

The influence of consumer ethnocentrism on purchase of domestic fruits and vegetables: application of the extended theory of planned behaviour

CE in Southern
European
country-
Portugal

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Luis Miguel, Susana Marques and Ana Patricia Duarte
ISCTE-Instituto Universitário de Lisboa, Lisboa, Portugal

Abstract

Purpose – With the crescent globalisation together with economic and food crisis, consumers are increasingly confronted with food products from different origins and appeals to consume “national”. If many food products can be related to a specific region or country, many are sold as commodities with Portuguese origin indication. One factor influencing the purchase behaviour of domestic food products is the consumer ethnocentrism (CE) characteristic. The aim of this paper is to study consumers’ purchase behaviour intention towards “produce in Portugal” fruits and vegetables applying a CE extended model of the theory of planned behaviour (TPB).

Design/methodology/approach – A questionnaire was presented to random sample of 700 individuals older than 18 and responsible for the household food purchase by computer-assisted telephone interview (CAT) system. Structural equation modelling (SEM) was conducted to examine direct and indirect effects of attitude (ATT), subjective norms (SuBNs), perceived behavioural controls (PBCNTRLs), intention and self-congruity on domestic fresh fruits and vegetables purchases.

Findings – Findings suggest that TPB model is applicable in determining the consumers’ intention to buy domestic fruits and vegetables in Portugal. CE has been shown to successfully influence purchase intention.

Research limitations/implications – This study provides the food industry and retail with informative basis about which mechanisms underlie the consumers’ intention to buy domestic food. Also, this study provides useful insight into how different food categories and label affect the consumers’ intentions, which can serve for communication strategies in order to increase purchase of domestic products as fruits and vegetables. New food categories should be studied.

Originality/value – This study gives a new approach on Portuguese consumer ethnocentric tendencies and opens a discussion on consumer purchase intention on Portuguese low value food products. This gives a first insight on Portuguese consumer ethnocentric behaviour.

Keywords Purchase intentions, Consumer ethnocentrism, Theory of planned behaviour, Domestic food

Paper type Research paper

1. Introduction

Since long time, consumer food choices have been subjected to research addressed from several perspectives. Everyone faces food choices every day as it is an essential and basic need. Despite this, food choice is much more than a straightforward issue and much more multifaceted as one might think.

In a globalised world, consumers must make decisions within a wide range of domestic and foreign products and there are various factors affecting food purchase. One factor influencing purchase behaviour towards domestic over foreign products is consumer ethnocentrism (CE). Despite this, social identity theory suggests that individuals define themselves in terms of group membership (Han and Guo, 2018).

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Research has suggested that food choice is based on intuitive thinking resulting in fast decisions based on habits, routines or beliefs (Köster, 2009), and it is a complex process evolving many aspects that differ according to product categories and consumer's culture or personality.

Product origin influences food choice with consumers' assuming attitudes (ATTs) towards domestic and foreign products showing a growing tendency to prefer local food, i.e. food that has travelled short distances (Feldmann and Hamm, 2015) or within a certain geographical area (Kumar and Smith, 2017) and national food, i.e. food produced in a country and labelled "produced in ...". Also consumers are willing to pay a premium price for domestic (local or national labelled) food, in various distinct markets like the European (Koschate-Fischer *et al.*, 2012; Verbeke and Roosen, 2009), the American (Berry *et al.*, 2015), the Australian (Mugera *et al.*, 2017) or the Chinese (Hui and Zhou, 2002). Research has suggested that many consumers prefer domestic to foreign products, even when the quality is lower and the price is higher. This is considered to be due to "consumer ethnocentrism" (Siamagka and Balabanis, 2015) a factor that influences ATTs and preferences of consumers regarding national products compared with foreign products. The importance of this construct is being recognised in marketing practice and research (Chryssochoidis *et al.*, 2007; Luque-Martínez *et al.*, 2000; Makanyeza and Du Toit, 2016; Shimp and Sharma, 1987).

As international trade activity and the globalisation became a central part of the world economy, it creates opportunity for consumers and retailers in domestic food market. In the developed countries, food market is characterised by a large variation in local, national and imported alternatives for the various food products and consumers have the means to freely choose amongst those alternatives (Vabø and Hansen, 2016).

The 1990s food crises as the bovine spongiform encephalopathy and technological developments such as genetic modified organisms (GMOs) combined with movements to support local and national producers, lead consumers to search for products cues other from taste that could transmit safety and quality seeking products that at same time recall to tradition and "pure" environments in opposition to globalisation and industrialisation of food products (Guerrero *et al.*, 2010).

To ensure consumers demand for food safety, European legislation requires retailers to provide origin label for most of fresh foods so consumers can make their purchase decisions at point of sale also based on food origin. This mandatory regulation has important implications for producers and retailers.

Previous studies used the theory of planned behaviour model (TPB) by Ajzen (1991) to explain purchase intentions and behaviour in a variety of food context (e.g. Paul, 2012; Siddique, 2012; Ajzen, 2015; Shin *et al.*, 2016). However, despite extensive research showing that origin information significantly affects buying behaviour (Magnusson *et al.*, 2011), studies on how ethnocentrism influences of ATT to buy national food products is scarce or even none existent for the Portuguese food consumer behaviour. The present study sought to answer a major question: Does CE tendency influences intention to buy Portuguese labelled food products?

