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# **Does the Country- of- Origin (COO) of Food Products Influence Consumer Evaluations? An Empirical Examination of Ham and Cheese**

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# **Does the Country- of- Origin (COO) of Food Products Influence Consumer Evaluations? An Empirical Examination of Ham and Cheese**

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**Abstract.** *The present study attempts to assess the impact of the COO effect on the evaluation of specific food products by Greek consumers. This issue has been examined exhaustively in the international literature, albeit very few studies concern food products. A particular effort is geared towards measuring consumers' ethnocentric tendency as antecedent to the appearance of the COO effect and examining the level at which the latter is activated (product or attribute- specific). In this respect, consumer attitude (dis)similarities towards product types are analysed with exploratory and confirmatory factor analyses. Data were collected through personal interviews with a sample of 274 respondents, which compared two food products of Greek origin (ham and yellow cheese) to their counterparts from Italy and the Netherlands. Results indicate that respondents exhibit a marginally ethnocentric tendency. Overall, although the present study reveals the existence of COO effect activated at the product- level, a more thorough analysis justified only minor differences between the competing products at the attribute level.*

**Keywords :** Ethnocentrism, CET- SCALE, food- related COO effect, confirmatory factor analysis

## **1. Introduction**

International empirical studies concerning the influence of the COO effect in the evaluation of various products by consumers reveal mixed and sometimes contradictory results, possibly due to different combinations of products, samples and countries where the studies were conducted <sup>[1]</sup>. The majority of surveys underline that reference to the country of origin (COO) of a product made on its label influences consumers' perceptions regarding its quality (*country- specific*) <sup>[2, 3]</sup>, yet the magnitude of the effect depends on the product category (*product- specific*) <sup>[2, 4, Sharma et al., 1995, in 5, 6, 7]</sup>. Moreover, several other studies suggest that the influence of the COO effect depends not only on the COO or the product category, but on specific product attributes as well (*attribute- specific*) <sup>[8, 9, Johanson et al, 1985, in 10]</sup>.

The present study attempts to assess the impact of the COO effect on the evaluation of specific food products by Greek consumers. Internationally, this issue is comprehensively examined, yet the literature has focused almost explicitly on hi-tech or fashion products (e.g. automobiles, home appliances, computers, apparel etc.) and services (e.g. air transportation), leaving the important area of food products virtually unexplored. Few recent exceptions constitute the surveys by Juric and Worsley (1998) <sup>[9]</sup> (food products in general) and Orth and Firbasova (2003) <sup>[11]</sup> (yogurt).

Given the fact that older consumers or people with low educational level are expected to exhibit highly ethnocentric attitude in their evaluations of Greek food products, the survey focuses on relatively young and well-educated consumers. This was necessary so a

fair level of familiarity of consumers with the products and countries in question is reached. The selection of two different countries (Italy and Holland) and two food products (ham products and yellow cheeses) intends to pinpoint the level at which the COO effect is activated (product or attribute- specific).

## **2. Consumer ethnocentrism and COO-effect**

The cause of appearance of the COO effect can be found in consumer ethnocentrism

(CE) [3, 12, 13]. The origins of CE can be traced back to the work by Sumner (1906) [in

2], who introduced ethnocentrism as a general construct reflecting 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. Sumner's conception of ethnocentrism is based on the formation of "we-group" feelings, whereby the in-group is the focal point and all out-groups are judged in relation to it. The in-groups determine the standard of judging other groups and the willingness to associate with them.

CE is the application of ethnocentrism in the economic environment and has inherited its main premises and properties. It is defined as a "*trait-like property of an individual's personality*" and encompasses "*the beliefs held by the consumers about appropriateness, indeed morality, of purchasing foreign-made products*" [14]. Sharma et al. (1995) [in 5], and Rawwas and Rajendran (1996) [15], demonstrated that CE may lead to overestimation of specific attributes and overall quality of domestic products and an underestimation of foreign products. However, according to Watson and Wright (2000) [4], these attitudes may connote consumer behaviour but they are not equivalent to it, since consumer behaviour is often product- specific.

There are many factors that affect CE, with the *type of product* being one of them. It has been found that the lever of CE varies among product categories. Sharma et al. (1995) [in 5], indicated that the less important a product category the greater the ethnocentric tendencies and behaviour exhibited by consumers. Also, Javalgi et al. (2005) [16] found that the impact of CE in purchasing intention of a particular product is moderate when this product is perceived as absolutely necessary. Furthermore, Balabanis and Diamanopoulos (2004) [2] argued that CE is a more consistent predictor of preferences for domestic products rather than for foreign products. In other words, CE leads to consumers preferring domestic products but not necessarily rejecting foreign ones. Shimp and Sharma (1987) [14] also postulated that CE can explain why consumers prefer domestic over foreign products even when there is no obvious reason for that (e.g. when the domestic products are of better quality or cheaper). Additionally, Balabanis and Diamanopoulos (2004) [2] claimed that the CE impact varies significantly among different product categories and COO. For that reason, they suggest that companies should not depend solely on CE levels of target markets when foreseeing potential success or failure of their products.

Various ethnocentric or not beliefs can be activated by the country of origin of a product as information cue, which, together with consumers' antecedent knowledge and past experience, subsequently affect the interpretation and evaluation of product attributes. The phenomenon of evaluating products based on ethnocentric tendencies activation and judging the country of origin is called COO effect. In the literature one can find many diverse definitions of the COO effect [17, 18, 19, 20, 21, 22, 23]. According to Wang and Lamb (1983) [in 24], the COO effect is an obscure, intangible obstacle that a product (or service) confronts when entering a new market. This obstacle is manifested with the form of negative disposition, on behalf of consumers, towards the newly imported product or service. Yarpak and Baughan (1991) [25], and Han (1989) [26], found that CE influences significantly the preferences of consumers, not only indirectly - through the evaluation processes of each product attribute - but also directly, by affecting the formation of positive or negative purchasing intention (called the "COO effect"). On the contrary, according to Wall et al. (1991) [27], the evaluation of the quality of a product and its COO might be linked together, but the latter was found of minor importance when purchasing intention has being evaluated.

