



## ORIGINAL SCIENTIFIC PAPER

# Gender- specific differences in perception of menu labelling, witnessed among Hospitality Management students

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## Abstract

Since nutrition labelling is obligatory for all packed food circulating across the European Union (EU), out-eating people demand, ever more often, to be provided with proper nutrition information on food they are eating through the restaurant menu. Given that, at present, no EU laws and regulations mandate nutritional menu labelling, this study aimed to explore a possible relationship between the perception of the need for menu and packed food labelling in a group of Hospitality Management students ( $n=324$ ; out of which 84 men and 240 women). To that end, a comprehensive three-section questionnaire comprising demographic data, the perception of the need for menu labelling and questions about packed food labelling was developed. The perception of the need for menu labelling was assessed using a five-point Likert scale, the answers thereby scoring from 1 (strongly disagree) to 5 (fully agree). The students of both genders consider menu-delivered nutritional information important ( $3.59\pm 0.95$ ) for making healthier food choices ( $3.96\pm 0.98$ ) and achieving better caloric intake control ( $3.81\pm 1.07$ ). Health impact of menu labelling is more appreciated by female as compared to male students. Students did not perceive menu labelling as a significant cost for the restaurant management ( $2.67\pm 1.17$ ). The results confirmed that in students of both genders there exists a significant correlation between their habit of reading nutrition labels and a positive perception of menu labelling ( $p=0.001$ ), the perception of menu labelling health impact ( $p<0.001$ ) and the perception of menu labelling as a means to an end of better energy intake control ( $p<0.001$ ). However, when it comes to energy value labelling, a significant correlation was seen solely among female students. The results of multiple regression analysis confirmed that, unlike male students, female students perceive food labelling as a strong predictor of menu labelling intention (nutrition label reading habit,  $\beta=0.17$ ;  $p=0.008$ ; energy value label reading habit,  $\beta=0.23$ ;  $p<0.001$ ).

These findings suggest that hospitality managers could act as valuable promoters of this innovative foodservice approach.

**Keywords:** nutrition label, menu labelling, perception, students, Hospitality Management

## Introduction

Healthy eating has become one of the key concerns of modern consumers, not only in order to prevent obesity, but also in order to improve overall health and ensure well-being. As modern consumers are becoming more and more self-conscious and want to take control over their food choices, nutrition information provided on food packaging can help them to choose healthier food and hence prevent or actively treat a number of diet-related conditions (i.e. obesity, hypertension, hypercholesterolemia, diabetes, heart disease, etc.) (Grunert *et al.* 2010; Campos *et al.*, 2011; Post *et al.*, 2010).

Since European consumers are already aware of the existence of nutrition information on packed food, it is likely that their expectations will rapidly spread to restaurant settings, as well. A rise in public awareness is expected to drive the implementation of policies to improve the nutrition quality of

food served in restaurants; on top of that, healthcare professionals continuously encourage governments to adopt menu labelling in restaurants and food venues (MacLeod 2011).

In several countries outside the EU (i.e. the USA, Australia, Canada, Malaysia), policy makers have passed laws requiring restaurant chains having 20 or more (mainly fast-food) outlets to display the caloric value of their standard food items on their menus (Patient Protection and Affordable Care Act 2010; World Cancer Research Fund International 2017). As for food consumed in restaurants across the European Union, the providers are only obliged to label allergens (European Parliament and Council of the European Union 2011), while nutritional menu labelling still remains uncovered by any valid law or regulation.

Nowadays, in light of the burden of many nutrition-related disorders, research has confirmed that eating out can significantly contribute to an excessive caloric intake possibly



ending in overconsumption (Orfanos *et al.* 2007). In comparison with food prepared at home, food consumed in restaurants has more calories, more fat and cholesterol, and less dietary fibres, calcium and iron per calorie (Guthrie *et al.* 2002). On the other hand, the growth in number of health-conscious consumers in combination with eating out as a part of modern life, give incentive for the development of a novel concept of health promotion called the foodscape. Foodscape can be defined as physical, organizational and sociocultural settings in which guests are not provided solely with food, but also receive food-related health messages. Within this context, foodservice is pointed out as an arena where actions promoting a healthier lifestyle can be taken (Mikkelsen, 2011).