This study has the particular interest to analyse the Portuguese consumers intention to buy domestic food products in a TPB context has proposed by Ajzen (1991) whilst also examining in what extend CE influences ATT, subjective norm (SuBN) and perceived behavioural control (PBCNTRL) to buy domestic food products on an extended model of the TPB.

2. Consumer ethnocentrism

CE is a factor that influences ATTs and preferences of consumers regarding national products when compared to foreign ones and its importance is recognised in marketing practice and research (Krystallis *et al.*, 2007; Luque-Martínez *et al.*, 2000; Makanyeza and Du Toit, 2016; Shimp and Sharma, 1987).

The term "Ethnocentrism" was first introduced by Sumner (1907) who defined it from a sociological perspective as the "view of things in which one's own group is the centre of

everything, and all others are scaled and rated with reference to it” (pp. 12–13). CE is a fundamental concept in social sciences based on three main concepts: ethnocentrism, in-group and out-group (Bizumic, 2014). Ethnocentrism meant a tendency of ethnical centring to be rigid in acceptance of cultural alike and rejection of the unlike (Adorno *et al.*, 1950).

More recently, Shimp and Sharma (1987) introduce for the first time the economic definition of this concept describing CE as a personality trait which represents “consumers’ beliefs about the appropriateness and morality of purchasing products originating in a foreign country” (p. 208). The same authors considered that CE provides an explanation for the reason why the preference of domestic products over foreign ones is not always objective. The theory specifies that belonging to a specific social group is an essential aspect for the meaning of the ethnocentrism concept.

Ethnocentric consumers tend to prefer domestic products even when there is no obvious reason for such preference. Criteria as nationality and ethnicity are common for in-group/out-group distinctions that help to explain the bias of believing in the superiority of one’s group (or products) and the inferiority of other (Orth and Firbasová, 2003).

Various researchers point out several factors influencing CE. Product category and attributes (Balabanis and Siamagka, 2017; Cerjak *et al.*, 2012; Maksan *et al.*, 2019; Sharma *et al.*, 1995) development of consumers country (Chrysochoidis *et al.*, 2007), consumer characteristics such as age (Bizumic, 2019; Chrysochoidis *et al.*, 2007; Orth and Firbasová, 2003), gender or income (Sharma *et al.*, 1995) and cultural values (Ma *et al.*, 2020) are the most commonly mentioned.

The concept of ethnocentrism allows to understand how societies perceive events like economic interests and, in the context of consumer behaviour, how consumers represent their beliefs about the appropriateness of buying products from abroad or even from a different region (Orth and Firbasová, 2003). CE theory regards that by Shimp and Sharma (1987) theory, CE is socialised by education during childhood like other social patterns.

Ethnocentric consumers perceive themselves and people in their groups as unique and better than others. Additionally, they treat people in the same in-groups more favourably than others. When identity is constructed on regional boundaries, national food products represent the in-group and foreign products represent the out-group (Verlegh, 2007) and purchasing national food includes promoting the well-being of the local community (Newman *et al.*, 2014). Consequently, ethnocentrism concept is an important factor to consider as it affects behaviours related to national food purchase and buyers can be influenced by affective responses towards a certain country. Moreover, CE is not only impacted by affective responses related to one’s own country, but also by normative pressures to buy domestic products. This is a unique dimension of the CE (Olsen *et al.*, 1993).

CE is measured by the Consumer Ethnocentrism Scale (CETSCALE) as proposed by Shim and Sharma in 1987 to measure the tendencies of ethnocentric consumers across nations, when facing purchase decisions towards domestic products and its operationalisation (measure and grading).

The scale has been widely used for CE evaluations from electronics cars to food products, and it presents a high reliability and validity (Jiménez-Guerrero *et al.*, 2014, 2020).

The CETSCALE is characterised as a measure of a tendency rather than an ATT. ATTs are directed to a specific target and objective and are more appropriately used when describing consumer feelings towards a specific product such as a particular brand. The CETSCALE is considered to be beyond this specificity and it involves a general notion of a disposition to act in some consistent fashion towards foreign products in general (Prince *et al.*, 2019; Shimp and Sharma, 1987).

3. Theory of planned behaviour

The TPB was proposed as an extension of the theory of reasoned action (TRA) due to the original’s model limitation to deal with behaviours that people have incomplete volitional

control or are difficult to perform (Ajzen, 1991; Madden *et al.*, 1992; Sok *et al.*, 2020). To overcome this aspect, PBCNTRL was introduced as the new complementing concept.

The TPB relies not on revealed preferences but in direct assessment of theoretical constructs to infer the decision (Ajzen, 2015). According to the TPB, the intention to perform behaviour is directly influenced by ATT (i.e. ATT to buy domestic food in the context of this study), SuBN (i.e. importance of others' opinions regarding buying domestic food) and PBCNTRL (i.e. the extent to which consumers perceived that they control their behaviour towards the action of buying domestic food). The TPB has been chosen as the theoretical frame once it has demonstrated to be very useful and powerful to predict a wide range of behaviours from food consumption (e.g. Al-Swidi *et al.*, 2014; Kumar and Smith, 2017; Nardi *et al.*, 2019; Shin *et al.*, 2016; Tarkiainen and Sundqvist, 2005; Wang and Scrimgeour, 2021) to hunting (e.g. Hrubes *et al.*, 2001) or skin care products purchased intention (e.g. Hsu *et al.*, 2017). Despite the wide range of behaviours predicted and explained, the amount of behavioural variance explained by the TPB is about 25–30% (Ajzen, 1991).

