**.28**	**.61**	**57.78**	**65.77**	**.07**	**.12**
1009	**Pork with clams**	**Traditional Portuguese**	**4.7**	**1.6**	**4.9**	**4.4**	**4.5**	**4.4**	**4.6**	**2.7**	**4.1**	**.37**	**.34**	**.29**	**.52**	**36.47**	**51.13**	**.05**	**.10**
1003	**Duck rice**	**Traditional Portuguese**	**4.6**	**2.0**	**4.7**	**4.3**	**4.3**	**4.1**	**4.4**	**3.2**	**4.0**	**.38**	**.34**	**.29**	**.58**	**57.98**	**43.33**	**.07**	**.12**
1004	**Shellfish rice**	**Traditional Portuguese**	**4.6**	**2.0**	**4.7**	**3.7**	**4.0**	**3.8**	**4.1**	**3.1**	**3.5**	**.41**	**.34**	**.25**	**.63**	**53.03**	**42.53**	**.11**	**.17**
1014	**Octopus in olive oil**	**Traditional Portuguese**	**4.4**	**2.3**	**4.2**	**3.5**	**3.6**	**3.4**	**3.8**	**3.5**	**3.3**	**.39**	**.34**	**.27**	**.57**	**48.95**	**6.24**	**.07**	**.13**
1012	**Codfish patties**	**Traditional Portuguese**	**4.4**	**1.9**	**4.6**	**3.4**	**3.4**	**3.3**	**3.7**	**2.5**	**3.0**	**.40**	**.34**	**.27**	**.53**	**49.22**	**52.02**	**.05**	**.10**
1002	**Clams garlic coriander**	**Traditional Portuguese**	**4.4**	**1.8**	**4.7**	**3.9**	**4.0**	**3.9**	**4.0**	**3.4**	**3.5**	**.37**	**.35**	**.28**	**.61**	**56.31**	**69.18**	**.08**	**.13**
0323	Trout with potatoes	Non-traditional	4.2	3.3	4.5	3.0	3.5	3.1	3.6	4.6	3.0	.36	.34	.29	.36	17.49	58.21	.06	.16
1001	**Sausage with fried egg and broccolini**	**Traditional Portuguese**	**4.2**	**2.3**	**4.7**	**3.5**	**3.7**	**3.5**	**4.1**	**2.0**	**3.0**	**.41**	**.34**	**.25**	**.59**	**52.12**	**58.72**	**.08**	**.13**
1007	**Steak with fried egg and fries**	**Traditional Portuguese**	**3.9**	**2.7**	**4.7**	**4.3**	**4.4**	**4.3**	**4.6**	**2.3**	**4.1**	**.38**	**.34**	**.28**	**.62**	**59.63**	**51.60**	**.09**	**.14**
1015	**Egg and lard pudding**	**Traditional Portuguese**	**3.9**	**2.5**	**4.7**	**3.6**	**3.9**	**3.7**	**4.0**	**2.0**	**3.3**	**.45**	**.32**	**.22**	**.54**	**45.66**	**57.35**	**.02**	**.04**

[1] The non-traditional Portuguese dishes were selected among a food database (Blechert, Meule, Busch and Ohla, 2014; www.food-pics.sbg.ac.at).

Note: The 28 traditional Portuguese and non-traditional dishes that we selected are in bold (grey lines).

Image No	Item Specific	Category food	TradPT	Trad NonPT	Familiarity	Desire	Valence	Arousal	Palatability	Healthiness	Willingness to taste	Red	Green	Blue	Object size	Brightness	Contrast	Complexity	Norm. Complexity
0337	Beef grilled	Non-traditional	3.6	2.9	4.5	3.7	3.9	3.8	3.9	3.0	3.3	.42	.34	.24	.32	26.26	69.32	.11	.33
1010	**Custard caramel**	**Traditional Portuguese**	**3.6**	**2.7**	**3.7**	**3.2**	**3.2**	**3.1**	**3.4**	**2.3**	**2.9**	**.41**	**.34**	**.25**	**.52**	**45.81**	**45.11**	**.09**	**.17**
0001	**Cheesecake**	Non-traditional	**3.4**	**2.9**	**4.0**	**3.5**	**3.8**	**3.6**	**4.3**	**2.1**	**3.5**	**.42**	**.29**	**.28**	**.33**	**3.22**	**73.51**	**.05**	**.16**
0493	Spare ribs with French fries	Non-traditional	3.4	2.9	4.0	3.5	3.8	3.6	4.3	2.1	3.5	.49	.29	.22	.36	47.59	61.82	.13	.35
0304	Potato gratin	Non-traditional	3.4	2.4	4.0	3.7	3.7	3.6	3.8	2.7	3.0	.43	.37	.20	.29	15.85	37.38	.09	.30
0307	Salmon	Non-traditional	3.3	3.0	4.4	3.3	3.9	3.4	3.7	4.3	3.1	.37	.33	.30	.31	1.37	42.35	.04	.11
0325	Fruit salad	Non-traditional	3.3	2.7	4.9	4.3	4.6	4.3	4.5	4.9	4.1	.46	.36	.18	.27	28.26	6.71	.08	.30
0229	**Salad**	Non-traditional	**3.1**	**3.2**	**4.4**	**2.9**	**3.5**	**2.9**	**2.9**	**5.0**	**2.8**	**.45**	**.36**	**.19**	**.31**	**36.60**	**61.19**	**.10**	**.31**
0565	Steak with potato and vegetables	Non-traditional	3.1	2.8	4.4	3.5	3.8	3.4	3.8	3.8	2.8	.42	.33	.26	.39	29.51	65.03	.11	.29
0126	**Pastries and donuts**	Non-traditional	**3.0**	**3.5**	**4.9**	**4.1**	**4.3**	**4.2**	**4.6**	**1.5**	**4.1**	**.44**	**.33**	**.23**	**.47**	**43.35**	**59.33**	**.16**	**.35**
0556	Viennese Schnitzel with potatoes	Non-traditional	3.0	2.9	4.6	3.6	3.9	3.5	3.7	2.7	3.0	.43	.33	.24	.41	25.06	58.35	.08	.20
0196	Salad	Non-traditional	2.9	2.9	4.3	2.9	3.6	3.0	2.9	5.0	2.8	.41	.36	.23	.38	4.98	85.37	.10	.27
0316	Spinaches potatoes casserole	Non-traditional	2.9	2.7	4.0	2.7	2.9	2.7	3.0	3.0	2.4	.37	.35	.27	.36	26.07	58.71	.10	.28
0219	**Salad**	Non-traditional	**2.8**	**3.0**	**4.3**	**2.7**	**3.0**	**2.6**	**2.7**	**4.9**	**2.5**	**.41**	**.36**	**.23**	**.24**	**22.82**	**59.72**	**.09**	**.37**
0350	Quiche	Non-traditional	2.8	3.0	4.3	3.4	3.4	3.2	3.6	2.6	3.1	.51	.34	.16	.48	56.52	56.41	.16	.33
0212	**Vegetable mix with dip**	**Non-traditional**	**2.7**	**2.9**	**4.4**	**2.4**	**2.8**	**2.4**	**2.5**	**4.9**	**2.0**	**.45**	**.35**	**.20**	**.33**	**34.73**	**62.92**	**.11**	**.32**
0312	**Chicken grilled**	**Non-traditional**	**2.7**	**2.8**	**4.0**	**3.4**	**3.5**	**3.0**	**3.5**	**4.0**	**2.9**	**.39**	**.33**	**.27**	**.43**	**23.33**	**58.57**	**.10**	**.23**
0299	Mixed vegetables	Non-traditional	2.6	2.8	3.9	2.0	2.2	1.8	2.2	4.8	1.8	.39	.39	.23	.43	3.00	63.76	.10	.22
0526	Salad	Non-traditional	2.6	2.7	4.1	3.4	3.8	3.2	3.4	4.8	3.2	.39	.36	.25	.43	37.49	64.01	.14	.33

Image No	Item Specific	Category food	Traditional Portuguese	Traditional Non-Portuguese	Familiarity	Desire	Valence	Arousal	Palatability	Healthiness	Willingness to try	Red	Green	Blue	Object size	Brightness	Contrast	Complexity	Norm. Complexity
0022	**French fries**	**Non-traditional**	**2.5**	**4.0**	**4.9**	**4.2**	**4.1**	**4.1**	**4.2**	**1.2**	**4.1**	**.44**	**.35**	**.21**	**.48**	**43.75**	**5.74**	**.09**	**.19**
0142	**Pasta bake**	Non-traditional	**2.3**	**2.9**	**2.4**	**2.9**	**3.0**	**2.9**	**3.1**	**2.3**	**2.9**	**.50**	**.32**	**.18**	**.29**	**31.02**	**58.14**	**.11**	**.39**
1011	Egg and sugar puffs	Traditional Portuguese	2.2	2.4	2.2	2.6	2.5	2.4	2.6	1.8	2.6	.37	.34	.28	.43	31.34	28.14	.06	.14
0161	Mini chocolate marshmallows	Non-traditional	2.1	3.1	3.7	3.5	3.5	3.3	3.6	1.8	3.2	.38	.32	.30	.47	29.56	7.24	.04	.08
0483	**Pancake with fruits**	**Non-traditional**	**2.0**	**3.9**	**4.4**	**4.6**	**4.6**	**4.7**	**4.6**	**2.2**	**4.5**	**.45**	**.30**	**.25**	**.41**	**35.51**	**8.33**	**.11**	**.27**
0240	Crispy bread with cottage cheese	Non-traditional	2.0	2.8	2.4	1.9	2.3	2.0	2.5	4.2	2.1	.36	.35	.29	.44	3.05	59.79	.11	.24
0489	**Pizza with salami**	Non-traditional	**1.9**	**4.8**	**4.8**	**4.4**	**4.5**	**4.5**	**4.6**	**1.8**	**4.2**	**.49**	**.29**	**.22**	**.40**	**37.81**	**64.93**	**.15**	**.36**
0149	Crusty peanuts	Non-traditional	1.9	2.3	2.0	2.6	2.6	2.4	2.4	1.9	2.5	.46	.31	.22	.35	29.91	61.39	.07	.19
0003	**Burger with French fries and coke**	**Non-traditional**	**1.7**	**4.5**	**5.0**	**4.0**	**4.2**	**4.0**	**4.6**	**1.1**	**3.6**	**.49**	**.32**	**.19**	**.33**	**41.21**	**6.15**	**.10**	**.29**
0521	**Pasta**	**Non-traditional**	**1.7**	**4.0**	**4.0**	**2.6**	**2.8**	**2.5**	**2.8**	**3.9**	**2.1**	**.39**	**.41**	**.20**	**.34**	**26.01**	**65.75**	**.08**	**.24**
0188	**Doner kebab**	**Non-traditional**	**1.4**	**4.4**	**3.9**	**3.1**	**3.1**	**2.9**	**3.3**	**2.0**	**3.1**	**.40**	**.32**	**.28**	**.40**	**27.70**	**63.33**	**.08**	**.21**
0564	**Sushi**	**Non-traditional**	**1.0**	**4.7**	**4.4**	**3.5**	**3.6**	**3.6**	**3.7**	**3.4**	**3.6**	**.35**	**.33**	**.32**	**.30**	**7.26**	**46.10**	**.02**	**.07**

Table 4 | Comparison between traditional Portuguese food and non-traditional food

	Type of Food	*M*	*SD*	*t*
Traditional Portuguese	Traditional Portuguese	4.45	0.36	19,97**
	Non-traditional	2.23	0,52	
Non-Traditional Portuguese	Traditional Portuguese	1.98	0,451	-14,51*
	Non-traditional	3.72	0,42	
Familiarity	Traditional Portuguese	4.63	0,41	3,75*
	Non-traditional	4.33	0,48	
Healthiness	Traditional Portuguese	2.89	0,51	0,00
	Non-traditional	2.89	0,36	
Arousal	Traditional Portuguese	3.77	0,49	1,78
	Non-traditional	3.46	0,54	
Palatability	Traditional Portuguese	4.08	0,44	2,92
	Non-traditional	3.66	0,45	
Valence	Traditional Portuguese	3.95	0,44	1,73
	Non-traditional	3.66	0,58	
Willingness to Try	Traditional Portuguese	3.53	0,70	0,98
	Non-traditional	3.32	0,69	
Intensity Mean luminance of the gray scale image	Traditional Portuguese	44.11	5.68	4.15
	Non-traditional	21.52	9.82	
Complexity Proportion of outline-related pixels within the image (Canny, 1986).	Traditional Portuguese	0.11	0.03	0.79
	Non-traditional	0.10	0.03	

Note: *p<.01; **p<.001; PT = Portuguese

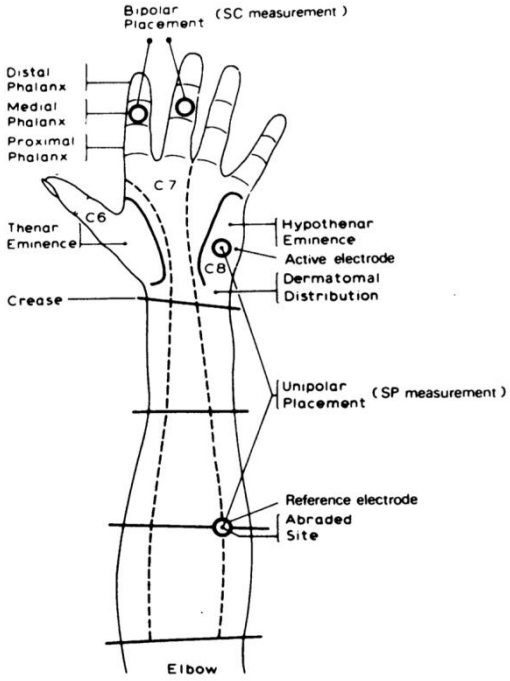
3.3 Procedure

Individuals signed an informed consent form before the experience and they received a briefing explaining all the procedure. Participants were eligible to enter a lottery in which a dinner for two people was awarded for their time and effort. We ran the project for a scholarship called SPI that gave us 23 participants. These SPI participants were psychology students who received ECS (credits) for their participation therefore they didn't enter the lottery.