Roth and Romeo (1992) [28], formulated a theoretical framework for the relationship between consumer preferences for a country's products and perceptions of a country's culture, economy and politics. Consumers prefer country X as an origin for specific products when they believe that there is a match between the perceived "strengths" of country X and the skills that are needed for manufacturing the product under consideration. A preference for Swiss watches or German cars, for example, might be explained by the perception of the workmanship of Swiss or German engineers respectively. The COO-effect is created when the skills of a country do not correspond with its products' attributes that are considered by consumers as important. Same conclusions were supported by Moon and Jain (2002) [29], while investigating the influence of CE in the formation of positive or negative disposition towards foreign advertisements. However, Juric and Worsley (1998) [9] insisted that the COO effect is attribute-specific. A product originating from a particular country may be evaluated favourably on one attribute (e.g. taste of French wines) but unfavourably on another (e.g. safety of French food products).

The magnitude of the COO effect on consumer's choices was also explored by Watson and Wright (2000) [4]. In the case where imported products do not have domestic substitutes (competitive of foreign ones), then similarity in terms of culture and politics between two countries was found to be a major factor influencing the evaluation of products. The authors also found that highly ethnocentric consumers, under the fore mentioned circumstances, tend to prefer products from "similar" countries. It was notable in the Watson and Wright (2000) [4] survey that, when a domestic substitute product existed, consumers preferred the domestic over the imported, even when the foreign was perceived of better quality or cheaper, similarly to the conclusions by Shimp and Sharma (1987) [14]. On the contrary, Supphellen and

Rittenburgh (2001) <sup>[8]</sup> found that, when foreign products are significantly better compared to domestic ones, ethnocentric consumers were “forced” to conform to the overall public opinion, which preferred the imported products.

### **3. Methodology**

#### **3.1. Aims of the study - selection of products and countries**

Using the findings of the previous studies as a point of departure, the present study aims to evaluate the level of CE of Greek consumers and examine the implications of the fore mentioned notion on consumers’ perceptions regarding imported food products. Analytically, the study has the following two aims:

a) The first aim is two-fold: first, to provide a measurable indication of respondents’ ethnocentric tendency; and, second, to examine the conceptual meaning of ethnocentrism for the respondents of the survey. The assessment of the level of CE is of paramount importance, since it constitutes the motive that activates the COO effect [3, 12, 13]. Also, it has been suggested that CE explains greater proportion of variance in purchasing behaviour as compared to elements of the marketing mix <sup>[30]</sup>, thus constituting an important strategic component that should be taken into account by marketing practitioners.

b) The second aim is the identification of the level at which the COO effect is activated in a food evaluation context. It has been mentioned that, although COO as a cue generally affects consumers’ perceptions at a country-specific level, it can become more concrete, concerning only specific products, or it can appear at an even more analytic level, concerning specific attributes of two substitute products originating in two different countries. The identification and verification of the level at which the COO effect is activated in the food evaluation context (product or attribute-level) is important for food marketing practitioners, since different levels of activation require implementation of different strategy.

For attaining the above aims, a questionnaire was developed and completed through personal interviews with 274 respondents. The set of COO under

consideration in the present food evaluation context encompasses Greece, Italy and Holland. Avoidance of more “exotic” countries was necessary so as to ensure an acceptable degree of familiarity of consumers with food products originating from the countries examined. Also, less developed countries were excluded from the survey in order to prevent consumer bias, since products originating from such countries are often perceived as low quality products <sup>[31]</sup>. The same line of thought was applied while forming the set of products under consideration. Ham products and yellow cheeses are considered as representative products of the fore mentioned countries, ensuring familiarity of consumers as well as satisfying a substantial degree of “compatibility” between the products’ and the countries’ profiles. Finally, the selection of products was carried out keeping in mind that both products had to have a domestic (Greek) substitute product.

### 3.2. Construction of the questionnaire, data collection and sample description

The questionnaire consisted of three parts: the first part comprises the Consumer Ethnocentric Tendency Scale - CET-SCALE <sup>[14]</sup>, which is the most commonly used measurement instrument of CE (e.g. <sup>[2, 1, 32]</sup>) and consists of 17 Likert-type questions with end-points 1 = “totally agree” to 7 = “totally disagree”. This instrument is used to fulfil the first aim of the survey.

In the second part, respondents were asked to evaluate several food product attributes in a form of statements with positive connotation, using 7-point Likert-type questions with end-points 1 = “totally agree” to 7 = “totally disagree”. The rationale of this formulation is that consumers who agree with a number of positive statements express a positive attitude towards a given product. The evaluation was carried out *per attribute* one after the other using the following two pairs of products and countries: Greek vs. Italian ham and Greek vs. Dutch yellow cheese. The evaluation criteria attributes were derived from the set of 36 positive statements formulated by Steptoe et al. (1995) <sup>[33]</sup>, which concerned the overall evaluation criteria that consumers bear in mind when purchasing food products in general. The number of questions was modified per product, since not all questions included in the original set were applicable. Thus, ham products and yellow cheeses were evaluated against 33 and 32 criteria respectively. The type of statements used is like: (Greek / Italian ham products) “... *contain natural ingredients*” or (Greek / Dutch yellow cheeses) “...*taste good*”, etc. The sets of criteria per product is used to fulfil the second aim of the survey.