3.1 Behavioural intention (INTT)

The central factor in the TPB is the person's intention to perform a determined behaviour. According to Mcdermott *et al.* (2015), intention is an indicator of the amount of effort that a person is likely to devote to perform a behaviour. This was according with what was defined by Ajzen (1985) more in terms of trying to perform the behaviour rather than the actual performance. The stronger the intention towards the behaviour, the more likely that it will be performed. Behaviour intention, however, can only find its expression if the behaviour in question is under volitional control (Ajzen, 1991).

The TPB has been regarded useful to predict a large number of behaviour (Sheppard *et al.*, 1988) and frequently in the domain of food choice (e.g. Hansen, 2008; Yazdanpanah and Forouzani, 2015).

3.2 Subjective norm (SuBN)

SuBN measures to the extent of the social influence to perform or not the behaviour. This is predicted by the sum of the normative beliefs and motivations to comply. It has been highlighted the influence that significant others (friends, relatives or colleagues) have on individual decisions (Hee, 2000). SuBN results from the individual's beliefs about the extent to which his or her important others would approve or disapprove the behaviour, i.e. the social pressure they feel about a given behaviour. The more positive the SuBN is towards a given behaviour, the higher the chances that the behaviour will be performed (Taylor and Todd, 1995; Vabø *et al.*, 2017).

3.3 Attitude (ATT)

The amount of effort devoted to performing the behaviour is determined by the individual ATT. The "attitude toward the behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question" (Ajzen, 1991, p. 188) and can be divided into social and personal ATTs (Hee, 2000). This is predicted by the sum of products of cognitive beliefs.

The assumption that ATTs are based on such beliefs has been challenged and the model criticised for not giving much attention to the affective aspects of ATT (Arvola *et al.*, 2008).

3.4 Perceived behavioural control (PBCNTRL)

The Perceived Behavioural Control (PBC) refers to the difficulty of performing the behaviour reflecting past experiences or even anticipating obstacles and it is a determinant of both

behavioural intention and real behaviour. This variable has two components: the availability of resources necessary to perform the behaviour (money, time, etc.) and the individual's self-confidence to conduct the behaviour (Mahon *et al.*, 2006).

The positive link between PBC and intention has been demonstrated in various studies related to different contexts as organic food (Zhou *et al.*, 2013), hunting behaviour (Hrubec *et al.*, 2001) or green food consumption (Paul *et al.*, 2016).

3.5 Fruit and vegetables consumption in Portugal and globally

The consumption of organic food has been proposed as a path to a more sustainable society, leading to an increase of, the purchase and consumption of fruits and vegetables worldwide.

According to the last Portuguese Food Balance report (INE-Instituto Nacional de Estatística Portugal, 2017), from 2012 to 2016, the consumption of fresh fruits and vegetables increased 11.3 and 11%, respectively, and these were the two highest increases during that period for the food categories analysed. In spite of this, another study from the main Portuguese ecological association (Associação Zero, 2017) indicated after a survey in 94 major retail chains that 65% of the vegetables and 50% of the fruit available were produced in Portugal. Moreover, and according to a EUROSTAT (2019) in 2017, Portugal was the 2nd fruit consumer and the 4th vegetable consumer within the European Union (EU) (81 and 78% of daily consumption, respectively).

As reported by the Portuguese DGS-Direção Geral de Saúde (2014) (General Health Authority), fresh fruits and vegetables are considered to be the two most important fractions of the food circle (together with dry fruit) and its national consumption is rising slowly (INE-Instituto Nacional de Estatística Portugal, 2017).

There is hence a margin to expand on supplying national fresh fruits and vegetables to the market and it is fundamental to firstly understand and evaluate consumers ethnocentric tendencies related to those categories. Nonetheless, fruits and vegetables are not a product category normally implied for measuring consumer ethnocentric tendencies, which justifies its use for the present research. Furthermore, it has been demonstrated that CE has higher impact on purchases of "the most expensive product categories rather than frequently purchased convenient items" (p. 166) (Balabanis and Siamagka, 2017). This could mean that fruits and vegetables category can set a basis to evaluate consumer ethnocentric tendencies for food purchase intentions.

On the other hand, there has been an increase in official and retail campaigns that promote domestic food consumption in order to help national agri-economy, especially after the coronavirus disease 2019 (COVID-19) pandemic crisis. According to a recent report by the LLYC (2021) consulting group, in 2021, the present COVID-19 crisis brought a sensation of permanent uncertainty that, so far, does not seem to disappear in the near future.

This situation is linked to the consumer's concerns about health and economy that leads people to a more conservative approach when making a decision and questioning how to support national/local producers to avoid economical breakdown and, in turn, slowdown recession.

As for a global approach, the consumption of fruits and vegetables is increasing worldwide following a crescent tendency for healthy sustainability and new trends for vegetarianism and veganism. Fruits and vegetables are an important component of human diets due to the multitude of health benefits and potential to reduce the risk of non-communicable diseases (FAO/WHO, 2020), and it has also been suggested that a good local availability (e.g. access to one's own vegetable garden, having low food insecurity) seemed to exert a positive influence on consumption (Kamphuis *et al.*, 2006).

4. Theoretical framework and hypotheses

An extended model of the TPB, the ethnocentrism construct, was used. It aimed to develop and test how its variables mediate CE influence on intention to purchase fruits and vegetable amongst consumers in the two main metropolitan regions in Portugal.