Upon arrival at the laboratory, participants were asked to wash their hands, remove all bracelets and rings and all the electronic devices like cell phones and watches (Sequeira-Martinho, 1990).

Subsequently, they were asked to sit at a distance of 65 cm from the computer's monitor and to move as little as possible (Ares et al. 2014). To collect skin conductance, two 8 mm Ag/AgCl electrodes were filled with KY jelly (chlorhexidine gluconate, glucono delta lactone, glycerin, hydro-xyethylcellulose, methylparaben, purified water, sodium hydroxide) and a bipolar placement of the electrodes were followed (Boucsein et al., 2012; Fowles et al., 1981). The literature offers a wide range of alternatives regarding which fingers are the most accurate ones (i.e. more active) to place the electrodes. Boucsein et al., (2012) and Fowles et al., (1981) stated that the placement of the two electrodes will normally be on the palmar surface of the hand and the most popular sites are the medial and distal phalanges of the fingers. We followed Christie (1980) who suggests the placement of the electrodes on the midphalangeal sites of fingers 1 and 2 (index and middle fingers) (see figure 3). Plus, the time since application of the electrodes was been controlled (60 seconds) in all participants in order to achieve a better conductivity of the gel. Skin conductance responses (SCRs) were recorded using Biopac MP100 System. SCR signal was sampled at 1000 Hz. The data was analyzed with AcqKnowledge v. 3.4.1. software.

Figure 3 | Placement of the electrodes on the midphalangeal sites



Font:(Christie, 1980)

Then, participants filled in a questionnaire that comprised questions regarding their sociodemographic and eating habits. This questionnaire also provided information on two exclusion criteria: having eaten less than 1 hour before the experience; or/and having vegetarian/vegan habits.

After filling in questionnaire, the participant was introduced to the experimental setup. Instructions were shown on the screen and participants were asked to evaluate their emotional responses and several attributes of 28 food images.

Each participant viewed each of these 28 dish-pictures individually. Each image appeared on the screen for six seconds and were randomly presented. To fixate participants' gaze at a pre-defined point, a fixation cross was located on the centre of the screen after each stimulus presentation with duration of 1second (Aires et al, 2014). The task was programmed with E-prime 2..1.242 displayed on a LG Flatron W2253TQ screen with an height of 27 cm and a width of 48 cm.

All pictures had the same size and resolution and color depth (1024 × 768 pixels, 96 dpi, 24 bpp) and were homogenous with regard to background color and camera distance. Participants were asked to evaluate each image regarding their emotional response (measured

by SAM and by desire), their attribute perceptions (familiarity, valence, arousal, palatability, healthiness, ease preparation, availability) and behavior intentions (willingness to try).

Further, participants fill in the body dissatisfaction, food involvement and food neophobia questionnaires. The total experiment lasted from 40 to 50 minutes, per participant. Finally, after the participation is complete, the participants received an explanation of the investigation and its objectives.

4. Results

4.1 Preliminary Analysis

We previously conducted a t-test to identify which attributes could be important to control in the main analyses. As can be seen in table 6, the groups, Portuguese and foreigners, are homogeneous in relation to their age, t (98) = .01, p = .959, and the time taken since their last meal, t (98) = 1.17, p = .243. However, there were statistically differences between Portuguese and foreigners in Food Neophobia, t (98) = 2.41, p = .018, and Body Dissatisfaction, t (98) = 2.16, p = .033. Portuguese were more neophobic (M = 25.79, SD = 7.6) than foreigners (M = 22.19, SD = 7.3), and more unsatisfied with their body (M = .76, SD = .91) than foreigners (M = .35, SD = .96). Thus, we will take into account these two last variables and use them as covariates in the main analyses, for control purposes.

Table 5 | Age, How long did you finish eating, Food Neophobia and Body Dissatisfaction, as a function of Participant's Nationality

	Portuguese	Foreigner	***t* (98)**
	M (SD)	***M (SD)***	
Age	26.81 (1.9)	26.72 (6.766)	.051
How long did you finish eating	164.15 (72.1)	139.8 (124.9)	1.174
Food Neophobia	25.79 (7.6)	22.19 (7.3)	2.41*
Body Dissatisfaction	.77 (.9)	.36 (1)	2.16*

Note: *p<.05

In addition, we also calculated the bivariate correlations between these variables and the main dependent variables. As we can see in appendix 2, the level of food neophobia is negatively correlated with most of the dependent variables, and specially towards the Non-traditional food: Emotional Arousal, r (98) = -.298, p < .01, Emotional Valence, r (98) = -.408, p < .001, Stimulus' Arousal, r (98) = -.418, p < .01, Familiarity, r(98) = -.205, p < .05, Desire, r(98) = -.391, p < .01, Healthiness, r(98) = -.199, p < .05, and Willingness to Try, r(98) = -.394, p < .01. Food neophobia was also negatively correlated to Stimulus' Valence, r(98) = -.472, p <.001, and Willingness to Try, r(98) = -.213, p < .05, the Traditional

Portuguese food. In other words, the higher the level of neophobia of the participants, the lower their emotional arousal, positive valence, desire, familiarity, perceived healthiness and willingness to try the dishes (both traditional and non-traditional Portuguese). Thus, as expected, the negative perceoption of non-traditional dishes were more likely to be related to the levels of neophobia; food neophobia was also related to less willingness to try food.

We also found that Body Dissatisfaction was negatively correlated with perceived Healthiness of the Non-traditional food, r (98) = -.225, $p < .05$; in other words, the higher the level of body dissatisfactions, the lower the perceived healthiness of the non-traditional Portuguese dishes. As we can see in the correlation matrix (appendix 3), the higher the level of body dissatisfaction of foreigners participants, lower their perceived Healthiness of the non-traditional Portuguese dishes, $r(98) = -.413$, $p < .01$). Because Portuguese participants were also more neophobic ($M = 25.79$, $SD = 7.6$) than foreigners ($M = 22.19$, $SD = 7.3$) we also calculated the correlations separately for Portuguese and foreigners. As we can see in appendix 3, The negative correlations were mostly found in the Portuguese participants towards the non-traditional food stimuli: the higher their level of food neophobia, the lower their Emotional Arousal, $r(98) = -.405$, $p < .01$, the Emotional Valence (pleasure), $r(98) = -.434$, $p < .01$, Desire, $r(98) = -.518$, $p < .001$, evaluation of stimuli's Arousal, $r(98) = -.537$, $p < .001$, Palatability, $r(98) = -.301$, $p < .05$, and Willingness to Try Non-traditional dishes, $r(98) = -.514$, $p < .001$.

4.2 Hypotheses Testing

To test our main hypotheses, all the dependent variables were subjected to several Analyses of Covariance (ANCOVAs) in which food neophobia and body dissatisfaction were used as covariates. To analyze whether Portuguese perceptions of traditional food would differ from the foreigners' perceptions (H1) a 2-Way ANCOVA with a 2 (Nationality: Portuguese, Foreigner) x 2 (Gender: Male, Female) factorial design was used. To examine all remaining hypotheses in which the two food type stimuli were used, several 3-Way ANCOVAs with a 2 (Nationality) x 2 (Food Type: Non Traditional Portuguese, Traditional Portuguese) x 2 (Gender) factorial design were used. Mean score are displayed in table 11.

General image. As expected in H1, Portuguese participants evaluated their own traditional food dishes with higher scores (M= 4.76) than foreigners (M = 4.28). The mean difference was significant, p = .001. We also found a main effect of Gender: males rated Portuguese traditional dishes with higher scores (M = 4.68) than females (M = 4.36), p < .05. In addition, the results yielded a significant effect for the covariate, Food Neophobia, F (1,94) = 11.213, p = .001.

Familiarity. Concerning the attribute *familiarity*, the traditional Portuguese dishes were more familiar to Portuguese participants (M = 4.60) than for the foreigners (M = 4.03), p < .001. Foreigners were more familiarized with the non-Portuguese dishes (M = 4.458) than with the traditional Portuguese dishes (M = 4.029), p < .001. Although they were statistically significant differences between these two groups, we can also see that foreigners' familiarity with Portuguese traditional dishes was considerable high (M = 4.029), on a scale from 1 to 5.

Emotions of the Participant and Evaluation of stimuli Valence, Arousal and Desire. With regard to *emotional valence* (displeasure/pleasure measured by SAM), the results yielded a significant interaction between Nationality X Food Type, F(1,94) = 6.27, p = .014. As expected (**H3a**), for Portuguese participants, traditional Portuguese dishes (M = 6.58) produced higher pleasure than non-traditional Portuguese dishes (M = 5.71), p < .001. On the other hand, and contrary to what was expected (**H2a)**, we didn't find a significant mean difference in emotional Valence of the traditional Portuguese dishes between foreigners (M = 6.34) and Portuguese (M = 6.58), p = .313. However, Portuguese evaluated the non-

traditional Portuguese dishes with lower levels of *emotional valence* (M = 5.71) than the foreigners (M = 6.22) , $p < .05$. For foreigners there was no significant difference, $p = .519$, between their evaluation of *emotional valence* regarding Portuguese dishes (M = 6.34) and non-Portuguese dishes (M = 6.22). We also found that the level of Food Neophobia had a significant effect on valence, F (1,94) = 14.44, $p < .001$.

As expected (**H3a)**, the *emotional arousal* (less active/more active measured by SAM) perceptions of Portuguese regarding both dishes categories were statistically significant different. Portuguese reported more *emotional arousal* in the presence of Portuguese dishes (M = 5.3) than towards the non-traditional Portuguese (M = 4.54), $p = .001$. Interestedly, foreigners also reported more *arousal* towards traditional Portuguese food (M = 5.14) than non-traditional food (M = 4.61), $p < .01$.

Regarding the evaluation of *emotional arousal* towards the traditional Portuguese dishes, and contrary to what we expected in **H2a**, there was no differences between the Portuguese and foreigners, $p = .67$. The results only yielded a significant effect of the covariate Food Neophobia, F (1,94) = 7.314, p = .008.

Regarding the variable *desire*, the H3a stated that, for Portuguese participants, the traditional Portuguese food would have more emotional responses than the non-traditional food. This hypothesis was also supported for *desire*: For Portuguese participants, the Portuguese dishes were more desired (M = 3.4) than the non-traditional ones (M = 3.02), $p = .001$. On the other hand, the hypothesis H2a was not supported because no significant differences between the *desire* of Portuguese participants (M = 3.4) and the desire of foreigners (M = 3.5), regarding the Portuguese dishes, $p = 94$. For foreigners there was also no significant difference, $p = .08$, between their *desire* of Portuguese dishes (M = 3.4) and non-Portuguese dishes (M = 3.41). Finally, the results yielded a significant effect of Food Neophobia, F (1,94) = 13.02, $p < .001$.

Psychological Emotional Reactions to the Stimuli (Number of Skin Conductance Responses). With regard to Portuguese traditional dishes, there was a greater number of *SCR* of foreigners (M = 6.65) than of Portuguese participants (M = 4.87), $p < .001$, so we reject **H2a**. Plus, we also reject **H3a** because the difference between Portuguese participants' *SCR* to Portuguese food and non-Portuguese food was no significant, $p = .12$. Surprisingly, foreigners responded more to non-traditional food (M = 6.91) than Portuguese participants (M = 4.25), $p < .001$ Additionally, we developed an exploratory analysis to reach conclusions

regarding foreigners' responses to both food categories. We concluded that there was no significant differences on the quantity of responses, $p = .43$.

*Attributes Perceptions of Participants regarding the Stimul*i *(Valence, Arousal, Palatability, Availability and Healthiness*. With regard to *valence*, we confirm H3b since Portuguese evaluate Portuguese traditional food in a more favorable way (higher levels of Valence) ($M = 3.4$) than the non-traditional food ($M = 3.02$), $p = .001$. By conducting an exploratory analysis we concluded that for foreigners there is no significant difference, $p = .66$, between their *valence* for Portuguese dishes ($M = 3.5$) and non-Portuguese dishes ($M = 3.5$). The hypotheses H2b was not supported since there is no significant differences between the *valence* of Portuguese and foreigners regarding traditional Portuguese food, $p = .1$. The results yielded a significant main effect for Food Neophobia, $F(1,94) = 17.01$, $p < .001$.