The third part of the questionnaire consisted of questions regarding participants’ purchasing habits for Italian and Dutch food products in general, ham and yellow cheese irrespectively of their COO, as well as sample’s socio- demographic characteristics.

Data collection took place in early 2005. Respondents were recruited during their ham and cheese purchases in three major hypermarkets in Athens (one outlet per retail chain). The questionnaires were self-completed with proper instructions and clarifications given when necessary by the researchers, thus no missing values were recorded. Average time of completion was 15 to 20 minutes. The majority of respondents is relatively young (mean age: 37.6 years) and well educated (51.5% university degree holders). Meta analytic research <sup>[34, 35, Liefeld, 1993, in 2]</sup> demonstrated that using young respondents (most of the past studies used convenience samples comprising students) did not lead to a systematic overestimation of the COO effect.

### 4. Analysis and results

Approximately one in three respondents (32.1%) buys Italian food products at least once per month, while an additional 10.9% has neither bought nor considered buying them. The corresponding percentages for Dutch food products are 39.4% and 10.2%. As for the products under evaluation, 34.7% of the sample purchases ham or yellow cheese at least

once a week, whereas non-purchasers are limited to 2.2% and 2.6% respectively.

Comparing Greek and Italian ham, statistically significant differences (t-tests,  $p < 0.05$ ) in respondents' agreement emerged with 27 out of 32 (positive) evaluation criteria. Consumers' agreement in relation to these 27 characteristics, as well with all 32 statements at average, was found stronger for the Greek product than its Italian counterpart (Table 1). Comparing Greek and Dutch yellow cheese, statistically significant differences (t-tests,  $p < 0.05$ ) again emerged for 27 out of 31 criteria. Consumers' agreement in relation to these 27 characteristics, as well with all 31 statements at average, was found stronger for the Greek product than its Dutch counterpart (Table 2).

#### **4.1. Analysis of the CET-SCALE**

In order to measure respondents' ethnocentric tendency and examine the conceptual meaning of ethnocentrism, the CET-SCALE variables were analysed first. Data collected for the entire sample led to the estimation of mean CE value at 3.85 in the 1-7 scale ( $SD = 1.05$ ) (Table 3). The conceptual meaning of CE was examined using exploratory factor analysis (SPSS v12). Results revealed one factor explaining 59.6% of total variance. Factor loadings of all 17 variables were higher than 0.600 and the Cronbach alpha reliability coefficient was particularly high.

#### **4.2. Analysis of the sets of food evaluation criteria**

In order to investigate the level at which the COO effect is activated in the food evaluation context (product or attribute level), exploratory and confirmatory factor analyses were implemented on the data gathered by means of the Steptoe et al. (2005) food evaluation criteria set per product.

##### **Greek ham vs. Italian ham**

Exploratory factor analysis (SPSS v12) with Promax rotation on the data gathered for Greek and Italian ham led to the identification of a 4-factor design for both products based on 14 out of the initial 33 evaluation criteria used, explaining 61.3% and 61.7% of the total variance respectively (Table 4). Cronbach alpha reliability coefficients were satisfactorily high for all factors in both designs, with the exception of factor 4 for Greek ham products.

Confirmatory factor analysis was then performed for the factor pattern suggested by exploratory factor analysis. The estimation method of the model parameters was Maximum Likelihood (LISREL v8.72). The independence models were clearly rejected: a) for the Greek ham: chi-Square [71] = 166.56 ( $p < 0.000$ ), Comparative Fit Index CFI = 0.94, Non-Normed Fit Index NNFI = 0.92 and Root Mean Square Error of Approximation RMSEA = 0.070; and b) for the Italian ham: chi-Square [71] = 206.98 ( $p < 0.000$ ), Comparative Fit Index CFI = 0.90, Non-Normed Fit Index NNFI = 0.89 and Root Mean Square Error of Approximation RMSEA = 0.084. The standardized factor loadings were resulted reasonably well, since the criterion of cut-off level from 0.50 to 0.95 was violated only for var. 17 of the Greek ham model and var. 7 and 10



for the Italian ham model. The path diagrams for the standardised models can be seen in Figures 1a and b.

The confirmed factorial design for the Greek ham revealed that the main evaluation criteria of respondents were: a) convenience of purchasing and consumption – the “snacking” character of ham (var. 32, 10, 14, 26); b) healthiness – light and natural ham (var. 7, 3, 16, 5); c) cost considerations (var. 33, 11, 6); and d) pleasure of consumption – the hedonic character of ham (var. 13, 17, 4). In the case of Italian ham, the factorial design included the same variables but showed a somewhat different picture: a) pleasure and convenience of consumption - the hedonic and “snacking” character of ham (var. 13, 17, 4, 14, 26); b) healthiness - light and natural ham (var. 7, 3, 16, 5); c) cost considerations (var. 33, 11, 6); and d) convenience of purchasing (var. 32 and 10).

### **Greek yellow cheese vs. Dutch yellow cheese**

Exploratory factor analysis (SPSS v12) with Promax rotation on the data gathered for Greek and Dutch yellow cheeses led to the identification of a 5-factor design for both products based on 22 out of the initial 32 evaluation criteria used, explaining 64.9% and 64.3% of the total variance respectively (Table 5). Cronbach alpha reliability coefficients were very high for all factors in both designs.