The central premise of the TPB is that certain behaviour is a function of the intention (INTT) to perform it and the PBCNTRL. The stronger these two determinants are, the more likely the behaviour to occur. Additionally, the TPB postulates that the intention to perform the behaviour derives from the combination of three factors: ATT, SuBNs and PBCNTRL in respect of the considered behaviour. These are influenced behavioural, normative and control beliefs, respectively. More favourable ATT and SuBN and greater PBCNTRL correspond to a greater likelihood of consumer intention to engage in the concerning behaviour. Research indicates that TPB variables were found to have medium to large associations with both intention and behaviour. ATTs had the strongest association with intention, followed by PBCNTRL and SuBN (Mcdermott *et al.*, 2015).

Amongst the factors affecting food choice are the consumer-related factors like personality, social psychology factors or psychological factors (Shepherd, 2001). One of the factors that widely studied and pointed as a factor of food choice is the CE that showed to positively influence favourable domestic product judgements (Prince *et al.*, 2019).

CE is expected to have a strong impact on ATTs and preferences of consumers regarding national products compared with foreign products as consumer may perceive imports as a threat to national economy (Sharma *et al.*, 1995). The importance of this construct is being recognised in marketing practice and research (Chrysochoidis *et al.*, 2007; Luque-Martínez *et al.*, 2000; Makanyeza and Du Toit, 2016; Shimp and Sharma, 1987).

Individuals who have strong ethnocentric beliefs tend to influence others behaviour within their close group acting as “significant others” who, in turn, accept or reject the ethnocentric consumer behaviour. “Ethnocentric tendencies do not develop in isolation but rather part of a constellation of social-psychological and demographic influences” (p. 27) (Sharma *et al.*, 1995). Thus, consumers’ SuBN is influenced by increased ethnocentric consumer behaviour as individuals tend to be appropriate and buy domestic food products instead of imported ones. Also, according to same authors, ethnocentric consumers not only refuse to purchase foreign-made products, but also reprimand others for engaging in such unethical purchasing behaviours. Siamagka and Balabanis (2015) research shows that CE may, in fact, be a multidimensional construct. The ethnocentric consumer shows a positive affinity, a cognitive evaluation bias and a behavioural preference and tendencies (willingness to try, repeat purchase, positive word-of-mouth or advice, etc.)

Thus, it is assumed that consumer’s SuBN is influenced by increased ethnocentric consumer behaviour as individuals tend to realise and promote within its group the appropriateness of buy domestic food product instead imported ones.

One aspect to point out is that CE, as a personality value component of the ATT like suggested by Sharma *et al.* (1995), has a direct influence on purchase intention for domestic food products. As argued by Ajzen (2011), personal values, such as ethnocentrism, can be antecedents of ATT, SuBN and perceived behaviour control and consequently influences those aspects that influence behaviour.

Consumers with high ethnocentrism behaviour tend to have positive perceptions and ATTs towards domestic products when compared with foreign ones (Zeugner-Roth *et al.*, 2015; Vabø *et al.*, 2017; Maksan *et al.*, 2019). CE has shown to have a significant impact on purchase behaviour in various food products from functional foods (Xin and Seo, 2020), vegetables (Jiménez-Guerrero *et al.*, 2014) or wine (Maksan *et al.*, 2019). Ajzen (1991) defended that when consumer recognise the support from their “significant other” to perform a given behaviour, they are more liked to adopt the group behaviour such as purchasing national labelled food products. As well, Shimp (1984) has indicated ethnocentrism to influence ATTs towards domestic products.

From the above, it is proposed as follows:

H1. CE is positively related to intention to buy Portuguese labelled fruits and vegetables.

-
- H2.* CE is positively related to ATT towards buying Portuguese labelled fruits and vegetables.
- H3.* CE is positively related to PBCNTRL regarding buying Portuguese labelled fruits and vegetables.
- H4.* CE is positively related to the SuBN regarding buying Portuguese labelled fruits and vegetables.
- H5.* SuBN is positively related to the purchase intention of Portuguese labelled fruits and vegetables.
- H6.* ATT is positively related to the purchase intention of Portuguese labelled fruits and vegetables.
- H7.* PBCNTRL is positively related to the purchase intention of Portuguese labelled fruits and vegetables.

Literature indicates that (e.g. [Paul et al., 2016](#)) other variables could be added to better predict consumer's purchase intentions for domestic food. Despite this, a few integrate CE construct on the TPB model (e.g. [Maksan et al., 2019](#)).

Personal values such as ethnocentrism were considered by [Ajzen \(2011\)](#) to be antecedents of ATT, SuBN and PBCNTRL. Thus, the TPB variables mediate the influence of CE on behavioural intention (purchase of Portuguese labelled fruits and vegetables). Several studies applying extended versions of the TPB model ([Arvola et al., 2008](#); [Emanuel et al., 2012](#); [Ajzen, 2015](#); [Maksan et al., 2019](#); [Paul et al., 2016](#); [Shin et al., 2016](#)) supported the idea. Consequently, it is hypothesised as follows:

- H8.* ATT, SuBN and PBCNTRL towards the purchase of Portuguese labelled fruits and vegetable mediate the relationship between CE and intention to purchase that type of products.

The present study did not only consider the effect of ethnocentrism as a predictor of ATT, SuBN, PBCNTRL and behaviour intention, but also proposed to investigate the potential of mediating role of the TPB variables. [Figure 1](#) represents all the hypotheses that were tested in order to investigate the effects amongst the variables considered in the TPB model.