As expected (**H3b)**, the *arousal* perceptions of Portuguese regarding traditional food is higher ($M = 3.28$) than of the non-traditional food ($M = 3.94$), $p < .01$. For foreigners, the Portuguese traditional dishes arouse more enthusiasm ($M = 3.27$) than the non-traditional ones ($M = 3.072$). Contrary to what was expected (**H2b**), there was no significant difference, $p = .905$, between Portuguese enthusiasm ($M = 3.28$) about the Portuguese dishes and foreigners enthusiasm ($M = 3.27$) about it. The results only yielded a significant effect of the covariate Food Neophobia, $F(1,94) = 15.41$, $p < .001$.

With regard to *palatability*, the results yielded a significant interaction between Food Neophobia X Food Type, $F(1,94) = 5.28$, $p < .05$. As expected (H3b), for Portuguese participants, Portuguese food has higher *palatability* ($M = 3.8$) than the non-Portuguese food ($M = 3.24$), $p < .001$. Additionally, we concluded that for foreigner participants, Portuguese dishes have higher *palatability* ($M = 3.6$) than the non-traditional Portuguese ones ($M = 3.1$), $p < .001$. We reject H2b because there is no significant difference between Portuguese participants and foreigners evaluation of traditional Portuguese food *palatability*. The results yielded a significant main effect for Nationality, $F(1,94) = 4.04$, $p < .05$.

Concerning the attribute *availability*, the results yielded a significant interaction between Nationality X Food Type, $F(1,94) = 1.71$, $p = .001$. For Portuguese participants, contrary to what was expected (**H3b**), there is no significant difference in the way they perceived the *availability* of both categories of food, $p = .85$. From our exploratory analysis we concluded that foreigner participants considered non-traditional Portuguese dishes as easier to find ($M = 4.12$) than the Portuguese ones ($M = 3.72$), $p < .001$. H2b was also

rejected because there are no significant differences between Portuguese participants and foreigners when evaluating the *availability* of Portuguese traditional food, $p = .09$.

With regard to *healthiness*, the results yielded a significant interaction between Nationality X Food Type, $F(1,94) = 5.76$, $p < .05$. ANCOVA tests on the perceptions of *healthiness* regarding Portuguese and non-Portuguese food showed that for Portuguese there is no *healthiness* difference between both types of dishes, so we reject H3b. On the other hand, foreigners considered the non-traditional Portuguese dishes healthier ($M = 2.88$) than the traditional Portuguese ones ($M = 2.58$), $p < .00$. H2b is also confirmed since Portuguese participants evaluate Portuguese traditional dishes as healthier ($M = 2.9$) than the foreigners did ($M = 2.6$), $p < .05$. The dependent variable *healthiness* yielded two significant main effects: Body Dissatisfaction, $F(1,94) = 1.48$, $p < .05$, and Nationality, $F(1,94) = 6.05$, $p < .05$.

The results of the *ease of preparation* perceptions yielded a significant interaction between Nationality X Food Type, $F(1,94) = 3.35$, $p < .001$. We confirm H4 because both foreigners and Portuguese participants consider the non-traditional food easier to prepare than the traditional Portuguese food. For Portuguese participants, non-traditional food is easier to prepare ($M = 3.45$) than their own food ($M = 3.23$), $p< .05$. The same for foreigner participants, whom consider the non-traditional dishes easier to prepare ($M = 3.57$) than the traditional Portuguese ones ($M = 3.68$), $p < .001$. However, Portuguese participants perceived Portuguese dishes as easier to prepare than the foreigners perceived them, $p < .001$.

Participants' Behavioral Intentions. We also asked participants to evaluate their *willingness to try* both category dishes after the session. The results showed that foreigner participants were more willing to try Portuguese dishes ($M = 3.189$) than non-Portuguese dishes ($M = 2.90$), $p = .002$. The same happened for Portuguese participants (H3c) who were more willing to try Portuguese dishes ($M = 3.14$) than non-Portuguese dishes ($M =2.74$), $p < .001$. When comparing the *willingness to try* Portuguese traditional dishes between both groups, we found out that there is not a significant difference so we reject H2c. The results yielded a significant main effect for Food Neophobia, $F(1,94) = 13.38$; $p < .001$.

Table 6 | Relationship Between Variables

Dependent Variables	Portuguese		Foreigner		F (Nation)	F (Nation X Food Type)	F (Gender)	Covariates	
	Non Traditional Food	Traditional Food	Non Traditional Food	Traditional Food					
	M (SE)	*M (SE)*	*M (SE)*	*M (SE)*				F (Neophobia)	F (Body)
Emtional Valence (1-9)	5.71 (.18)	6.58 (.18)	6.217 (.15)	6.34 (.15)	.71	6.273*	.65	14.44	.12
Emotional Arousal (1-9)	4.538 (.24)	5.287 (.26)	4.608 (.20)	5.14 (.21)	.02	.53	.08	7.31	1.00
Ease Preparation	3.488 (.08)	3.233 (.10)	3.572 (.07)	2.675 (.08)	4.60	3.35	4.65	2.48	1.34
Availability	3.914 (.08)	3.931 (.09)	4.115 (.07)	3.721 (.07)	.00	1.71	2.19	.55	.09
Familiarity	4.309 (.07)	4.604 (.09)	4.458 (.06)	4.029 (.08)	5.34	34.33	.53	3.55	1.12
Desire	3.019 (.08)	3.397 (.09)	3.245 (.07)	3.407 (.08)	1.72	2.32	.01	13.02	1.02
Valence	3.311 (.09)	3.693 (.08)	3.482 (.08)	3.522 (.07)	.00	5.67	1.12	.00	.35
Arousal	2.935 (.08)	3.281 (.09)	3.072 (.07)	3.266 (.08)	.45	1.08	.60	.00	.34
Palatability	3.235 (.08)	3.758 (.08)	3.077 (.07)	3.579 (.07)	4.04	.28	.07	.43	1.92
Healthiness	2.869 (.05)	2.922 (.08)	2.882 (.04)	2.581 (.06)	6.05	5.76	1.61	1.79	1.48
Traditional Portuguese	2.157 (.15)	4.058 (.13)	1.506 (.13)	4.079 (.11)	7.71	4.82	2.01	3.07	.13
Willingness	2.744 (.11)	3.137 (.11)	2.895 (.10)	3.189 (.10)	.65	.48	1.38	.00	.15
SCM Value	.026 (.01)	.033 (.01)	.052 (.01)	.057 (.01)	7.54	.08	1.14	1.08	.16
NSC Response	4.25 (.53)	6.91 (.45)	4.87 (.58)	6.65 (.50)	1.14	2.86	6.81	1.21	5
Anticipation	.046 (.01)	.045 (.01)	.051 (.01)	.055 (.01)	.73	.19	.78	.03	.01
Number of Anticipation	4.78 (.48)	4.948 (.46)	5.229 (.41)	5.552 (.39)	.98	.06	2.85	.22	.07

Note: SCM = Skin Conductance; NSC = Number of Skin Conductance.

5. Conclusions

5.1 Discussion

This paper is based on Portuguese gastronomy perceptions from both Portuguese and foreigner participants and it aims to identify their emotions and perceptions of the Portuguese gastronomy. The purpose is to gain insights on consumer's expectations and on the intentions to purchase Portuguese food products.

Most of the earlier studies on food have relied either on the measurement of the food attribute perceptions (Almil, Verbeke, Vanhonacker, Naes, & Hersleth, 2011) or on the measurement of the emotional responses to food (King & Meiselman, 2010; Desmet & Schifferstein, 2008). Our study's methodology improved upon the past researches by combining two different approaches: the more emotional approach (SCR and self-report) and the more cognitive approach (attribute perceptions and behavioral intentions). Additionally, we contribute to the research on traditional food by including in our study the variable food neophobia and body dissatisfaction which proved to be relevant to consider.

To analyze the attributes, emotional responses (self-report and physiological) and the behavioral perceptions of the traditional gastronomy as a function of nationality, we also took into account other relevant variables, such as gender, food neophobia and body dissatisfaction. Our study revealed that food neophobia was in fact an important variable to include in the analyses since it measures people's propensity to try new products. Our results indicated that Portuguese participants reported higher levels of food neophobia than foreigners. For Portuguese, high food neophobia was related to less emotional responses towards non-Portuguese food dishes, less positive ratings of their attributes and low behavioral intentions to try non-traditional food dishes. One possible reason that might explain the high levels of food neophobia among Portuguese, compared to the foreigns could be related to the lack of openness. On one hand, Portuguese participants were in their own country when evaluated and, as such, they might be less open to different experiences and sensations. On the other hand, the foreigners were in a different country and environment so they could be more exposed to experiences outside of their comfort zone and possibly more open to new stimuli. With regard to body dissatisfaction, Portuguese participants reported higher levels of dissatisfaction with their body than foreigners did. We also found that body dissatisfaction is an important variable to take in account when studying the perceived

healthiness of food, because our work revealed that body dissatisfaction is negatively correlated with healthiness (i.e. the higher the level of body dissatisfactions, the lower the perceived healthiness of the dishes). Gender is also an important variable to control because it has a main effect on participants' evaluation of traditional food dishes (i.e. males rated Portuguese traditional food with higher scores than females). In other words, more males do prefer Portuguese food than females.

Our results also lead to conclude that Portuguese participants reveal satisfying emotional responses (more arousal, pleasure and desire) with Portuguese traditional food, although these feelings did not significantly differ from the foreigners'. Contrary to what we expected (H2a), based on the previous results reported by Apil (2006) on ethnocentrism and COO where a consumer favors its own country products, the emotional responses towards Portuguese food of both foreigner and Portuguese participants' do not significantly differ and are both positive. However, the general image perceptions of Portuguese regarding the Portuguese traditional food are significantly more positive than the foreigners (H1).

Other interesting observation is the level of familiarity that foreigners have regarding Portuguese traditional dishes. Although foreigners are more familiar with the non-traditional Portuguese dishes, the level of familiarity with the Portuguese dishes is considerable high. This study demonstrate that, contrary to what was expected (Hall et al. 2003), Portuguese food does not suffer from a lack of familiarity amongst international students, so it becomes clear that the involvement of the foreigner participants with Portuguese food and the duration of their stay in Portugal might also be influential factors to consider.

In general, Portuguese participants reported positive food attribute perceptions. They evaluated their country food with higher levels of palatability and valence than the non-traditional food (H3B), while foreigners evaluated Portuguese dishes with moderate valence but higher palatability, from which we can infer that overall the traditional Portuguese food is appealing in terms of taste and flavor. From the skin conductance results we found that foreigner participants reacted with high arousal to Portuguese food stimuli than the Portuguese participants (H2A). And, as expected (H3A), Portuguese participants reacted with higher levels arousal, pleasure and desire to the traditional Portuguese dishes than to the non-traditional Portuguese dishes. From this outputs we can conclude that Portuguese participants have higher emotional connections with their country food than with other food.

Also, as expected from the literature on the convenience of traditional food (i.e., ease consumption of traditional food) both Portuguese and foreigner participants considered the

traditional Portuguese food as more difficult to prepare than the non-traditional Portuguese (H3D). Based on the results reported by Almli et al. (2011), we can predict that convenience may act as a barrier to traditional food consumption in the way that it is more difficult to prepare and it takes more time to cook.

Another barrier that we found is the foreigners' perceived low availability of Portuguese traditional food, comparing to the non-traditional one. This could be related to the lack of knowledge of the participants to the places were such food is available and also to the fact that in their day to day they don't come across such type of food, for example in a University canteen. In other hand, for Portuguese participants their own country food is so easy to find as the non-traditional food (H3B). Plus, the two groups don't differ on the way they perceive the availability of Portuguese traditional food (H2B).

Given that Portugal has a Mediterranean dietary, as well as Spain and Italy, and based on Almil et al. study (2001), it was expected that Portuguese and foreigners would consider Portuguese food with high levels of healthiness. Although Portuguese participants evaluate Portuguese traditional dishes as healthier than the foreigners did (H2B), they perceived both types of food with the same level of healthiness (H3B), thus Portuguese gastronomy seems to suffer from a lack of perceived healthiness.

The behavioral intentions outcomes showed that foreigners were more willing to try Portuguese traditional food than non-Portuguese food. This positive attitude towards Portuguese products was negatively correlated with the ethnocentrism and COO theory but can be explained by Usunier & Cestre (2007) who found that the more the consumer is interested in a given country, the higher their positive image of that country. Foreigner participants were mainly international students that were studying in Portugal, more specific in Lisbon, so they are in many ways connected and attracted with this country and their responses to the stimuli are influenced. In other hand, Portuguese participants were more willing to try Portuguese dishes than non-Portuguese dishes (H3C) but their intentions did not differ from the foreigners' ones (H2C).

We can conclude that foreigners not only are familiarized with Portuguese gastronomy but also consider it stimulating and tasty (palatability). However, they also perceived Portuguese traditional dishes as unhealthy and difficult to prepare and find. Overall, both foreigners and Portuguese participants were more willing to try Portuguese dishes rather than non-Portuguese, even when controlling the levels of food neophobia in participants.