Confirmatory factor analysis was then performed for the factor pattern suggested by exploratory factor analysis. The estimation method of the model parameters was Maximum Likelihood (LISREL 8.72). The independence models were rejected: a) for the Greek cheeses: chi-Square [199] = 606.76 ( $p < 0.000$ ), Comparative Fit Index CFI = 0.92, Non-Normed Fit Index NNFI = 0.91 and Root Mean Square Error of Approximation RMSEA = 0.087; and b) for the Dutch cheeses: chi-Square [199] = 642.92 ( $p < 0.000$ ), Comparative Fit Index CFI = 0.92, Non-Normed Fit Index NNFI = 0.91 and Root Mean Square Error of Approximation RMSEA = 0.089. The standardized factor loadings were resulted reasonably well, since the criterion of cut off level from 0.50 to 0.95 is not violated for any of the observed variables. The path diagrams for the standardised models can be seen in Figures 2a and b.

The confirmed factorial design for the Greek yellow cheeses revealed that the main evaluation criteria of respondents were: a) psychological pleasure of consumption (var. 24, 22, 30, 12, 15, 27); b) familiarity, convenience of purchasing and consumption, and taste (var. 10, 25, 14, 6, 31, 4, 29); c) cost considerations (var. 32, 11, 6); d) healthiness – light yellow cheese (var. 7, 3, 16); and e) healthiness – natural yellow cheese (var. 2, 21, 5). The same picture emerged in the case of Dutch yellow cheeses, with the only difference being the inversion of order between the first and second factor.

## **5. Discussion**

In relation to the first aim of the study, use of CET-SCALE pinpoints that the younger and well educated respondents of the present survey can be characterised as marginally ethnocentric. Moreover, the exploration of the conceptual meaning of ethnocentrism through the

emergence of one factor, justified the uni-dimensionality of CE, as postulated in the literature <sup>[11, 11]</sup>. A closer look at the mean agreement expressed in relation to each of the 17 items provides a deeper understanding of the ethnocentric concept. Respondents strongly agreed only with the statement that buying Greek-made products has a beneficial effect on employment (var. 3). On the other hand, consumer disagreement was expressed mainly in relation to the most patriotic (var. 5, 7 and 17) or radical (8, 12, 14 and 15) expressions of ethnocentrism.

In relation to the second aim of the study, preliminary analysis described

above reveals a COO effect activated at the product level: Greek equivalents of ham and yellow cheese were evaluated more positively than their foreign origin counterparts for the overwhelming majority of criteria under consideration.

Similarly to the first aim, a closer look at the mean agreement value of each criterion offers more insights regarding the level at which the COO effect is activated (see Table 2): agreement with positive statements about Greek ham concerned familiarity, convenience of purchasing and consumption, and taste (var. 1, 4, 8, 10, 14 and 32). On the other hand, disagreement concerned mainly psychological and health-related criteria (var. 3, 7, 15, 16, 21, 22, 24, 27 and 31). Regarding Italian ham products, the largest agreement concerned convenience of consumption and taste (var. 1, 4, 14 and 26), while disagreement appeared in terms of the same psychology and health-related variables as in the case of Greek ham. The above observation leads to the conclusion that, despite their statistically significant differences, both products are evaluated similarly positively or negatively against a number of essential criteria, such as hedonic satisfaction, healthiness, naturalness, cost perceptions, psychological satisfaction etc. Their largest differences in consumer evaluation appeared in relation to familiarity, convenience of purchasing and usual consumption (var. 30), with the lowest agreement concerning the Italian product. These differences are not related with the product *per se*, but they should be attributed to the availability of foreign ham and the market conditions that possibly shape consumers' attitudes.

Similarly to Greek ham products, agreement with positive statements about Greek yellow cheese (see Table 2) concerned familiarity, convenience of purchasing and consumption, and taste (var. 1, 4, 8, 10, 14 and 32), while disagreement concerned mainly psychological and health-related variables (3, 7, 15, 16, 21, 22, 24, 27 and 31). In the case of Dutch yellow cheese agreement or disagreement concerned the same criteria as in the case of its Greek counterpart. As a result, the largest disparities between Greek and Dutch yellow cheese in consumer evaluation appeared mainly in relation to their health and natural image (var. 2 5, 9 and 21), with the lowest agreement concerning the Dutch product. Furthermore, differences still appeared in relation to familiarity and usual consumption of Dutch yellow cheeses, but at a much lesser extent in comparison to the Italian ham. The above observation draws a picture somewhat different than that for ham. In

the case of yellow cheese, where consumer familiarity is higher, the evaluation concerns more essential product features, such as healthiness and naturalness. However, market conditions and limited availability of foreign yellow cheese still play a role in the difference of consumer attitudes between the two products.

The above considerations lead to the conclusion that the degree of familiarity with the product shapes the appearance of the COO effect in the food purchasing context, which seems to be activated at a level more analytic than that of the product, possibly at the attribute- level. In the case of Greek consumers, the relatively limited availability of the foreign product equivalents - mainly of the Italian ham - influences familiarity and involvement, which in turn is responsible for the less positive evaluation of the foreign products against the relevant criteria, as opposed to their domestic counterparts. This observation is in line with Maheswaran (1994) <sup>[36]</sup>, who found that only less experienced consumers rely on the COO of a product for attitude formation.

Moreover, both pairs of products were rated overall rather positively. Balabanis and Diamanopoulos (2004) <sup>[2]</sup> claim that CE leads to consumers preferring domestic products but not necessarily rejecting foreign ones, an argument that is also justified in the present survey. Greek ham and Greek cheese were both evaluated higher than their foreign counterparts (t- tests,  $p < 0.05$ ) - a fact that reveals product- level activated COO effect. However, these positive evaluations are not particularly strong, neither are the differences among them particularly large, ranking from 3.5 for the Greek yellow cheese to 4.1 for the Italian ham, although statistically significant. This observation further indicates that the COO effect is possibly activated at the attribute- level.