4.1 Methodology

The present study is based on a questionnaire applied to a sample of and the answers resulted from computer assisted telephonic interviewing (CATI).

The respondents were first asked whether they purchase fresh fruits and vegetables. These categories were chosen since they are seen as commodities and in Portugal most are not sold in visually designed or brand packaging and not common in ethnocentric tendencies studies.

As using an adapted and reduced scale is not new in marketing research (see [Jiménez-Guerrero et al., 2014](#)), a reduced version of [Shimp and Sharma's \(1987\)](#) CETSCALE was utilised to measure consumer ethnocentric tendencies. The scale has been previously used and validated in various cross-cultural contexts, including in other new EU members states. For this study, six items derived from the original CETSCALE were used to measure CE. Those items comprise the more radical statements and re termed as "hard ethnocentrism" (HE). All constructs were measured using a seven-point Likert type scale. These were adapted from [Shimp and Sharma \(1987\)](#)'s scale. On the TPB model, *ATT towards buying Portuguese labelled fresh fruits and vegetables (ATT)* was measured by an adaptation of two items suggested by [Ajzen \(2006\)](#) and [Vabø and Hansen \(2016\)](#). To measure *SuBN*, a set of three items adapted from [Ajzen \(1991\)](#), [Al-Swidi et al. \(2014\)](#) and [Paul et al. \(2016\)](#), was used.

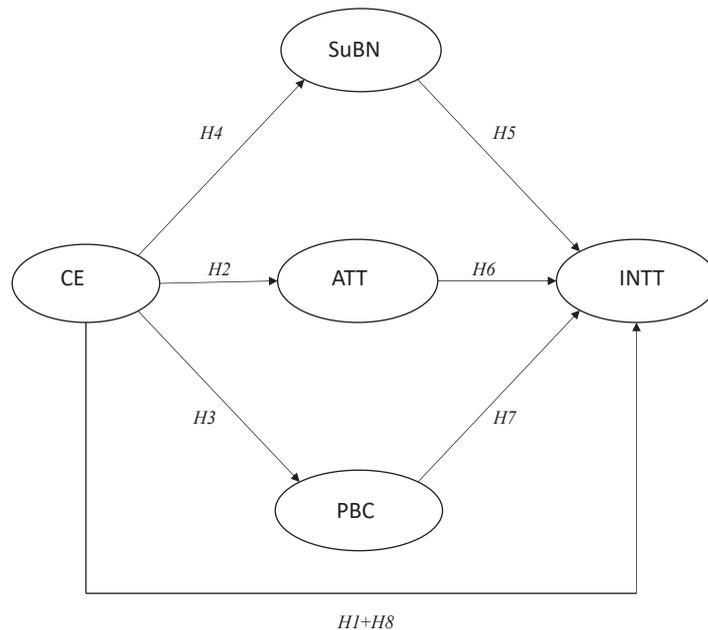


Figure 1.
The extended TPB
model and the effects
(total and mediated)
of CE

Note(s): CE-Consumer Ethnocentrism; SuBN-Subjective Norm;
ATT-Attitude; PBC-Perceived Behavioural Control; INTT-Intention
to Purchase

PBCNTRL was measured by four items adapted from studies of [Ajzen \(2006\)](#), [Paul et al. \(2016\)](#) and [Al-Swidi et al. \(2014\)](#). Finally, *Intention to buy Portuguese labelled fresh fruits and vegetables (INT)* was measured by three items, adapted from [Ajzen \(2006\)](#) and [Al-Swidi et al. \(2014\)](#).

4.2 Sample

Following the recommendations of [Hair et al. \(2019\)](#), the questionnaire was applied to a sample of 700 adults (18 years old or over) household food purchase responsible and resident in the Lisbon and Oporto metropolitan areas that represent 48% of the total population.

The socio-demographic profile of the sample, detailed in [Table 1](#), corresponds to the characterisation of the Lisbon and Oporto metropolitan areas according to the Portuguese Census ([INE, 2012](#)).

4.3 Construct validity

Construct validity is established by *convergent* and *discriminant validity*. Convergent validity is demonstrated when the items that constitute the studied construct present a highly positive relation between them. Convergent validity can be confirmed using coefficient composite reliability (CR) and average variance extracted (AVE) ([Hair et al., 2019](#)). CR values of latent constructs were above [Hair et al. \(2019\)](#)'s recommended value of 0.70, ranging from 0.86 to 0.96. Considering the AVE which reflects the total amount of shared variance amongst the indicators that measure a latent construct, it presented values ranging from the lowest 0.63 to the highest 0.91.

	Sample <i>n</i>	%	CE in Southern European country- Portugal
<i>Gender</i>			
Male	228	32.6	
Female	472	67.4	
<i>Education level</i>			
Primary	241	34.4	607
Secondary school	213	30.4	
University graduate	241	34.4	
Not answered	50.7		
<i>Region</i>			
Oporto	258	36.9	
Lisbon	442	63.1	
<i>Monthly income</i>			
≤560€	103	14.7	
561–1,000€	280	40.0	
>1,000€	216	30.9	
Not answered	101	14.4	
<i>Age</i>			
18–35	61	8.7	
36–45	140	20.0	
46–55	154	22.0	
56–65	146	20.9	
>65	199	28.4	

Table 1.
Sample's socio-
demographic profile

Based on the values presented for both CR and AVE with at least 0.70 and 0.50, respectively, it can be argued that the proposed measurement model has an adequate convergent validity. To assess the scale internal reliability, Cronbach's alpha (α) was determined by SPSS (version 26). All the constructs presented a value above 0.85, which shows a high reliability for the present sample (see Table 2 for details).