This study can also be relevant for the measurement of food perceptions in other countries around the world. Also, future product positioning and tourism marketing communications can benefit from the results of this study, using it as a tool to help make strategic decisions as it demonstrates the gastronomical attributes on which they can focus and the behaviors and emotions they should influence.

5.2 Managerial Implications

The previous research on the overall image that both foreigner and Portuguese participants have about Portuguese gastronomy implies that there is a potential for further image improvement and subsequent sales growth.

Portugal may focus on communicating the healthiness of its dishes, for instance, by promoting the benefits of olive oil, almost the only fat used in Portuguese cuisine since pork lard is no longer used. Furthermore, Portugal can capitalize on the nomination of its Mediterranean diet by UNESCO as a World's Intangible Cultural Heritage, and promote its healthy dishes like fish and vegetables. The target of these efforts should be the international market because our study revealed that Portuguese people perceive Portuguese gastronomy as healthy but foreigners did not.

Portuguese chefs and food writers may contribute to the repositioning and renovation of Portuguese recipes, in order to make them more accessible and easy to prepare. More specifically, they could update the old and complex recipes into modern and practical adaptations and then communicate this development internally and externally, because both Portuguese and foreigners perceive Portuguese gastronomy as being difficult to prepare. Besides fighting the lack of convenience, these actions could impact the availability, as the recipes become more accessible for canteens to start serving them also.

Portuguese tourism can benefit from more studies like this and develop marketing efforts to build a strong destination image and increase the probability of being chosen by internal and external tourists.

5.3 Limitations of the Study and Future Research

Firstly, the study did not involve direct sensory measurements, such as the actual tasting of the dishes. Further studies should include the actual tasting of the dishes. Other limitation is the lack of knowledge of the level of involvement of the participants with Portugal and its food. The current study was limited to a selection of 100 participants, mostly

students, and to a selection of 11 parameters to measure perceptions. The resources available prevented a broader study. Future researchers should include more respondents, especially regular tourists, integrating the identification of the relation between the participants and foreigner country because it might influence their product judgments (Yeh, Chen and Sher, 2010).

We encountered some difficulties surrounding the electrodermal responses. Many of those arousal reactions were registered before the stimuli. This might have happened because they were all food stimuli, not existing any other type of stimuli (i.e a neutral one) to work as a contrast.

In further studies it would be interesting to measure the level of ethnocentrism of the participants by applying reliable measures such as the consumer ethnocentrism tendencies scale (CETSCALE) (Shimp and Sharma, 1987). The measurement of ethnocentrism via the consumer ethnocentrism tendencies scale might help our study by analyzing their role as a potential predictor of food preferences along with consumer food neophobia and body dissatisfaction. As a complement to this study it would be interesting to understand whether each parameter, like convenience or healthiness, has a different weight for the participants. In this study, the parameters were assumed to be of equal importance but participants might attribute different importance to each one of them.

References

Aguiar, L. K., Ferreira, G. C., Barcellos, M. D., & Vieira, L. M. (2009). Willingness to Try Innovative Food Products: a Comparison between British and Brazilian Consumers . *BAR , 6* (1), 50-61.

Almil, V. L., Verbeke, W., Vanhonacker, F., Naes, T., & Hersleth, M. (2011). General Image and Attribute Perceptions of Traditional Food. *Food Quality and Preference , 22*, 129-138.

Anholt, S. (2004). Editor's foreword to the first issue . *Place Branding , 1* (1), 4-11.

Apil, A. R. (2006). Foreign Product Perceptions and Country of Origin Analysis across Black Sea; Studies on Azerbaijan, Bulgaria, Georgia, Russia, and Turkey . *IBSU International Refereed Multi-diciplinary Scientific Journal , 1*.

Ares, G., Mawad, F., Giménez, A., & Maiche, A. (2014). Influence of rational and intuitive thinking styles on food choice: Preliminary evidence from an eye-tracking study with yogurt labels . *Food Quality and Preference* , 28–37 .

Arriaga, P., Monteiro, M. B., & Esteves, F. (2011). Effects of Playing Violent Computer Games on Emotional Desensitization and Aggressive Behavior. *Journal of Applied Social Psychology , 41* (8), 1900–1925 .

Audrain-McGovern, J., & Benowitz, N. (2011). Cigarette Smoking, Nicotine, and Body Weight. *Clinical Pharmacology & Therapeutics , 90* (1), 164-168.

Beerli, A., & Martín, J. D. (2004). Tourists' characteristics and the perceived image of tourist destinations: a quantitative analysis . *Tourism Management , 25*, 623-636.

Bell, R., & Marshall, D. W. (2003). The construct of food involvement in behavioral research: scale development and validation . *Appetite , 40*, 235–244 .

Bellisle, F. (2005 йил April). *European food information council*. Retrieved 2014 йил 1-9 from European food information council: http://www.eufic.org/article/en/expid/review-food-choice/

Bessiere, J., & Tibere, L. (2013). Traditional food and tourism: French tourist experience and food heritage in rural spaces . *J Sci Food Agric , 93*, 3420–3425 .

Bhuiyan, A. R., Gustat, J., Srinivasan, S. R., & Berenson, G. S. (2003). Differences in Body Shape Representations among Young Adults from a Biracial (Black-White), Semirural Community. *American Journal of Epidemiology , 158* (8), 792–797.

Blechert, J., Meule, A., Busch, N. A., & Ohla, K. (2014). Food-pics: an image database for experimental research on eating and appetite. *Frontiers in Psychology , 5* (617).

Boucsein, W., Fowles, D. C., Grimnes, S., Ben-Shakhar, G., Roth, W. T., Dawson, M. W., et al. (2012). *Publication recommendations for electrodermal measurements*. Society for Psychophysiological Research , SPR Ad Hoc Committee on Electrodermal Measures , USA.

Bradley, M. M., & Lang, P. J. (1994). Measuring emotion: the Self-Assessment Manikin and the Semantic Differential. *25*, 49-59.

Christie, M. J. (1980). Electrodermal activity in the 1980s: a review. *Journal of the Royal Society of Medicine , 74*.

Correia, A., Moital, M., da Costa, C. F., & Peres, R. (2008). The determinants of gastronomic tourists' satisfaction:a second-order factor analysis. *Journal of Foodservice* , 164–176.

Costa, A. I., Schoolmeester, D., Dekker, M., & Jongen, W. (2007). To cook or not to cook: a means-end study of motivations for choice of meal solutions. *Food Quality and Preference , 18* (1), 77-88.

Desmet, P. M., & Schifferstein, H. N. (2008). Source of positive and negative emotions in fodd experience. *Appetite* , 290-301.

Dewberrya, C., & Ussherb, J. M. (1994). Restraint and Perception of Body Weight among British Adults. *The Journal of Social Psychology , 134* (5), 609-619.

Echtner, C. M., & Brent Ritchie, J. R. (1991). The meaning and measurement of destination image. *The Journal of Tourism Studies , 2* (2), 2-12.

Fenko, A., Leufkens, J.-M., & van Hoof, J. J. (2015). New product, familiar taste: Effects of slogans on cognitive and affective responses to an unknown food product among food neophobics and neophilics . *Food Quality and Preference , 39*, 268–276 .

Fields, K. (2002). Demand for the Gastronomy Tourism Product: Motivational Factors. *Tourism and Gastronomy* , 37-50.

Fischler, C. (1988). Food, Self and Identity. *Social Science Information , 27*, 275-292.

Havitz, M. E., & Dimanche, F. (1999). Leisure involvement revisited: drive properties and paradoxes. . *Journal of Leisure Research , 31* (2).

Hegarty, J. A., & O'Mahony, G. B. (2011). Gastronomy: A phenomenon of cultural expressionism and an aesthetic for living. *International Journal of Hospitality Management , 20*, 3-13.

Hjalager, A. M., & Richards, G. (2002). *Tourism and Gastronomy*. London: Routledge.

Hunt, J. D. (1975). Image: A Factor in Tourism Development. *Journal of Travel Research , 13*, 1-7.

Hunter, M. (2006). A growing taste for culinary travel. *Retrieved from http://articles.cnn.com/2006-09-01/travel/trips.food.tourism_1_culinary-travel-culinary-tourism-travel-provider?_s=PM:TRAVEL* .

Kavak, B., & Gumusluoglu, L. (2006). Segmenting food markets: The role of ethnocentrism and lifestyle in understanding purchasing intentions . *International Journal of Market Research , 49* (1).

Kaynak, E., & Cavusgil, S. T. (1983). Consumer attitudes towards products of foreign origin: Do they vary across product classes? . *International Journal of Advertising , 2* (1), 147–157.

King, S. C., & Meiselman, H. L. (2010). Developement of a method to measure consumer emotions associated with foods. *Food Quality and Preference* , 168-177.

Kivela, J., & Crotts, J. C. (2006). Tourism and Gastronomy: Gastronomy's Influence on How Tourists Experience a Destination. *Journal of Hospitality and Tourism Research , 30* (3), 354-377.

Kotler, P., & Gertner, D. (2002). Country as brand, product and beyond: a place marketing and brand management perspective. (Elsevier, Ed.) *Brand Management , 9*, 249-261.

Leal, S. A. (2009). *Estado de saúde auto-percebido, índice de massa corporal e percepção da imagem corporal em utentes dos cuidados de saúde primários*. Retrieved 2014 йил 22-October from Repositório Universidade de Lisboa: http://repositorio.ul.pt/bitstream/10451/712/1/17476_Microsoft_Word_Tese_mestrado.psicologia.mulher.saude.pdf

Lovatt, T. (1989). Studies in Australian Society. *Social Science Press* .

Martins, Y., & Pliner, P. (2005). Human food choice: An examination of the factors underlying acceptance/rejection of novel and familiar animal and nonanimal food. *Appetite , 45*, 214-224.

Matos, A., & Arriaga, P. (2010). O Impacto da exposição a imagens corporais na satisfação corporal e no comportamento alimentar. *In C. Nogueira, I. Silva, L. Lima, A. T. Almeida, R. Cabecinhas, R. Gomes, C. Machado, A. Maia, A. Sampaio & M. C. Taveira (Eds.), Actas do VII Simpósio Nacional de Investigação em Psicologia* , 1349-1362.

McNamara, C., Hay, P., Katsikitis, M., & Chur-Hansen, A. (2008). Emotional responses to food, body dissatisfaction and other eating disorder features in children, adolescents and young adults. *Appetite , 50* (1), 102-9.

Modesto, M. d. (1984). *Cozinha tradicional portuguesa*. Lisboa: Editorial Verbo.

Mohd, H. J., Mohd, S., Mohd, Z., Zulkifly, M., & Zulhan, O. (2009). Malaysian Gastronomic Tourism Products: Assessing the Level of their Acceptance among the Western Tourists. *South Asian Journal of Tourism and Heritage , 2* (1).

Ottenbacher, M. C., & Harrington, R. J. (2013). A Case Study of a Culinary Tourism Campaign in Germany: Implications for Strategy Making and Successful Implementation. *Journal of Hospitality & Tourism Research , 37* (3), 3-28.

Pieniak, Z., Verbeke, W., Vanhonacker, F., Guerrero, L., & Hersleth, M. (2009). Association between traditional food consumption and motives for food choice in six European countries . *Appetite , 53*, 101–108 .

Pliner, P., & Hodben, K. (1992). Development of a Scale to Measure the Trait of Food Neophobia in Humans. *Appetite , 19*, 105-120.

Plog, S. (1994). Developing and using psychographics in tourism research. (J. R. (Eds.), Ed.) *Travel, Tourism and Hospitality Research*.

Radin, D. (2004). Electrodermal presen- timents of future emotions. . *Journal of Scientific Exploration , 18*, 253–273 .

Rozin, P., & Fallon, A. E. (1987). A perspective on disgust. *Psychological Review , 94*, 23–41.

Santich, B. (2004). The study of gastronomy and its relevance to hospitality education and training. *International Journal of Hospitality Management , 23*, 15-24.

Schnettler, B., Ruiz, D., Sepúlveda, O., & Sepúlveda, N. (2008). Importance of the country of origin in food consumption in a developing country . *Food Quality and Preference , 19* (4), 372–382.

Sequeira-Martinho, H. (1990). Actividade Electrodérmica e Psicologia - Introdução Histórica e Metedologia. *Jornal de Psicologia , 9* (3), 3-10.

Shimp, T. A., & Sharma, S. (1987). Consumer Ethnocentrism: Construction and Validation of the CETSCALE . *Journal of Marketing Research , 24*, 280-9.

Silberstein, L. R., Striegel-Moore, R. H., Timko, C., & Rodin, J. (1988). Behavioral and psychological implications of body dissatisfaction: do men and women differ? *Sex Roles , 19*, 219-232.

Sloan, E. A. (2008). What, when, and where America eats. *Food Technology , 60* (1), 20-29.

Sofi, F., Cessari, F., Abbate, R., Gensini, G. F., & Casini, A. (2008). Adherence to Mediterranean diet and health status: meta-analysis. *BMJ , 11*.