Towards this direction, exploratory and confirmatory analyses were applied on the evaluation criteria sets, as described above. A number of observations that challenge the appearance of the COO effect at the attribute level are worth noting at this point: first, both factorial designs per product were constituted by the same initial variables and form the same number of factors. Second, when the factors were “translated” into meaningful evaluation criteria, both factorial designs per product led to the same type of criteria, as described above, with only minor differences between the Greek and the foreign version of each product (see Tables 4 and 5 and Figures 1 and 2). In the case of Italian ham, the hedonic pleasure of consumption plays more elevated role than for the Greek ham, whose in turn convenience of purchasing is more important. In the case of yellow cheeses, the structure of each factor is exactly the same, with the only difference between the Greek and the Dutch product being that the psychological pleasure of consumption plays somewhat greater role in the Greek rather than in the Dutch yellow cheese, whose familiarity, convenience and taste in turn are more important. Third, the factors in each pair of designs per product exhibited the same covariance pattern (Table 6). In the case of ham products, strong covariance appeared between convenience and pleasure (factors 1 and 4) and then healthiness and cost considerations (factors 2 and 3). In the case of yellow cheeses, strong covariance appeared between healthiness/light and healthiness/natural (factors 4

and 5), cost considerations and healthiness (factors 3 and 4-5), and psychological pleasure and healthiness (factors 2 and 4-5). The only difference between each pair of products is the intensiveness of covariance described above, a fact that does not change the overall pattern across factorial designs.

A final notable observation is that the purchasing frequencies of Dutch and Italian food products are quite high, as we have seen. This fact eliminates the importance of the COO-effect, if any, irrespectively of the level at which it is activated, a fact more or less expected from a sample of respondents with only marginal ethnocentrism. While the effect of the latter on consumers' attitudes is undoubtful, no equivalent effect was observed on food purchasing habits in the present survey. This final remark is also in line with past findings: Wall et al. (1991) <sup>[27]</sup> found that COO relates to product quality evaluations but it is of trivial importance when it comes to evaluation of purchasing likelihood. Furthermore, Rahman (2000) <sup>[37]</sup> postulated that the COO effect influences consumer product evaluations but not necessarily the final purchasing behaviour, as the latter is affected by other more powerful predictors of behaviour, such as price sensitivity. This last argumentation is intensified by the fact that, despite respondents' agreement that the COO of each of the products under evaluation is clearly indicated on their label, the specific criterion is not included in any of the factorial designs confirmed. The COO of the specific food products is not included among the most important evaluation criteria evaluated by respondents in the present survey.

## **6. Conclusions**

The current study indicates that younger (around 35 years old) and well educated Greek consumers are marginally ethnocentric. Respondents especially expressed their disagreement in relation to the most patriotic or radical expressions of ethnocentrism. Furthermore, the standard deviation of 1.05 from the average ethnocentrism value of 3.85 demonstrates that the sample is possibly constituted by consumer clusters with quite different magnitude of ethnocentric tendency, a fact that merits further analysis.

Although the study reveals the existence of COO effect activated at both the product and the attribute level, a more thorough analysis justified only minor differences between the competing products of domestic and foreign origin at the attribute level, while the differences observed at the product level should be mainly attributes to market conditions external to the products under examination and the resulting limited familiarity with the foreign products that stimulate the COO effect at the product level. Worth-mentioning differences between the two products under examination that indicate the activation of the COO effect at the attribute level are the less positive health and natural image of the Dutch in comparison to Greek yellow cheese and the more important role played by pleasure of consumption as opposed to convenience of consumption for Italian in comparison to Greek ham. In general, these differences are not enough to justify the appearance of the COO effect in the food evaluation context, a fact expected by the

marginally ethnocentric sample of the present survey and exhibited through the quite high consumption frequency of both Dutch yellow cheese and Italian ham products.

The present study suffers the limitation of the sample not being representative of the Greek population. All respondents were residence of Athens, while the sample is biased towards relatively younger and more educated consumers. It is not possible thus to generalize the findings for the entire population with various demographic profiles.

## 7. Tables and Figures

**Table 1.** Consumer evaluation of Greek and Italian ham products (n=274), mean agreement values (<sup>1</sup>)

	Evaluation characteristics: Ham...	Greek		Italian	
			Sig.		
1.	Is easily consumable/edible	<b>1,98</b>		<b>2,81</b>	*
2.	Contains no additives	2,76		2,73	n.s.
3.	Is low in calories	4,89		5,09	*
4.	Tastes good	<b>2,18</b>		<b>2,62</b>	*
5.	Contains natural ingredients	4,21		4,51	*
6.	Is not expensive	4,00		4,68	*
7.	Is low in fat	4,93		5,12	*
8.	Is familiar	<b>1,86</b>		3,04	*
9.	Is nutritious	3,85		4,03	*
10.	Is easily available in shops and supermarkets	<b>1,66</b>		2,70	*
11.	Is good value for money	3,63		4,09	*
12.	Cheers me up	4,54		4,74	*
13.	Smells nice	3,09		3,36	*
14.	Can be consumed/eaten very simply	<b>2,00</b>		<b>2,30</b>	*
15.	Helps me cope with stress	5,53		5,59	n.s.
16.	Helps me control my weight	5,57		5,66	n.s.
17.	Has a pleasant texture	3,19		3,36	*
18.	Is packaged in an environmentally friendly way	3,89		4,05	*
19.	Comes from country I approve of politically	-		3,84	-
20.	Is like the ham I ate when I was a child	3,67		4,42	*
21.	Contains no artificial ingredients	4,97		5,17	*
22.	Keeps me awake/alert	5,51		5,57	n.s.
23.	Packaging looks nice	3,50		3,42	n.s.
24.	Helps me relax	5,44		5,58	*
25.	Is high in protein	3,27		3,50	*
26.	Takes no time to consume/eat	2,31		<b>2,58</b>	*
27.	Keeps me healthy	4,99		5,17	*
28.	Makes me feel good	4,43		4,66	*
29.	Has the country of origin clearly marked	2,71		3,02	*
30.	Is what I usually eat	2,58		4,47	*
31.	Helps me to cope with life	5,45		5,62	*
32.	Can be bought in shop close to where I live/work	<b>1,97</b>		3,12	*
33.	Is cheap	3,91		4,62	*
Overall mean agreement		3.70		4.10	*