Discriminant validity is the extent to which a set of variables of a particular construct do not correlate with other constructs in the model. This means that the variance shared amongst a set of items measuring a construct and their own construct is higher than the variance shared with other constructs (Hair *et al.*, 2019). The results, presented in Table 2, indicate that AVE values are higher than the correlations coefficients and above the threshold value recommended of 0.50. Thus, it can be assumed that the measurement model has adequate discriminant validity, adequate internal reliability as well as good convergent validity. This gives some assurance that common method variance is not a problem in this study (Podsakoff *et al.*, 2003).

4.4 Results

After confirming the reliability and validity of the measurement model, SPSS version 26 and AMOS version 26 software were used to carry out test of the hypotheses. Structural equation modelling (SEM) was conducted to examine the mediation relationship.

4.5 Descriptive statistics and intercorrelations

Based on results detailed in Table 3, all the mean values of the variables under study, namely HE, ATT, PBCNTRL, SuBN and intention to buy Portuguese labelled fruits and vegetables are higher than the middle point of the response scale (4) and, therefore, relatively favourable

Table 2.
Measures' construct
validity

Constructs	Items		Standardised loadings	CR	AVE	Cronbach's α
PBC	PBC1	←	PBCNTRL	0.67	0.91	0.63
	PBC2	←	PBCNTRL	0.80		
	PBC3	←	PBCNTRL	0.89		
	PBC4	←	PBCNTRL	0.73		
SuBN	SN1	←	INTT	0.94	0.96	0.90
	SN2	←	INTT	0.99		
	SN3	←	INTT	0.91		
ATT	ATT1	←	ATTDD	0.92	0.93	0.68
	ATT2	←	ATTDD	0.91		
INTT	ITT1	←	INTT	0.91	0.93	0.81
	ITT2	←	INTT	0.93		
	ITT3	←	INTT	0.86		
CE	CET4	←	HE	0.82	0.89	0.58
	CET7	←	HE	0.82		
	CET10	←	HE	0.74		
	CET5	←	HE	0.77		
	CET6	←	HE	0.72		
	CET3	←	HE	0.67		

(out of 7). All variables present some variability, with standard-deviations ranging from 0.91 to 1.27, which suggest some heterogeneity in participants' positions regarding the variables under analysis.

Table 4 reports the correlations amongst the investigated variables. Results presented show positive and significant correlations amongst all the constructs ($p < 0.01$). CE has significant and positive correlation with all TPB variables, and all TPB variables have significant and positive correlation with intention.

According to correlations, CE shows the strongest positive correlation with SuBN and PBCNTRL, whereas ATT and PBCNTRL are the strongest correlates of INTT.

4.6 Hypotheses testing

Having analysed the correlations between variables, the next step was to test the hypotheses by running the structural model. Figure 2 shows the causal linkages and fit statistics for the conceptual structural model in a completely standardised solution.

The overall goodness of fit of the model was acceptable when compared to the threshold values suggested in the literature, namely the ones suggested by Bagozzi and Yi (1988) and Hair *et al.* (2019). It must be pointed out that as indicated by those authors, that the value of chi-square is close related to the size of the sample ($n = 700$, for the present study) and it increases as the sample does. This makes it more difficult to achieve a more perfect model fit in its all dimensions.

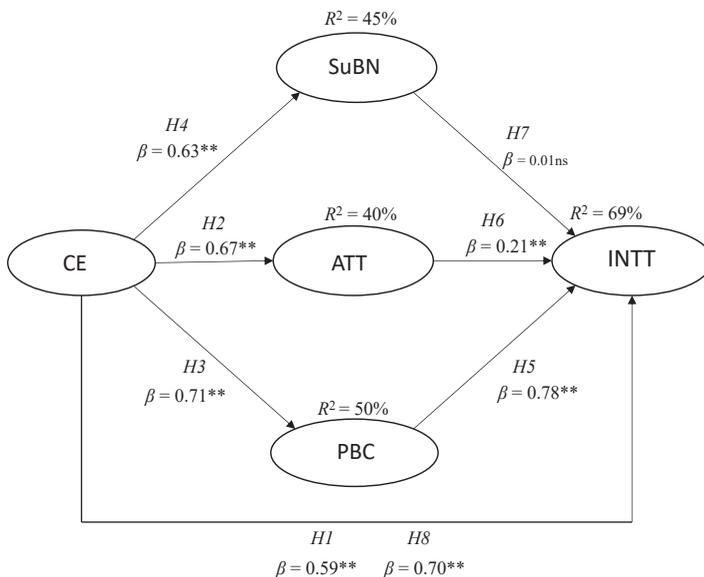
Table 3.
Correlations between
the latent factors

	1	2	3	4	Mean	SD
1 – CE	–				4.94	1.27
2 – ATT	0.39**	–			6.13	0.91
3 – PBC	0.40**	0.75**	–		5.06	1.40
4 – SuBN	0.49**	0.50**	0.55**	–	5.80	0.91
5 – INTT	0.36**	0.68**	0.79**	0.45**	5.98	0.94