Stanković, L., & Đukić, S. (2009). CHALLENGES OF STRATEGIC MARKETING OF TOURIST DESTINATION UNDER THE CRISIS CONDITIONS. *Economics and Organization , 6* (1), 23-31.

Stunkard, A. J., Sorenson, T., & Schlusinger, F. (1983). Use of the Danish Adoption Register for the study of obesity and thinness. . (R. L. Kety SS, Ed.) *The genetics of neurological and psychiatric disorders*. , 115-20.

Summer, W. G., & Keller, A. G. (1906). *Folkways; a study of the sociological importance of usages, manners, customs, mores, and morals*. Boston: Ginn and Company.

Swarbrooke, J., & Horner, S. (1999). *Consumer Behavior in Tourism*. Great Britain: Butterworth-Heinemann.

Traub, L. G., & Odland, D. D. (1979). *Convenience Foods and Home-Prepared Foods: Comparative costs, yield, and quality*. United States Department of Agriculture, Washington D.C.

Truefood. (2006). Newsletter of integrated project traditional United Europe food (Truefood). *1*.

Turismo de Portugal. (2007). *National strategic plan for tourism*. Lisbon.

Usunier, J., & Cestre, G. (2007). Product Ethnicity: Revisiting the Match between Products and Countries. *Journal of International Marketing , 15* (3), 32-72.

Valls, J. F. (1992). *La imagen de marca de los países*. Madrid: McGraw-Hill.

Valutis, S. A., Goreczny, A. J., Abdullah, L., Magee, E., & Wister, J. A. (2009). Weight Preoccupation, Body Image Dissatisfaction, and Self-Efficacy in Female Undergraduates. *Journal of Psychiatry, Psychology and Mental Health , 3* (1).

Vanhonacker, F., Lengard, V., Hersleth, M., & Verbeke, W. (2010). Profiling European traditional food consumers. *112* (8), 871-886.

Wansink, B., Cheney, M., & Chan, N. (2003). Exploring comfort food preferences across age and gender. . *Physiology and Behavior*. , 739–747.

Appendix 1 | Investigation Protocol

TERMO DE CONSENTIMENTO INFORMADO

Eu concordo em participar num estudo experimental que tem como principal objectivo a medição das percepções e preferências relativamente à gastronomia tradicional através da medição de reacções fisiológicas.

Afirmo ainda que estou consciente de que me será pedido para participar na medição das reacções fisiológicas (dilatação da pupila e a condutividade da pele) e na avaliação dos estímulos através de um questionário. Aceito que sejam registados os movimentos oculares e colocados eléctrodos com o intuito de medir respostas fisiológicas. Fui informado que o tempo previsto de duração da sessão é aproximadamente 60 minutos.

Fui também informado/a que não há respostas certas ou erradas para as questões a que serei solicitado/a a responder. Fui também informado/a de que nenhuma informação obtida neste estudo será usada de forma a ser identificado/a. A informação recolhida será absolutamente anónima, sendo os dados individuais confidenciais. O tratamento estatístico da informação recolhida será efectuado em grupo. Os resultados poderão ser divulgados em contextos de natureza científica ou pedagógica. Nestas condições, concordo que a informação obtida neste estudo seja usada para efeitos de divulgação científica e pedagógica.

Compreendo que, em qualquer altura, tenho a liberdade de retirar a minha autorização ou recusar participar no estudo, sem quaisquer contrapartidas ou prejuízos. Caso eu esteja interessado em obter informação relativa aos resultados deste estudo poderei ser contactado para o seguinte endereço de e-mail _____ ou, em alternativa para o seguinte contacto: _____.

Caso tenha qualquer pergunta ou dúvida relativamente à minha participação, entrarei em contacto com a investigadora do presente estudo, Ana Costa Moura (anacostamoura@gmail.com) e/ou com os orientadores, Doutora Patrícia Arriaga Ferreira (patricia.arriaga@iscte.pt) e Doutor Paulo Rita (paulo.rita@iscte.pt).

Autorizo que os dados, nas condições referidas, sejam utilizados para a presente investigação.

Data __/__/____

Assinatura:_____

INFORMED CONSENT FORM

I agree to participate in an experimental research, whose main purpose is the study of perceptions and preferences regarding Portuguese traditional gastronomy through the measurement of physiology reactions. As a participant, I'm conscious that I will be asked to participate in a physiological reaction measurement (skin conductance) and to fill out a questionnaire regarding the evaluation of the stimuli. I accept the record of my eye movements and the electrode placement with the purpose of measuring physiological responses. I was informed that the expected time duration of the session is of approximately 60 minutes.

I also was informed that there are no right or wrong answers and that there will be no specific references to individuals in the results, or in future publication of the results. The collected information will be absolutely anonymous and the data completely confidential.

The statistical treatment of the data collected will be made in group. The results may be released in a scientific or academic context.

Under these conditions, I agree that the information collected in this study will be used with a scientific and academic purpose.

I understand that at any time I am free to withdraw my consent or refuse to participate in the study, without any consideration or loss.

In case that you are interested in obtaining information regarding the results of this study, I'm would be happy to share it with you and I can be contacted to _____ or alternatively, _____.

In case you have any questions or doubts you can contact the investigator of the present study Ana Costa Moura (anacostamoura@gmail.com) or the coordinators, Doctor Patrícia Arriaga Ferreira (patricia.arriaga@iscte.pt) e Doctor Paulo Rita (paulo.rita@iscte.pt).

Under the previous conditions, I authorize that my data can be used in the scope of the present investigation.

Date __/__/____

Signature:_____

Indique as 3 PRIMEIRAS letras do seu:

Primeiro Nome __ __ __

Último Nome __ __ __

1. Idade: _____ anos

2. Sexo: ____ Masculino ____Feminino

3. Grau de Escolaridade (completado) _____

4. Qual é a sua ocupação? (Selecione mais que uma se necessário)
_____ Estudo

_____ Trabalho em part-time

_____ Trabalho full-time

5. Qual é a sua nacionalidade?
_____ Portuguesa
_____ Outra (por favor especifique a sua nacionalidade) _____

6. Onde vive actualmente?
_____ Portugal
_____ Outro (por favor especifique o pais) _____

7. Tem problemas de visão?

_____ Sim _____ Não

7.1. Se SIM, Que problemas de visão tem?

_____

Usa: Lentes de Contacto_____ Óculos _____

8. Tem problemas neurológicos?

_____Sim _____Não

8.1 Se SIM, Que problemas neurológicos tem?_____

9. Qual foi a sua última refeição? (por favor descreva a sua última refeição)

_____

10. Há quanto tempo acabou de comer?

___horas ___ minutos.

11. É fumador?

_____Sim

_____Não

11.1 Se SIM, Há quanto tempo fumou o último cigarro?

___horas ___ minutos.

12. Considera-se:

_____Vegano _____Vegetariano _____ Nenhum dos dois

13. Como classifica a sua alimentação?

_____Nada Saudável

_____Pouco Saudável

_____Médio

_____Saudável

_____Muito Saudável

14. Quantas vezes esteve em dieta para perder peso nos últimos 6 meses?

_____ vezes.

15. Actualmente está a fazer alguma dieta?

_____Sim

_____Não

15.1 Se SIM, por favor indique há quantos meses está em dieta. _____ meses.

15.2 Por favor indique o tipo de dieta que está a fazer. (Seleccione mais que uma se necessário)

_____Redução de Peso

_____Baixo teor de colesterol

_____Baixo teor de sódio

_____Diabetes

_____Baixo teor de gordura

_____Baixo teor de triglicérides

_____Úlcera

_____Alto teor de potássio

Outra (por favor indique o tipo de dieta) _____

16. Escolha os itens que NÃO come ou bebe.

_____Carnes vermelhas (porco, vaca)

_____Carnes Brancas (peru, frango)

_____Peixe

_____Marisco

_____Lacticínios (leite, iogurtes, natas)

_____Ovos

_____Glúten

_____Álcool

_____Cafeína

Outros (por favor indique mais alguns alimentos que não come ou bebe) _____

17. Tem algumas alergias alimentares?

Se SIM, por favor indique o item/itens a que é alérgico.

_____Sim. Item/s _____

Please indicate the 3 INITIAL letters of:

First Name __ __ __

Last Name __ __ __

1. Age: _____ years old

2. Gender: ____ Male ____Female

3. Level of Education (completed) _____

4. What do you do for a living? (Select more than one if necessary)
_____ Study

_____ Part-time Job

_____ Full-time Job

5. What is your nationality?
_____ Portuguese
_____ Other (please specify your nationality) _____

6. Where do you currently live?
_____ Portugal
_____ Other (please specify the country) _____

7. Do you have eye sight problems?

_____ Yes _____ No

7.2. If YES, Which problem do you have?

_____

Do you use: Contact Lenses _____ Glasses _____

8. Do you have neurologic problems?

_____Yes _____No

8.1 If YES, Which problem do you have?

_____

9. What was your last meal? (Please describe your last meal)

_____

10. How long ago did you finish eating?

___hours ___ min.

11. Are you a smoker?

_____Yes

_____No

11.2 If YES, How long ago did you smoke the last cigarette?

___hours ___ min.

12. Do you consider yourself a:

_____Vegan _____Vegetarian _____ Neither

13. How healthy do you consider your eating habits?

_____Very Unhealthy

_____Unhealthy

_____About Average

_____Healthy

_____Very Healthy

14. How many times have you gone on a diet to lose weight during the last 6 months?

_____ times

15. Do you currently follow a specific diet?

_____Yes

_____No

15.1 If YES, Please specify the number of months on diet. _____ months

15.2 Please specify the type of diet you follow. (Select more than one if necessary)

_____Weight Reduction

_____Low Cholesterol

_____Low Sodium

_____Diabetic

_____Low Fat

_____Low Triglyceride

_____Ulcer

_____High Potassium

Other (please specify the type of diet) _____

16. Choose all the items you are **NOT** able to eat or drink:

_____"Red meat" (ex: pork, beef)

_____Poultry ("white meat")

_____Fish

_____Seafood

_____Dairy products (milk, yogurts, cream)

_____Eggs

_____Gluten

_____Alcohol

_____Caffeine

Other (specify anything else you are not able to eat/ or drink) _____

17. Do you have food allergies? If YES, please write down the item/items that you are allergic to.

_____Yes. Item/s _____

Pedimos-lhe que indique a sua opinião sobre o alimento, assinalando com um círculo (O) o número que melhor reflectir a sua opinião, tendo em consideração que a escala varia entre 1 a 5, em que 1 é Nada e 5 é Extremamente.

	Nada				Extremamente
1. Familiaridade	1	2	3	4	5
2. Desejo	1	2	3	4	5
3. Agradabilidade	1	2	3	4	5
4. Entusiasmo	1	2	3	4	5
5. Paladar / Intensidade do sabor	1	2	3	4	5
6. Saudável	1	2	3	4	5
7. Facilidade de Preparação	1	2	3	4	5
8. Acessibilidade	1	2	3	4	5
8. Tradicional Portuguesa	1	2	3	4	5
9. Tradicional (não Portuguesa)	1	2	3	4	5
10. Gostaria de experimentar após esta sessão	1	2	3	4	5

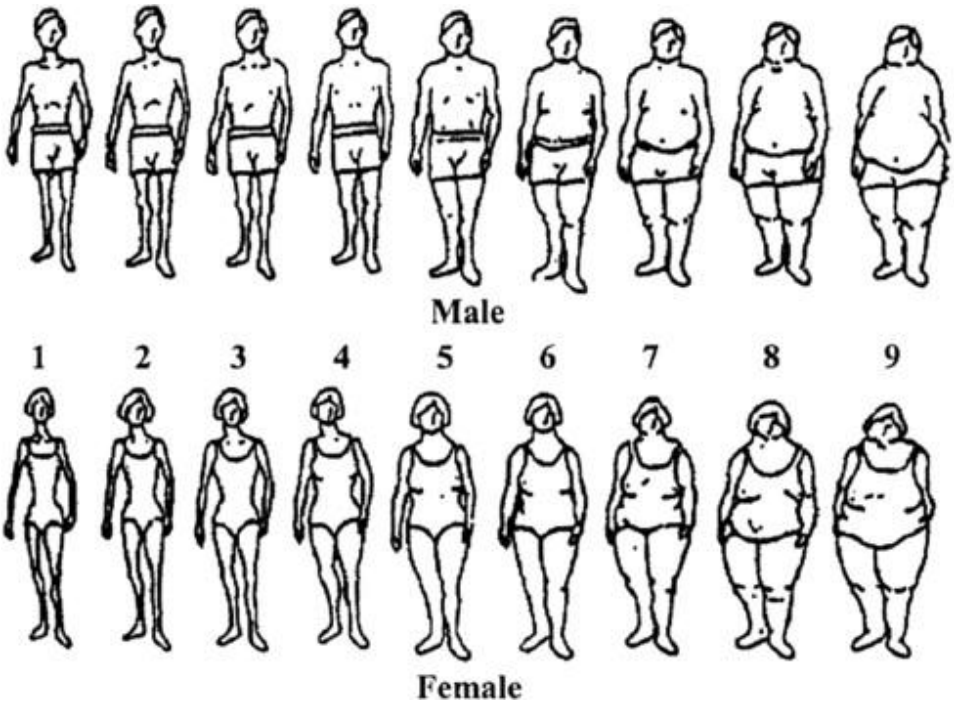
On a scale from 1 to 5, where **1** is **Nothing** and **5** is **Extremely**, please indicate your opinion/attitude regarding the food, circling the number that more accurately reflects your opinion.