1: 1= "strongly agree" to 7="strongly disagree"; \*: statistically significant for  $p<0.05$ ; n.s.: not statistically significant

**Table 2.** Consumer evaluation of Greek and Dutch yellow cheese (n=274), mean agreement values (<sup>1</sup>)

	Evaluation characteristics: Yellow cheese...	Greek		Dutch	
			Sig.		
1.	Is easily consumable/edible	<b>1,92</b>		<b>2,34</b>	*
2.	Contains no additives	3,93		4,50	*
3.	Is low in calories	4,52		4,63	*

4.	Tastes good	2,14	2,62	*
5.	Contains natural ingredients	3,68	4,25	*
6.	Is not expensive	4,09	4,39	*
7.	Is low in fat	4,62	4,65	n.s.
8.	Is familiar	1,87	2,44	*
9.	Is nutritious	2,67	3,14	*
10.	Is easily available in shops and supermarkets	1,64	2,10	*
11.	Is good value for money	3,63	3,94	*
12.	Cheers me up	4,50	4,75	*
13.	Smells nice	2,89	3,21	*
14.	Can be consumed/eaten very simply	1,91	2,18	*
15.	Helps me cope with stress	5,25	5,37	*
16.	Helps me control my weight	5,03	5,10	n.s.
17.	Has a pleasant texture	2,82	3,04	*
18.	Is packaged in an environmentally friendly way	3,52	3,70	*
19.	Comes from country I approve of politically	-	3,91	-
20.	Is like the cheese I ate when I was a child	3,57	4,19	*
21.	Contains no artificial ingredients	4,30	4,85	*
22.	Keeps me awake/alert	5,22	5,36	*
23.	Packaging looks nice	3,45	3,42	n.s.
24.	Helps me relax	5,21	5,28	n.s.
25.	Takes no time to consume/eat	2,30	2,53	*
26.	Keeps me healthy	3,98	4,32	*
27.	Makes me feel good	4,10	4,39	*
28.	Has the country of origin clearly marked	2,62	2,85	*
29.	Is what I usually eat	2,49	3,66	*
30.	Helps me to cope with life	5,05	5,26	*
31.	Can be bought in shop close to where I live/work	1,81	2,40	*
32.	Is cheap	3,89	4,21	*
Overall mean agreement		3,50	3,84	*

1: 1= "strongly agree" to 7="strongly disagree"; \*: statistically significant for  $p<0.05$ ; n.s.: not statistically significant

**Table 3.** Mean value and standard deviation, CET-SCALE (n=274)

CET-SCALE	Mean <sup>(*)</sup>	SD	Factor load.
1. Greek people should always buy Greek- made products instead of imports.	3.07	0.10	0.80
2. Only those products that are unavailable in Greece should be imported.	3.20	0.12	0.72
3. Buy Greek- made products. Keeps Greece working.	1.99	0.07	0.61
4. Greek products, first, last and foremost.	3.74	0.11	0.86
5. Purchasing foreign- made products is anti- Greek.	5.03	0.10	0.80
6. It is not right to purchase foreign- made products, because it puts Greeks out of jobs.	4.07	0.11	0.86
7. A real Greek should always buy Greek- made products.	4.67	0.11	0.84
8. We should purchase products manufactured in Greece instead of letting other countries get rich out of us.	4.03	0.12	0.83
9. It is always better to purchase Greek products.	3.45	0.11	0.77
10. There should be very little trading or purchasing of goods from other countries unless out of necessity.	3.33	0.11	0.79
11. Greeks should not buy foreign products, because this hurts Greek business and cause unemployment.	3.81	0.11	0.87
12. Barriers should be put on all imports.	4.22	0.10	0.73
13. It may cost me in the long- run but I prefer to support Greek products.	3.37	0.10	0.69
14. Foreigners should not be allowed to put their products in our markets.	4.93	0.10	0.70
15. Foreign products should be taxed heavily to reduce their entry into Greece.	4.15	0.11	0.67

16. We should buy from foreign countries only those products that we cannot obtain within our own country.	3.63	0.11	0.72
17. Greek consumers who purchase products made in other countries are responsible for putting their fellow Greeks out of work.	4.80	0.11	0.78
<b>Overall mean value:</b> <i>eigenvalue</i> <i>Variance explained %</i> <i>Cronbach a</i>	<b>3.85</b>	<b>1.05</b>	- 10.13 59.62 0.957

\*: 1= strongly agree, 2= agree, 3= rather agree, 4= neither...nor..., 5= rather disagree, 6= disagree, 7= strongly disagree

**Table 4.** Exploratory factor analysis, food evaluation criteria lists <sup>1</sup>, ham (n=274)

Evaluation n Variables (*)	Greek ham				Italian ham			
	F1	F2	F3	F4	F1	F2	F3	F4
32	0.792							0.878
10	0.775							0.864
14	0.756				0.740			
26	0.715				0.686			
7		0.845				0.833		
3		0.819				0.773		
16		0.708				0.736		
5		0.608				0.648		
33			0.854				0.815	
11			0.832				0.766	
6			0.799				0.738	
13				0.794	0.746			
17				0.735	0.692			
4				0.663	0.747			
eigenvalue	3.243	2.585	1.615	1.146	3.253	2.730	1.415	1.251
explained variance %	23.1	18.4	11.5	8.1	23.2	12.5	10.1	8.9
Cronbach a	0.755	0.764	0.776	0.575	0.736	0.745	0.676	0.767