Note(s): ** $p < 0.000$

Hypothesis	Hypothesised	B	p-value	Decision
H1	Consumer ethnocentrism is positively related to intention to buy Portuguese labelled fruits and vegetables	0.59	0.001	Supported
H2	Consumer ethnocentrism is positively related to attitude towards buying Portuguese labelled fruits and vegetables	0.67	0.001	Supported
H3	Consumer ethnocentrism is positively related to perceived behavioural control regarding buying Portuguese labelled fruits and vegetables	0.71	0.001	Supported
H4	Consumer ethnocentrism is positively related to the subjective norm regarding buying Portuguese labelled fruits and vegetables	0.63	0.001	Supported
H5	Perceived behavioural control is positively related to the purchase intention of Portuguese labelled fruits and vegetables	0.79	0.001	Supported
H6	Attitude is positively related to the purchase intention of Portuguese labelled fruits and vegetables	0.21	0.001	Supported
H7	Subjective norm is positively related to the purchase intention of Portuguese labelled fruits and vegetables	0.01	0.87	Not supported
H8	Attitude, subjective norm, and perceived behavioural control towards the purchase of Portuguese labelled fruits and vegetable mediate the relationship between consumer ethnocentrism and intention to purchase that type of products	0.70	0.001	Partially supported

Table 4. Total, direct and indirect effects



Note(s): $\chi^2(121) = 714,108, p < 0.000; \chi^2/df = 5,90; GFI = 0.89; CFI = 0.94; RMSEA = 0.08; TLI = 0.93$

Figure 2. Conceptual model

Regarding the hypothesis tested and resumed in [Table 4](#), it can be seen that most of them are significant at the 0.001 level of significance and empirically supported.

Concerning hypothesis [H5](#), the results did not indicate that SuBN has a positive significant impact on the intention to purchase Portuguese labelled fruits and vegetables ($\beta = 0.01$, $p > 0.05$). Therefore, this hypothesis was not supported.

Finally, it was observed a positive and statistically significant indirect effect ($\beta = 0.70$, $p < 0.01$), which indicates the existence of a mediating effect of respondents' ATTs and PBCNTRL on their purchase intention of Portuguese labelled fruits and vegetables. The mediating role of SuBN has not been observed since its direct effect on purchase intention has not been present. Comparing the total effect of CE in intention to purchase ($\beta = 0.59$, $p < 0.01$) to its direct effect ($\beta = -0.11$, $p > 0.05$), it is possible to see that the mediation is complete. This indicates that consumers' levels of ethnocentric beliefs reinforce their ATTs and PBCNTRL concerning the purchase of Portuguese labelled fruits and vegetable, which, subsequently, lead to higher intention to buy these products, partially supporting mediation.

5. Discussion and conclusion

This study attempted to contribute for the understanding of the determinants of consumer domestic fruits and vegetables. For that, an extended TPB model has been tested with CE as a predictor of the components of TPB. To our knowledge, there is no other study on CE influence on purchase of fruits and vegetables in Portugal. Findings suggest that extended TPB model is applicable in determining the consumers' intention to buy domestic fruits and vegetables in the two major regions of the country.

The study found that CE significantly influences ATT, SuBN, PBCNTRL and directly influences purchase intention. These results are consistent with previous research ([Vermeir and Verbeke, 2006](#); [Arvola et al., 2008](#); [Shin et al., 2016](#); [Dalila et al., 2020](#)). It indicates that consumers who hold strong ethnocentric tendencies also hold a stronger positive ATT, feel more social pressure and perceived more control with respect to purchase domestic fruits and vegetables. Also, it can be argued that these findings could be linked with recent work by [Casado-Aranda et al. \(2020\)](#) who indicate that high ethnocentric consumers experience a greater degree of neuro activation in brain regions linked to self-reference and reward when considering to purchase domestic products.

The CE effect on purchase intention is well known (e.g. [Fernández-Ferrín et al., 2015](#); [Mockaitis et al., 2013](#); [Weber and Lambert, 2015](#); [Yen, 2018](#)). [Maksan et al. \(2019\)](#) presented a study using an extended version of the TPB, but the direct effect of CE on SuBN and PBCNTRL has not been studied. Some questions can be raised about the mediation of SuBN and PBCNTRL when ethnocentrism is added to the original model. The authors' decision is based on [Ajzen and Driver \(1991\)](#) on normative and control behaviours to influence SuBN and PBCNTRL, respectively, of individuals engaged on leisure activities. The authors indicate that such beliefs are to influence both constituents of the TPB model. Based on the social identify theory ([Tajfel and Turner, 2004](#)), it can be stated that people tend to identify with certain groups of individuals and to differentiate themselves from other groups, which can explained consumer choice between domestic and foreign products and has also served as a basis for understanding consumer preference for local products. This is also in line with work presented by [Fernández-Ferrín et al. \(2017\)](#) were is concluded that parental ethnocentric tendencies tend to influence their children ethnocentric behaviour.

The TPB variables, as significant predictors of behaviour, was verified in most studies where the theory is examined being ATT the strongest predictor variable (e.g. [Armitage and Conner, 2001](#); [Povey et al., 2000](#); [Sultan et al., 2020](#)). When the relation between a personal belief (CE) and (purchase) intention is mediated the TPB variables, SuBN is the least related to intention ([Arvola et al., 2008](#)) and, in some cases, not significative as demonstrated by [Shin et al. \(2016\)](#), indicating

that SuBN is not a relevant factor for individuals' domestic fruits and vegetables food purchase intention. The positive direct influence of CE on ATT and purchase intention is in line with findings presented by [Shin et al. \(2016\)](#) and [Dalila et al. \(2020\)](#) and together with perceived behavioural were found to have significant effect on the purchase intention.