	Nothing				Extremely
1. Familiarity	1	2	3	4	5
2. Desire	1	2	3	4	5
3. Valence	1	2	3	4	5
4. Arousal	1	2	3	4	5
5. Palatability	1	2	3	4	5
6. Healthiness	1	2	3	4	5
7. Ease Preparation	1	2	3	4	5
8. Availability	1	2	3	4	5
8. Traditional Portuguese	1	2	3	4	5
9. Traditional (non-Portuguese)	1	2	3	4	5
10. Like to try after this session	1	2	3	4	5

Obrigada por responder à primeira parte do questionário que tinha como objetivo a avaliação dos alimentos apresentados.

Responda por favor a esta última parte do estudo com a sua opinião pessoal.

1. Visualize as seguintes 9 figuras (sexo masculino ou sexo feminino, de acordo com o seu género). Responda a cada pergunta com o **número** que está por baixo da figura.



a) Qual das 9 figuras acha que melhor representa o seu corpo na atualidade?

Figura número ____.

b) Se pudesse escolher, com qual das 9 figuras gostaria de se parecer?

Figura número ____.

2. Indique a sua opinião pessoal acerca da comida tradicional portuguesa no geral. Por favor **assinale a sua resposta com um círculo (O)** no numero que melhor reflectir a sua opinião tendo em consideração que a escala varia entre **1 a 5** em que **1** é **Bastante Negativa** e **5** é **Bastante Positiva.**

Bastante Negativa				Bastante Positiva
1	2	3	4	5

3. As próximas afirmações estão relacionadas com o modo os seus hábitos alimentares e modo como lida com a alimentação. Por favor, **indique com uma cruz (X)** o seu grau de concordância com cada uma das afirmações, tendo em consideração que a escala varia entre **1 a 7** em que **1** é **Discordo Muito** e **7** é **Concordo Muito.**

	1 Discordo Muito	2	3	4	5	6	7 Concordo Muito
3.1. Diariamente não penso muito em comida	❍	❍	❍	❍	❍	❍	❍
3.2. Cozinhar ou preparar alimentos não é muito divertido	❍	❍	❍	❍	❍	❍	❍
3.3. Gosto de comentar com outras pessoas o que estou a comer ou o que vou comer	❍	❍	❍	❍	❍	❍	❍
3.4. Não considero as minhas escolhas alimentares tão importantes quando comparadas com outras decisões que tenho que tomar diariamente	❍	❍	❍	❍	❍	❍	❍
3.5. Uma das minhas preocupações quando viajo está relacionada com a minha alimentação no local de destino	❍	❍	❍	❍	❍	❍	❍
3.6. Após realizar as minhas refeições eu costumo limpar todos os utensílio utilizados	❍	❍	❍	❍	❍	❍	❍
3.7. Tenho prazer em cozinhar para mim e para outras pessoas	❍	❍	❍	❍	❍	❍	❍
3.8. Quando realizo refeições fora de casa, não costumo pensar ou discutir sobre o sabor da comida	❍	❍	❍	❍	❍	❍	❍
3.9. Não gosto de cortar e misturar alimentos	❍	❍	❍	❍	❍	❍	❍
3.10. Costumo ser o responsável pela compra dos alimentos na minha casa	❍	❍	❍	❍	❍	❍	❍
3.11. Não tenho o costume de lavar os pratos que utilizo nem de limpar a mesa	❍	❍	❍	❍	❍	❍	❍
3.12. Preocupo-me se a mesa está ou não bem-posta	❍	❍	❍	❍	❍	❍	❍

4. As seguintes afirmações remetem para comportamentos habituais face a novos alimentos. Por favor, **indique com uma cruz (X)** o seu grau de concordância com cada uma das afirmações, tendo em consideração que a escala varia entre **1 a 5** em que **1** é **Discordo Muito** e **5** é **Concordo Muito.**

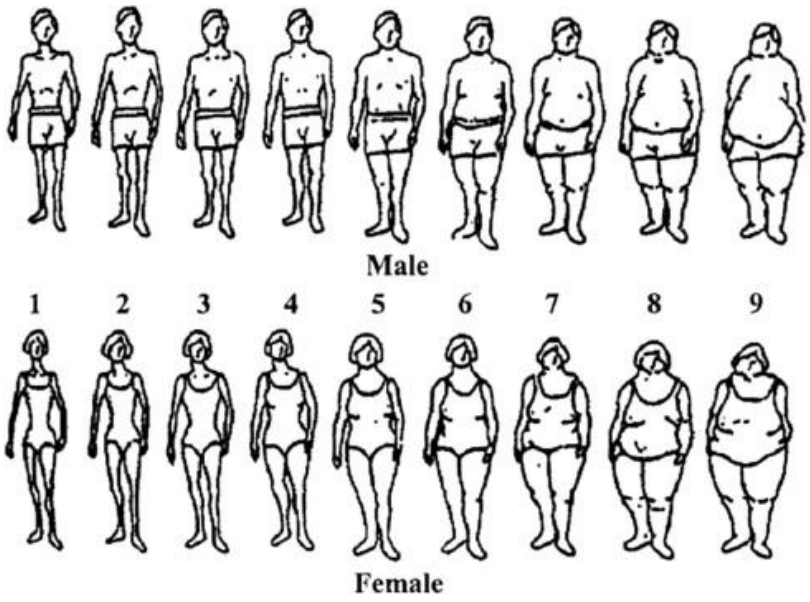
	1 Discordo Muito	2	3	4	5 Concordo Muito
4.1. Estou constantemente a experimentar novos e diferentes alimentos	❍	❍	❍	❍	❍
4.2. Não confio em novos alimentos	❍	❍	❍	❍	❍
4.3. Se não souber o que está na comida/alimento, não experimento	❍	❍	❍	❍	❍
4.4 Gosto de alimentos/comidas de diferentes países	❍	❍	❍	❍	❍
4.5 Os alimentos/comidas de outros países parecem demasiado estranhos para se comer	❍	❍	❍	❍	❍
4.6 Em jantares de festa, costumo experimentar novos alimentos/comidas	❍	❍	❍	❍	❍
4.7 Receio experimentar coisas que nunca comi antes	❍	❍	❍	❍	❍
4.8 Sou muito exigente com os alimentos /comidas que vou comer	❍	❍	❍	❍	❍
4.9 Eu como quase tudo	❍	❍	❍	❍	❍
4.10 Gosto de experimentar novos restaurantes étnicos (cozinha internacional)	❍	❍	❍	❍	❍

O estudo chegou ao fim. **Obrigada pela participação!**

Thank you for answering to the first part of the questionnaire which aim was the evaluation of food.

Please answer to this last part of the study with your personal opinion.

1. Please take time to look at each of the 9 figures, and answer the following questions regarding them. Answer each question with the number below the figures.



a) Which of these 9 figures do you think most closely resembles your body at the present time?

Image number ____

b) If you could choose, which of these 9 figures would you most like to look like?

Image number ____

2.. On a scale from 1 to 5, where **1** is **Extremely Negative** and **5** is **Extremely Positive,** when you think about the image you have of Portuguese traditional food in general, how would you describe your personal opinion/feelings about it? Please circle the number that more accurately reflects your opinion.

Extremely Negative				Extremely Positive
1	2	3	4	5

3. The next statements are related with your eating habits and with the way you relate yourself with the alimentation. Please indicate with a cross (X) your level of agreement with each one of the following statements on a scale from 1 (strongly disagree) to 7 (strongly agree).

	1 Strongly Disagree	2	3	4	5	6	7 Strongly Agree
1. I don't think much about food each day.	❍	❍	❍	❍	❍	❍	❍
2. Cooking or barbequing is not much fun.	❍	❍	❍	❍	❍	❍	❍
3. Talking about what I ate or am going to eat is something I like to do.	❍	❍	❍	❍	❍	❍	❍
4. Compared with other daily decisions, my food choices are not very important.	❍	❍	❍	❍	❍	❍	❍
5. When I travel, one of the things I anticipate most is eating the food there.	❍	❍	❍	❍	❍	❍	❍
6. I do most or all of the clean up after eating.	❍	❍	❍	❍	❍	❍	❍
7. I enjoy cooking for others and myself.	❍	❍	❍	❍	❍	❍	❍
8. When I eat out, I don't think or talk much about how the food tastes.	❍	❍	❍	❍	❍	❍	❍
9. I do not like to mix or chop food.	❍	❍	❍	❍	❍	❍	❍
10. I do most or all of my own food shopping.	❍	❍	❍	❍	❍	❍	❍
11. I do not wash dishes or clean the table.	❍	❍	❍	❍	❍	❍	❍
12. I care whether or not a table is nicely set.	❍	❍	❍	❍	❍	❍	❍

4. The next statements are related with your behaviors regarding novel foods. Please indicate with a cross (X) your level of agreement with each one of the following statements on a scale from 1 (strongly disagree) to 5 (strongly agree).

	1 Strongly Disagree	2	3	4	5 Strongly Agree
13. I am constantly sampling new and different foods	❍	❍	❍	❍	❍
14. I don't trust new foods	❍	❍	❍	❍	❍
15. If I don't know what is in a food, I won't try it	❍	❍	❍	❍	❍
16. I like foods from different countries	❍	❍	❍	❍	❍
17. Ethnic foods look too weird to eat	❍	❍	❍	❍	❍
18. At dinner parties, I would try a new food	❍	❍	❍	❍	❍
19. I am afraid to eat things I have never had before	❍	❍	❍	❍	❍
20. I am very particular about the foods I will eat	❍	❍	❍	❍	❍
21. I will eat almost anything	❍	❍	❍	❍	❍
22. I like to try new ethnic restaurants	❍	❍	❍	❍	❍

Thank for you attention and collaboration!

Appendix 2 | Correlations between emotional responses, attribute perceptions and behavioral intentions for all participants

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SCM NoTrad (1)																	
SCM TradPT (2)	.73**																
NSC Response NoTrad (3)	.6**	.46**															
NSC Response TradPT (4)	.43**	.6**	.79**														
Ante R NoTrad (5)	.46**	.48**	.19	.07													
Ante R TradPT (6)	.42**	.27*	.24*	.06	.52**												
Emotional Arousal NoTrad (7)	-.16	-.19	-.2	-.32**	-.16	-.12											
Emotional Arousal TradPT (8)	-.15	-.02	-.2	-.11	-.15	-.21*	.61**										
Emotional Valence NoTrad (9)	.08	-.01	.11	-.13	.02	.01	.63**	.21*									
Emotional Valence TradPT (10)	-.19	-.03	-.15	-.1	-.18	-.23*	.18	.66**	.22*								

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Familiarity NoTrad (11)	.21	.24*	.26*	.18	.21*	.23*	.06	-.04	.24*	0							
Familiarity TradPT (12)	-.23*	-.1	-.34**	-.23*	-.1	-.1	.04	.29**	-.09	.39**	.3**						
Desire NoTrad (13)	.01	-.1	.1	-.1	-.16	-.09	.71**	.26**	.81**	.17	.13	-.19					
Desire TradPT (14)	-.03	.11	-.02	.11	-.13	-.19	.27**	.75**	.18	.83**	-.08	.25*	.29**				
Valence NoTrad (15)	-.07	.09	-.11	.02	-.07	-.1	.13	.65**	.1	.84**	-.03	.45**	.11	.87**			
Valence TradPT (16)	.06	-.06	.08	-.14	0	0	.57**	.16	.83**	.16	.18	-.09	.81**	.16	.18		
Arousal NoTrad (17)	.02	-.1	.06	-.14	-.1	-.08	.72**	.27**	.75**	.12	.13	-.17	.92**	.24	.11	.79**	
Arousal TradPT (18)	-.01	.12	.05	.15	-.08	-.14	.27**	.75**	.14	.77**	-.05	.24*	.25*	.92**	.84**	.14	.29**
Palatability NoTrad (19)	-.01	-.05	-.08	-.28**	-.02	.05	.31**	-.06	.38**	-.09	.09	.02	.41**	-.14	-.08	.44**	.49**
Palatability TradPT (20)	-.11	.05	-.07	.03	-.08	-.05	-.02	.25*	-.03	.31**	.02	.35**	-.07	.27**	.34**	-.07	0
Healthiness NoTrad (21)	-.04	-.15	-.01	-.09	-.11	-.08	.19	.17	.08	-.01	-.09	-.1	.17	.07	.05	.20*	.210*
Healthiness TradPT (22)	-.12	-.12	-.33**	-.29**	-.09	.02	.13	.12	-.08	.01	-.16	.25*	-.05	.02	.08	-.02	0