1: Empty cells correspond to factor loadings lower than 0.550

\*: The number of variables corresponds to the evaluation criteria of Table 2

**Table 5.** Exploratory factor analysis, food evaluation criteria lists <sup>1</sup>, yellow cheese (n=274)

Evaluation n Variables (*)	Greek yellow cheese					Dutch yellow cheese				
	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
24	0.858						0.822			
22	0.849						0.812			
30	0.823						0.780			
12	0.807						0.785			
15	0.806						0.814			
27	0.669						0.661			
10		0.771				0.746				
25		0.759				0.745				
14		0.756				0.800				
8		0.726				0.748				
31		0.723				0.745				
4		0.657				0.712				
29		0.629				0.579				
32			0.874					0.878		
11			0.849					0.848		
6			0.842					0.859		

7				0.845					0.861	
3				0.849					0.881	
16				0.842					0.795	
2					0.849					0.825
21					0.842					0.756
5					0.776					0.836
eigenvalue	5.393	3.523	2.436	1.575	1.367	5.671	3.531	2.423	1.403	1.125
% explained variance	24.5	16.0	11.0	7.1	6.2	25.7	16.0	11.0	6.3	5.1
Cronbach's $\alpha$	0.885	0.829	0.820	0.798	0.777	0.843	0.869	0.810	0.737	0.834

1: Empty cells correspond to factor loadings lower than 0.550

\*: The number of variables corresponds to the evaluation criteria of Table 3

**Table 6.** Covariance matrices among latent constructs (factors) in all four factorial designs

Greek ham products					Italian ham products				
	F1	F2	F3	F4		F1	F2	F3	F4
F1	1				F1	1			
F2	0.11	1			F2	0.04	1		
F3	0.10	<b>0</b>	1		F3	0.26	<b>0.43</b>	1	
		<b>.34</b>							
F4	<b>0.72</b>	0	0.01	1	F4	<b>0.47</b>	0.02	0.11	1
		.11							

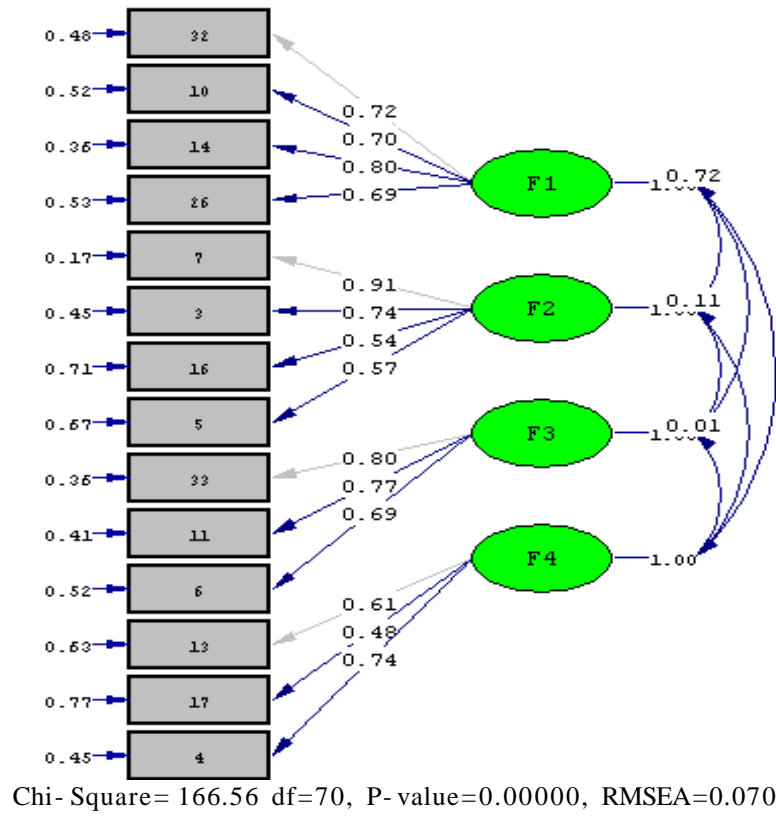
  

Greek yellow cheeses						Dutch yellow cheeses					
	F1	F2	F3	F4	F5		F1	F2	F3	F4	F5
F1	1					F1	1				
F2	0.02	1				F2	0.04	1			
F3	0.11	0	1			F3	0.24	0.18	1		
		.13									
F4	<b>0.42</b>	0	<b>0.31</b>	1		F4	0.16	<b>0.41</b>	<b>0.44</b>	1	
		.07									
F5	<b>0.39</b>	0	<b>0.31</b>	<b>0.48</b>	1	F5	0.16	<b>0.46</b>	<b>0.51</b>	<b>0.61</b>	1
		.19									