The hypothesised relationships in the original TPB model were all supported except the link between SuBN and purchase intention, indicating that SuBN is not a relevant factor for individuals' domestic fruits and vegetables food purchase intention. The present results seem to confirm that consumer will have a higher intention to purchase domestic fruits and vegetables if no barriers such as time, cost or availability are perceived.

The results of the current study can be used to design the physical or formal attributes for the product and to place strategies. A marketer, who knows more about the consumer ethnocentric tendencies belonging to a certain segment, could decide about the appropriateness of including patriotic keys in product communication. Likewise, this information can help to determine in which situations the product's packaging should emphasised its country of origin.

As hypothesised, CE, as an added construct, is a strong predictor of ATTs about domestic purchase of goods like fruits and vegetables. The results are in line with those presented by [Balabanis and Diamantopoulos \(2004\)](#), [Maksan et al. \(2019\)](#), [Mockaitis et al. \(2013\)](#) and [Saffu et al. \(2010\)](#), indicating that consumers with higher tendency of ethnocentrism have favourable evaluations of domestic products and more positive purchase ATTs of domestic food products ([Sharma et al., 1995](#)). It was also found that SuBNs did not have a direct role in shaping buying intentions, but they mediate consumer ethnocentric tendencies on purchase intention. This means that ethnocentric consumers are self-orientated to purchase domestic food products and more resistant to outside influence. These findings are in line with evidence presented by other authors ([Balabanis et al., 2002](#); [Fernandez-Ferrin et al., 2015](#); [Prince et al., 2020](#); [Shankarmahesh, 2006](#); [Sharma et al., 1995](#); [Yoo and Donthu, 2005](#)) who indicate that collectivism is positively related to ethnocentrism. As [Sharma et al. \(1995\)](#) indicate, conservative people show a tendency to follow traditions that have survived thought the time and to introduce changes occasionally, reluctantly and gradually. Those people have a strong in-group bond and rely on strong personal values. Present findings suggest that extended TPB model is applicable in determining the consumers' intention to buy domestic fruits and vegetables in Portugal, also indicating ethnocentrism as a behavioural, normative and control belief. The extended TPB model, which shown to be a valid and reliable instrument to predict consumer ethnocentric character, influences food purchase and reinforces its use domestically by companies and researchers. It provides a valuable aid with analysis, knowledge or segmentation of a market.

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Present findings suggest that extended TPB model is applicable in determining the consumers' intention to buy domestic fruits and vegetables in Portugal, also indicating ethnocentrism as a behavioural, normative and control believe. The extended TPB model, which is shown to be a valid and reliable instrument to predict consumer ethnocentric character influence on food purchase, reinforces its use domestically by companies and researchers. It provides a valuable aid with analysis, knowledge or segmentation of a market.

6. Contribution

The results of this study can be an informative basis for creating marketing strategies to increase domestic food purchase in general and fruits and vegetables in particular.

Another contribution to be considered derives from the assessment of ethnocentric consumer behaviour and its usefulness for detecting groups of origin sensitive consumers, which can be useful to companies.

The findings of the present study have implications for both producers and retailers who may use it to gain a competitive advantage on promoting labels based on origin in their products. This study adds knowledge on purchase intention considering the ethnocentric tendencies of the consumer applying the TPB, which is scarce in literature.

7. Limitations and future research

The present study has limitations which need to be taken into account. Due to the sampling method adopted, results cannot be immediately generalised to the Portuguese population. Additionally, respondents may have provided a socially desirable response and, consequently, a social desirability bias may have been present in some responses. However, the empirical evidence may serve as a basis for future studies in this area.

The CATI method used to collect responses could be somehow considered limitative once it only reaches respondents with telephone. It would be interesting to confirm results in face-to-face interviews at shopping point. An observation of consumer behaviour throughout a period of time could give a more detailed knowledge of consumer intention to purchase domestic food. Also, the present research is part of a major questionnaire presented which limits the study of variables that could help to characterise the purchase intention when ethnocentrism is present.

This work would be better supported followed by a deeper research taken during the actual COVID-19 crises to understand differences in consumer ethnocentric behaviour. The correlational type of study could be also a limitation once it was not possible to confirm if the actual behaviour was in line with questionnaire responses although research has shown the intention-behaviour relationship (Armitage and Conner, 2001). A face-to-face type of interview in the shopping place with actual behaviour observation, which could minimise the intention-behaviour gap (Carrington *et al.*, 2010; Aschemann-Witzel and Aagaard, 2014; Grimmer and Miles, 2017). The identification of the gap and its dimension could help to evaluate how communication strategies are perceived by consumers and adjust it to the intention-behaviour gap mentioned (Sultan *et al.*, 2020).

As a future research perspective, it would also be advantageous to identify other determinants apart from consumer ethnocentric tendencies, in addition to psychological determinants of consumers, which promote domestic consumption. For this, determinants like patriotism, cosmopolitanism or ecological conscientiousness or even dietary habits could be considered. Furthermore, it could be important to study the actual ethnocentric behaviour when other factors like price, observed or perceived quality are to be considered.

As pointed out, this is the first study to be conducted on ethnocentric tendencies amongst Portuguese food consumers. It would be also interesting to analyse those tendencies in different food categories and obtain additional data that better characterise the Portuguese food consumer including aspects of food choice like extrinsic quality cues perception and evaluation.

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Corresponding author

Luis Miguel can be contacted at: lprml@iscte-iul.pt

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