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Ease Prep NoTrad (23)	.04	-.03	.08	.02	-.14	.09	-.03	.1	.03	.13	.18	.1	.07	.14	.13	.09	-.02
Ease Prep TradPT (24)	-.2	-.25*	-.4**	-.4**	-.26*	.03	.05	.24*	-.12	.29**	-.02	.51**	-.15	.2*	.35**	-.1	-.11
Availability NoTrad (25)	.17	.16	.13	.08	.12	.24*	.01	.05	.18	.07	.51**	-.02	.16	.04	.13	.25*	.19
Availability TradPT (26)	-.02	-.13	-.18	-.18	.01	.14	.02	.27**	-.09	.25*	.23*	.43**	-.15	.17	.31**	-.05	-.1
TraditionalPT NoTrad (27)	-.04	0	-.08	-.29**	.02	-.03	.27**	0	.13	-.03	.05	.09	.17	-.1	-.06	.17	.26**
TraditionalPT TradPT (28)	.07	.11	.11	.19	.14	.13	-.25*	-.02	-.33**	-.06	-.15	.03	-.26**	.06	.01	-.3**	-.25*
Traditional NONPT_ NoTrad (29)	.01	0	.06	.2*	.05	.13	-.1	-.09	-.16	-.17	-.02	-.1	-.05	-.08	-.08	-.01	-.1
TraditinalNON-PT TradPT (30)	-.11	-.15	-.06	-.26*	-.18	-.06	.37**	.05	.32**	0	.08	-.02	.35**	-.09	-.1	.33**	.4**
Willingness Try	0	-.1	-.01	-.11	-.2	-.17	.6**	.24*	.64**	.13	.05	-.13	.78**	.23*	.07	.66**	.75**
Willingness Try	-.02	.09	-.03	.08	-.21*	-.2	.3**	.65**	.23*	.69**	-.05	.16	.35**	.82**	.69**	.21*	.31**
Body Dissatisfaction (33)	-.09	.01	.06	.14	.01	-.08	-.12	-.08	-.02	.07	.14	.14	-.13	-.08	-.02	-.09	-.13
Food Neophobia (34)	-.04	.09	-.05	.09	-.03	.05	-.3**	-.16	-.41**	-.15	-.21*	0	-.39**	-.18	-.09	-.47**	-.42**

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
SCM NoTrad (1)	-.34*	.10	-.35*	.12	-.19	-.17	.14	-.22	-.21	-.07	.11	.08	.18	1.00	.84**	-.41**	-.13
SCM TradPT (2)	-.48**	.02	-.47**	.16	-.32*	-.27*	.08	-.02	-.24	-.13	.17	.19	.26	.68**	1.00	-.41**	-.12
NSC Response NoTrad (3)	.27	.05	.29*	.00	.30*	.28*	-.11	.15	.30*	.47**	.33*	-.10	-.16	-.14	-.32*	1.00	.69**
NSC Response TradPT (4)	.24	.24	.30*	-.03	.40**	.08	.14	.09	.04	.18	.59**	-.03	-.13	-.35*	-.12	.55**	1.00
Ante NoTrad (5)	.03	.30*	.31*	.46**	.40**	.12	-.42**	-.08	.27	.56**	.25	.01	-.29*	-.05	-.32*	.79**	.30*
Ante TradPT (6)	.01	.32*	.34*	.01	.32*	-.03	.03	-.13	-.08	.20	.69**	-.02	-.18	-.36*	-.21	.14	.64**
Emotional Arousal NoTrad (7)	-.07	.14	-.10	.54**	.17	-.04	-.15	.15	.08	.05	.05	.15	-.03	.30	.04	.02	-.17
Emotional Arousal TradPT (8)	.27	.28*	.44**	-.14	.39**	.02	.03	.08	.02	-.02	.20	.06	-.16	.09	.16	-.20	.10
Emotional Valence NoTrad (9)	-.02	.25	.24	.30*	.17	.28*	-.28*	.02	.31*	.73**	.46**	-.19	-.13	-.10	-.31*	.81**	.27
Emotional Valence TradPT (10)	-.01	.279*	.24	-.01	.21	-.02	.16	-.13	-.17	.22	.796**	-.13	-.12	-.320*	-.04	.24	.776**
Familiarity NoTrad (11)	.07	.27	.31*	.08	.30*	.03	.06	-.15	-.11	.24	.72**	-.15	-.20	-.26	-.05	.05	.67**
Familiarity TradPT (12)	.15	.28*	.32*	.39**	.37**	.19	-.39**	-.06	.27	.61**	.22	-.16	-.31*	-.08	-.28	.73**	.26

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Desire NoTrad (13)	.06	.08	.26	.34*	.15	.41**	-.25	.03	.43**	.68**	.34*	-.21	-.20	.00	-.23	.80**	.32*
Desire TradPT (14)	-.02	.24	.24	.02	.23	.08	.10	-.11	-.03	.24	.77**	-.15	-.15	-.23	.02	.21	.77**
Valence NoTrad (15)	.08	.03	.15	.19	.10	.45**	-.05	.04	.38**	.21	-.11	-.22	.02	-.03	-.31*	.50**	-.03
Valence TradPT (16)	-.17	.12	.08	-.13	-.03	.13	.13	-.08	.05	.00	.25	-.06	.09	-.20	-.04	.03	.26
Arousal NoTrad (17)	.39**	.20	.29*	-.09	.29*	.24	-.06	-.30*	.18	-.01	-.12	-.41**	-.19	-.03	.05	.38**	.31*
Arousal TradPT (18)	1.00	.10	.53**	-.05	.51**	.16	-.08	.07	.20	-.01	.01	-.25	-.05	-.06	.12	.05	.00
Palatability NoTrad (19)	.08	1.00	.34*	.30*	.41**	-.28*	-.05	-.02	-.17	.34*	.39**	.07	-.12	-.05	-.05	-.12	.00
Palatability TradPT (20)	.13	.58**	1.00	-.10	.65**	.31*	-.34*	-.07	.40**	.35*	.32*	-.07	-.39**	-.16	-.15	-.08	.23
Healthiness NoTrad (21)	-.06	.73**	.50**	1.00	.26	-.08	-.21	.17	.07	.24	.07	.16	-.04	-.01	-.09	-.01	.12
Healthiness TradPT (22)	.10	.38**	.75**	.62**	1.00	.17	-.17	.07	.22	.23	.22	.09	-.24	-.04	.02	-.13	.19
Ease Prep NoTrad (23)	-.01	-.37*	-.11	-.05	-.07	1.00	-.38**	-.17	.72**	.14	-.07	-.13	-.24	.25	-.22	.32*	-.06

	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Ease Prep TradPT (24)	-.04	.34*	.09	.23	.05	-.32*	1.00	.17	-.62**	-.39**	-.06	.13	.11	.17	.31*	-.36*	-.13
Availability NoTrad (25)	-.05	.14	-.14	-.01	-.11	-.35*	.45**	1.00	.13	.04	.04	.37**	-.01	.21	.34*	-.30*	-.22
Availability TradPT (26)	.06	-.40**	-.15	-.21	-.14	.74**	-.44**	-.18	1.00	.276*	-.04	.00	-.21	.17	-.26	.46**	.06
TraditionalPT_ NoTrad (27)	.17	-.21	-.25	-.01	-.18	.40**	-.28	-.30*	.49**	1.00	.64**	-.10	-.23	-.13	-.20	.71**	.30*
TraditionalPT_ TradPT (28)	.19	-.06	.18	.14	.17	.06	-.03	-.21	.09	.47**	1.00	-.10	-.14	-.31*	-.08	.27	.72**
TraditionalNONPT_ NoTrad (29)	-.23	-.13	-.06	-.04	.10	.05	.00	.15	.22	-.07	-.14	1.00	-.09	.24	.23	-.10	-.14
TraditionalNONPT_ TradPT (30)	-.02	.04	-.04	-.23	-.20	-.39**	.23	.15	-.49**	-.51**	-.28	-.07	1.00	-.10	.04	-.41**	-.19
Willingness Try NoTrad (31)	-.34*	.10	-.35*	.12	-.19	-.17	.14	-.22	-.21	-.07	.11	.08	.18	1.00	.84**	-.41**	-.13
Willingness Try TradPT (32)	-.48**	.02	-.47**	.16	-.32*	-.27*	.08	-.02	-.24	-.13	.17	.19	.26	.68**	1.00	-.41**	-.12
Body Dissatisfaction (33)	.27	.05	.29*	.00	.30*	.28*	-.11	.15	.30*	.47**	.33*	-.10	-.16	-.14	-.32*	1.00	.69**
Food Neophobia (34)	.24	.24	.30*	-.03	.40**	.08	.14	.09	.04	.18	.59**	-.03	-.13	-.35*	-.12	.55**	1.00

Note: *$p<.5$; **$p<.01$; ***$p<.001$; SCM = Skin Conductance; NoTrad = Non-traditional; NSC = Number of Skin Conductance; TradPT = Traditional Portuguese; Ante R = Anticipatory Response; Ease Prep = Ease Preparation; NONPT = Non-Portuguese; PT = Portuguese

Appendix 3 | Correlations between emotional responses, attribute perceptions and behavioral intentions by nationality

Portuguese/Foreign	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SCM NoTrad (1)	1.00	.84**	-.41**	-.13	-.05	.09	.19	-.28	.04	.20	.17	-.03	-.09	.27	-.06	.20	-.02
SCM TradPT (2)	.68**	1.00	-.41**	-.12	-.10	.07	.27*	-.27*	-.05	.23	.17	-.17	-.20	.26	-.21	.17	-.21
NSC Response NoTrad (3)	-.14	-.32*	1.00	.69**	.38**	.28*	.09	.31*	.58**	.29*	.26	.34*	.62**	.32*	.14	-.01	-.01
NSC Response TradPT (4)	-.35*	-.12	.55**	1.00	.11	.70**	.14	.51**	.28*	.73**	.65**	.02	.23	.74**	-.11	.26	.03
Ante NoTrad (5)	-.05	-.322*	.79**	.30*	1.00	.37**	.32*	.15	.67**	.17	.313*	.76**	.62**	.22	.23	-.01	.02
Ante TradPT (6)	-.36*	-.21	.14	.64**	.21	1.00	.22	.51**	.28*	.84**	.84**	.16	.17	.82**	-.10	.40**	-.06
Emotional Arousal NoTrad (7)	.30	.04	.02	-.17	.16	-.11	1.00	.27	.11	.08	.13	.14	.08	.11	.13	.16	-.20
Emotional Arousal TradPT (8)	.09	.16	-.20	.10	-.07	.26	.64**	1.00	-.02	.34*	.46**	.13	-.08	.33*	.04	.32*	-.10
Emotional Valence NoTrad (9)	-.10	-.31*	.81**	.27	.86**	.18	.10	-.13	1.00	.37**	.36**	.63**	.87**	.38**	.31*	.00	-.01
Emotional Valence TradPT (10)	-.32*	-.04	.24	.78**	.18	.84**	-.22	.28	.24	1.00	.91**	.08	.24	.94**	-.12	.36**	-.06

Portuguese/Foreign	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Familiarity NoTrad (11)	-.26	-.05	.05	.67**	.06	.83**	-.11	.41**	.04	.88**	1.00	.34*	.28*	.88**	-.02	.36**	.03
Familiarity TradPT (12)	-.08	-.28	.73**	.26	.86**	.22	.17	-.08	.89**	.22	.15	1.00	.67**	.13	.34*	-.07	.15
Desire NoTrad (13)	.00	-.23	.80**	.32*	.79**	.15	.12	-.08	.94**	.25	.08	.84**	1.00	.32*	.48**	.02	.10
Desire TradPT (14)	-.23	.02	.21	.77**	.08	.77**	-.17	.27	.16	.91**	.84**	.14	.27	1.00	.01	.44**	.01
Valence NoTrad (15)	-.03	-.31*	.50**	-.03	.58**	-.12	.09	-.21	.59**	-.15	-.19	.62**	.59**	-.17	1.00	.54**	.20
Valence TradPT (16)	-.20	-.04	.03	.26	.08	.18	-.05	.17	.01	.21	.25	.06	.11	.29*	.33*	1.00	.09
Arousal NoTrad (17)	-.03	.05	.38**	.31*	.12	.04	-.01	-.10	.31*	.19	.08	.25	.30*	.17	.10	.00	1.00
Arousal TradPT (18)	-.06	.12	.05	.00	-.05	-.07	-.19	-.07	.05	.09	-.01	-.04	.07	-.01	.21	.16	.23
Palatability NoTrad (19)	-.05	-.05	-.12	.00	-.18	.04	.18	.11	-.10	.03	.09	-.08	-.12	.07	-.16	.09	.30*
Palatability TradPT (20)	-.16	-.15	-.08	.23	-.26	.19	.16	.31*	-.27	.25	.31*	-.28	-.23	.31*	-.30*	.17	.09
Healthiness NoTrad (21)	-.01	-.09	-.01	.12	-.06	.16	.48**	.36*	.00	.07	.22	.10	.04	.14	-.03	.14	.22
Healthiness TradPT (22)	-.04	.02	-.13	.19	-.26	.18	.31*	.45**	-.24	.17	.27	-.21	-.16	.24	-.19	.25	.20