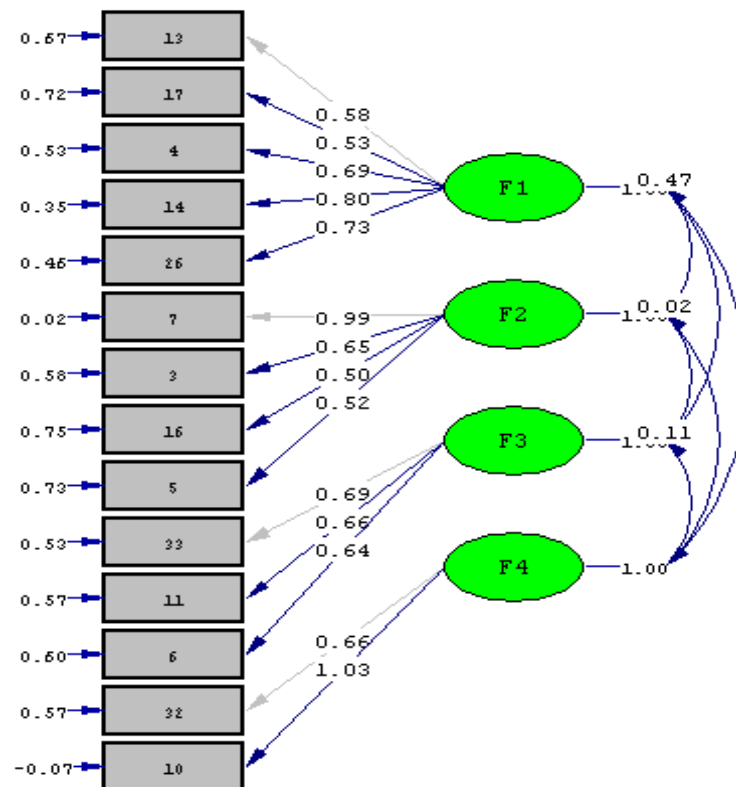
**Figure 1.** Confirmatory factor analysis model, Greek vs. Italian ham, standardised solution  
(14 observed variables, n=274)

1a: Greek ham



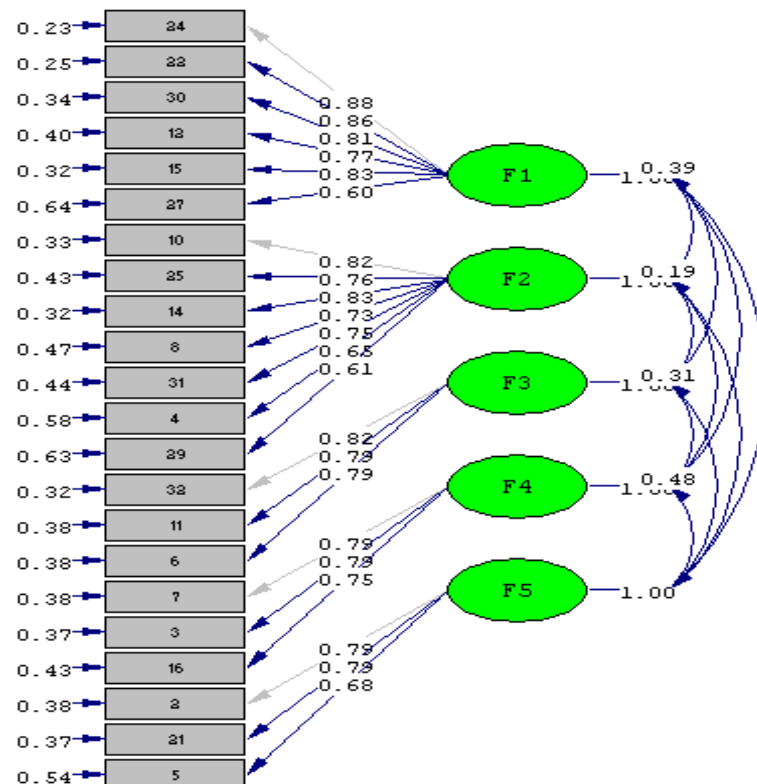


1b: Italian ham



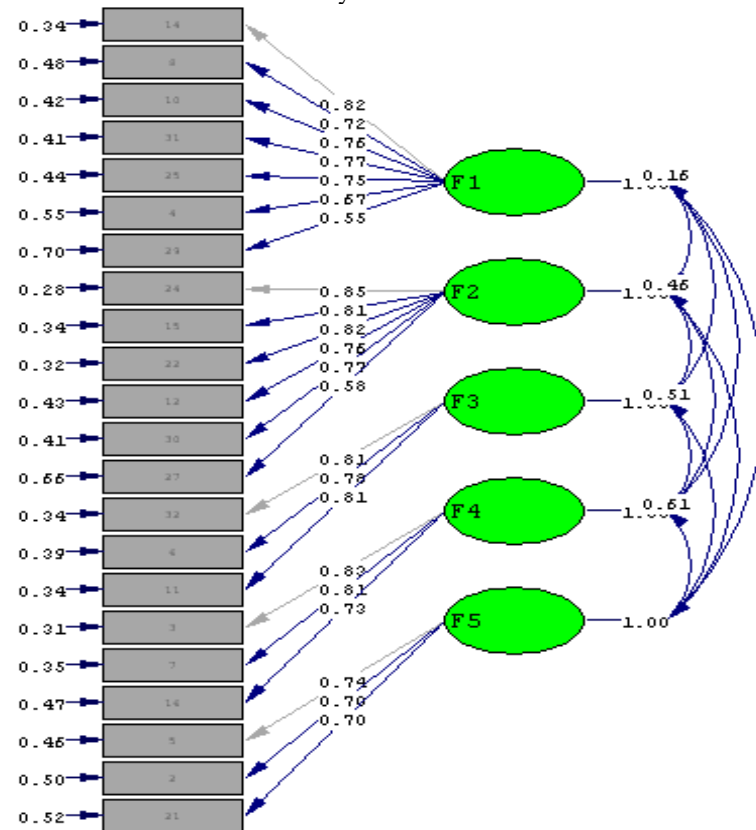
Chi-Square= 206.98 df=71, P-value=0.00000, RMSEA=0.084

**Figure 2.** Confirmatory factor analysis model, Greek and Dutch yellow cheese, standardised solution (22 observed variables, n=274)  
2a: Greek yellow cheese



Chi-Square=606.76 df=199, P-value=0.00000, RMSEA=0.087

2b: Dutch yellow cheese



Chi-Square=642.92 df=199, P-value=0.00000, RMSEA=0.089

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