Portuguese/Foreign	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Ease Prep NoTrad (23)	.25	-.22	.32*	-.06	.29	-.10	.17	-.14	.26	-.15	-.23	.29*	.31*	-.14	.54**	-.10	-.07
Ease Prep TradPT (24)	.17	.31*	-.36*	-.13	-.30*	-.11	-.15	.06	-.27	.00	-.01	-.27	-.26	.00	-.37**	.11	-.02
Availability NoTrad (25)	.21	.33*	-.30*	-.22	-.30*	-.15	-.17	-.10	-.18	-.05	.03	-.06	-.24	-.03	-.22	-.02	.10
Availability TradPT (26)	.17	-.26	.46**	.06	.42**	.05	.10	-.19	.45**	.01	-.13	.44**	.44**	-.03	.50**	-.10	.03
TraditionalPT NoTrad (27)	-.13	-.20	.71**	.30*	.69**	.13	.01	-.13	.82**	.22	-.01	.69**	.80**	.17	.53**	.03	.32*
TraditionalPT TradPT (28)	-.31*	-.08	.27	.72**	.20	.74**	-.16	.26	.26	.85**	.72**	.19	.29	.77**	-.06	.21	.24
TraditionalNONPT NoTrad (29)	.24	.23	-.10	-.14	.07	.09	.20	.03	.01	-.02	.03	.05	.02	.02	-.10	-.16	.01
TraditionalNONPT TradPT (30)	-.10	.04	-.41**	-.19	-.43**	-.19	-.31*	-.12	-.52**	-.22	-.08	-.55**	-.54**	-.23	-.30*	.08	-.21
Willingness Try NoTrad (31)	1.00	.84**	-.41**	-.13	-.05	.09	.19	-.28	.04	.20	.17	-.03	-.09	.27	-.06	.20	-.02
Willingness Try TradPT (32)	.68**	1.00	-.41**	-.12	-.10	.07	.27*	-.27*	-.05	.23	.17	-.17	-.20	.26	-.21	.17	-.21
Body Dissatisfaction (33)	-.14	-.32*	1.00	.69**	.38**	.28*	.09	.31*	.58**	.29*	.26	.34*	.62**	.33*	.14	-.01	-.01
Food Neophobia (34)	-.35*	-.12	.55**	1.00	.11	.70**	.14	.51**	.28*	.73**	.65**	.02	.23	.74**	-.11	.26	.03

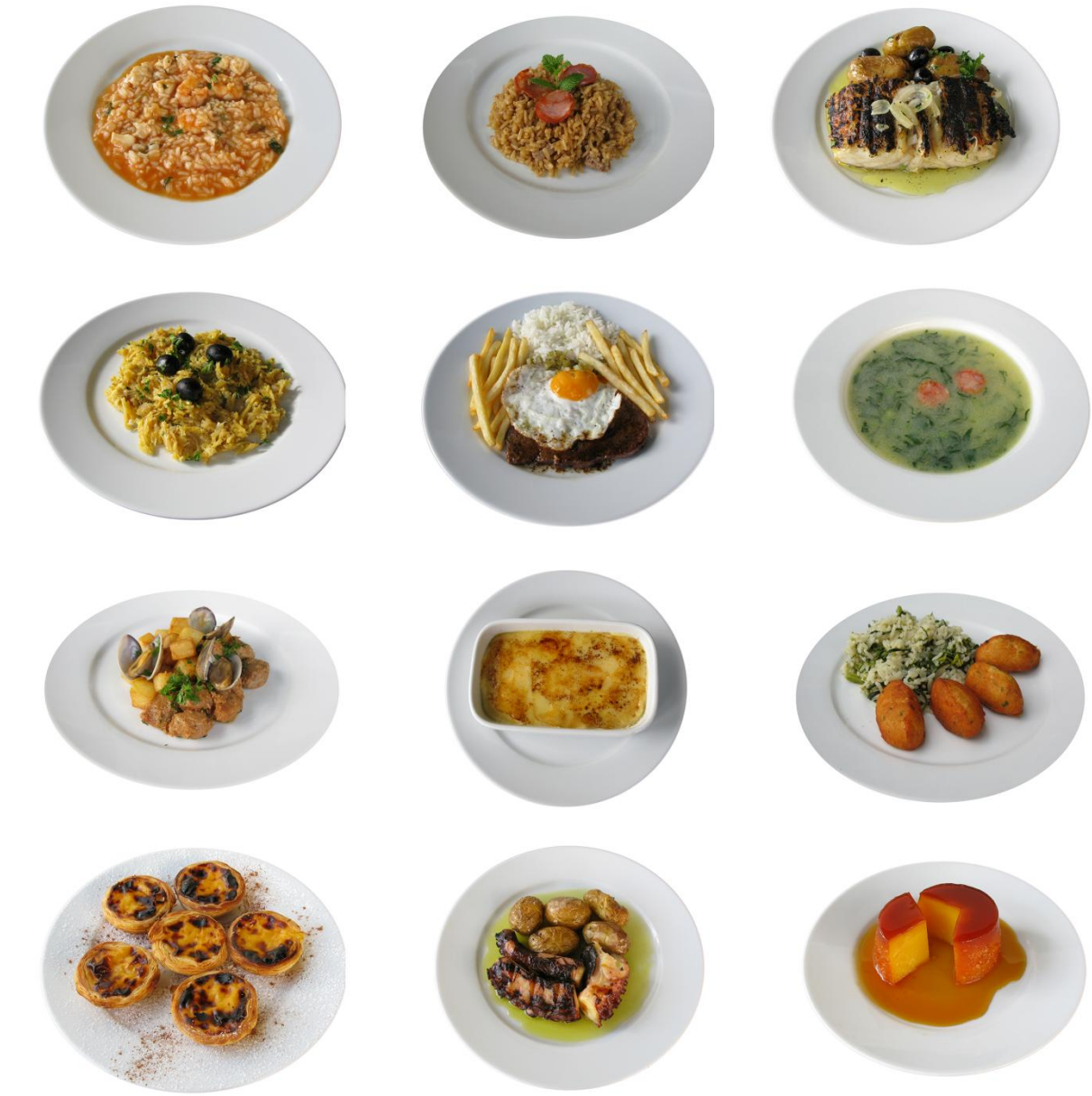
Portuguese/Foreign	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
SCM NoTrad (1)	-.34*	.10	-.35*	.12	-.19	-.17	.14	-.22	-.21	-.07	.11	.08	.18	1.00	.84**	-.41**	-.13
SCM TradPT (2)	-.48**	.02	-.47**	.16	-.32*	-.27*	.08	-.02	-.24	-.13	.17	.19	.26	.68**	1.00	-.41**	-.12
NSC Response NoTrad (3)	.27	.05	.29*	.00	.30*	.28*	-.11	.15	.30*	.47**	.33*	-.10	-.16	-.14	-.32*	1.00	.69**
NSC Response TradPT (4)	.24	.24	.30*	-.03	.40**	.08	.14	.09	.04	.18	.59**	-.03	-.13	-.35*	-.12	.55**	1.00
Ante NoTrad (5)	.03	.30*	.31*	.46**	.40**	.12	-.42**	-.08	.27	.56**	.25	.01	-.29*	-.05	-.32*	.79**	.30*
Ante TradPT (6)	.01	.32*	.34*	.01	.32*	-.03	.03	-.13	-.08	.20	.69**	-.02	-.18	-.36*	-.21	.14	.64**
Emotional Arousal NoTrad (7)	-.07	.14	-.10	.54**	.17	-.04	-.15	.15	.08	.05	.05	.15	-.03	.30	.04	.02	-.17
Emotional Arousal TradPT (8)	.27	.28*	.44**	-.14	.39**	.02	.03	.08	.02	-.02	.20	.06	-.16	.09	.16	-.20	.10
Emotional Valence NoTrad (9)	-.02	.25	.24	.30*	.17	.28*	-.28*	.02	.31*	.73**	.46**	-.19	-.13	-.10	-.31*	.81**	.27
Emotional Valence TradPT (10)	-.01	.279*	.24	-.01	.21	-.02	.16	-.13	-.17	.22	.796**	-.13	-.12	-.320*	-.04	.24	.776**
Familiarity NoTrad (11)	.07	.27	.31*	.08	.30*	.03	.06	-.15	-.11	.24	.72**	-.15	-.20	-.26	-.05	.05	.67**

Portuguese/Foreign	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Familiarity TradPT (12)	.15	.28*	.32*	.39**	.37**	.19	-.39**	-.06	.27	.61**	.22	-.16	-.31*	-.08	-.28	.73**	.26
Desire NoTrad (13)	.06	.08	.26	.34*	.15	.41**	-.25	.03	.43**	.68**	.34*	-.21	-.20	.00	-.23	.80**	.32*
Desire TradPT (14)	-.02	.24	.24	.02	.23	.08	.10	-.11	-.03	.24	.77**	-.15	-.15	-.23	.02	.21	.77**
Valence NoTrad (15)	.08	.03	.15	.19	.10	.45**	-.05	.04	.38**	.21	-.11	-.22	.02	-.03	-.31*	.50**	-.03
Valence TradPT (16)	-.17	.12	.08	-.13	-.03	.13	.13	-.08	.05	.00	.25	-.06	.09	-.20	-.04	.03	.26
Arousal NoTrad (17)	.39**	.20	.29*	-.09	.29*	.24	-.06	-.30*	.18	-.01	-.12	-.41**	-.19	-.03	.05	.38**	.31*
Arousal TradPT (18)	1.00	.10	.53**	-.05	.51**	.16	-.08	.07	.20	-.01	.01	-.25	-.05	-.06	.12	.05	.00
Palatability NoTrad (19)	.08	1.00	.34*	.30*	.41**	-.28*	-.05	-.02	-.17	.34*	.39**	.07	-.12	-.05	-.05	-.12	.00
Palatability TradPT (20)	.13	.58**	1.00	-.10	.65**	.31*	-.34*	-.07	.40**	.35*	.32*	-.07	-.39**	-.16	-.15	-.08	.23
Healthiness NoTrad (21)	-.06	.73**	.50**	1.00	.26	-.08	-.21	.17	.07	.24	.07	.16	-.04	-.01	-.09	-.01	.12
Healthiness TradPT (22)	.10	.38**	.75**	.62**	1.00	.17	-.17	.07	.22	.23	.22	.09	-.24	-.04	.02	-.13	.19
Ease Prep NoTrad (23)	-.01	-.37*	-.11	-.05	-.07	1.00	-.38**	-.17	.72**	.14	-.07	-.13	-.24	.25	-.22	.32*	-.06

Portuguese/Foreign	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Ease Prep TradPT (24)	-.04	.34*	.09	.23	.05	-.32*	1.00	.17	-.62**	-.39**	-.06	.13	.11	.17	.31*	-.36*	-.13
Availability NoTrad (25)	-.05	.14	-.14	-.01	-.11	-.35*	.45**	1.00	.13	.04	.04	.37**	-.01	.21	.34*	-.30*	-.22
Availability TradPT (26)	.06	-.40**	-.15	-.21	-.14	.74**	-.44**	-.18	1.00	.276*	-.04	.00	-.21	.17	-.26	.46**	.06
TraditionalPT_ NoTrad (27)	.17	-.21	-.25	-.01	-.18	.40**	-.28	-.30*	.49**	1.00	.64**	-.10	-.23	-.13	-.20	.71**	.30*
TraditionalPT_ TradPT (28)	.19	-.06	.18	.14	.17	.06	-.03	-.21	.09	.47**	1.00	-.10	-.14	-.31*	-.08	.27	.72**
TraditionalNONPT_ NoTrad (29)	-.23	-.13	-.06	-.04	.10	.05	.00	.15	.22	-.07	-.14	1.00	-.09	.24	.23	-.10	-.14
TraditionalNONPT_ TradPT (30)	-.02	.04	-.04	-.23	-.20	-.39**	.23	.15	-.49**	-.51**	-.28	-.07	1.00	-.10	.04	-.41**	-.19
Willingness Try NoTrad (31)	-.34*	.10	-.35*	.12	-.19	-.17	.14	-.22	-.21	-.07	.11	.08	.18	1.00	.84**	-.41**	-.13
Willingness Try TradPT (32)	-.48**	.02	-.47**	.16	-.32*	-.27*	.08	-.02	-.24	-.13	.17	.19	.26	.68**	1.00	-.41**	-.12
Body Dissatisfaction (33)	.27	.05	.29*	.00	.30*	.28*	-.11	.15	.30*	.47**	.33*	-.10	-.16	-.14	-.32*	1.00	.69**
Food Neophobia (34)	.24	.24	.30*	-.03	.40**	.08	.14	.09	.04	.18	.59**	-.03	-.13	-.35*	-.12	.55**	1.00

Note: *$p<.5$; **$p<.01$; ***$p<.001$; SCM = Skin Conductance; NoTrad = Non-traditional; NSC = Number of Skin Conductance; TradPT = Traditional Portuguese; Ante R = Anticipatory Response; Ease Prep = Ease Preparation; NONPT = Non-Portuguese; PT = Portuguese

Appendix 4 | Traditional Portuguese food images



Appendix 5 | Non-traditional Portuguese food images