At this moment, research studies investigating into the effect of menu labelling on food choice and energy intake are currently being conducted in the USA, Australia and Malaysia (Avcibasoglu *et al.* 2011; Din *et al.* 2012, Morley *et al.* 2013), while European studies on this topic are limited in number (Mackison *et al.* 2009; Turconi *et al.* 2012). Several recent reviews investigating into the effect of energy value labelling of restaurant items on total energy intake and healthy menu items' choice, have shown inconsistent results (Kiszko *et al.* 2014; Long *et al.* 2015; Schjoll & Alfnes, 2017; Sinclair *et al.* 2014; Swartz *et al.* 2011).

Although a few recent works have been devoted to the influence of not just various contents, but also various types of menu labelling (i.e. the use of modern IT technologies) on food choices made by university students (Roseman *et al.*, 2016; Stran *et al.*, 2016; Fotouhinia-Yepes, 2014), in light of the previously discussed state-of-the-art in the EU, this work is primarily focused on students' perception of the need for displaying nutrition information on restaurant menus as a prerequisite for any action, since their positive perception will strongly influence their future willingness to introduce menu labelling. This topic has indeed been recently addressed by several studies (Martinez *et al.* 2013; Fernandes *et al.* 2015; Wie & Giebler, 2014), but none of them dealt with students specifically educated to take responsibility for foodservice and expected to introduce this innovative aspect of food offering.

This research intended to explore the relationship between students' perception of the need for menu labelling in restaurant settings and their habit of reading grocery nutrition labels. In a group of Hospitality Management students, the authors attempted to identify: (i) their habit of reading nutrition labels on packed food they buy in grocery stores; (ii) their perception of the need for menu labelling; and (iii) the preferred type and amount of information to be displayed on menus in food-serving facilities.

## Subjects and Methods

Given the specific aim of this research, the study population comprised students of the Faculty of Tourism and Hospitality Management University of Rijeka, the sole institution in Croatia that educates hospitality managers at the highest academic level. A total of 350 questionnaires were distributed among students, out of which 26 were returned incomplete and therefore eliminated from the study, so that the total study sample eventually comprised questionnaires filled by 324 students.

All participants completed a specifically designed three-section questionnaire, consisting of: (i) demographic data, (ii) questions about the perception of the need for menu labelling, and (iii) questions about nutrition information labelled on packed food they buy in grocery stores.

The perception of the need for menu labelling was assessed using eight questions subsequently validated on a five-point Likert scale, as follows: 1 (strongly disagree) to 5 (fully agree). Additionally, eight items were listed in order to identify important nutrients which are to be labelled on a restaurant menu, the ranking scale thereby ranging from 1 (not important at all) to 5 (very important) (Din *et al.* 2012). The participants were also asked to choose the preferable form of nutrition information they would like to see on a menu; to that effect, they were to pick only one of the following options: (i) menu labelling is not needed at all; (ii) information on caloric value expressed in kilojoules (kJ) should be displayed; (iii) information on kJ intake + the information on the percent of the recommended dietary allowances (%RDA) should be displayed.

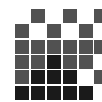
In the third section of the survey tool, the participants were asked about their habit of reading a nutrition label: *When you purchase a foodstuff for the first time, how often do you read the nutrition label? How often do you check the energy value and/or the amounts of total fat, saturated fat, cholesterol, protein, dietary fibres, salt and sugar stated on the label?* On top of the aforementioned, the participants were asked about their habit to check other food label components. The answers to these questions were validated as follows: 1 (never) to 5 (always), and were expressed as mean values of the obtained scores (Krešić & Mrduljaš, 2016).

## Statistical analysis

Data were analysed using the Stata Statistical Software, Release 12 (StataCorp, College Station, Texas, the USA, 2011). Since the data were distributed normally, as confirmed by the Shapiro-Wilks and the Kolmogorov-Smirnov tests, continuous variables are expressed as means and standard deviations, while frequencies are expressed in absolute numbers and as percentages. Gender-specific differences were compared using the ANOVA and the t-test for continuous variables and the Chi-square test for categorical variables. The Pearson correlation analysis was conducted so as to establish the relationship between nutrition label or energy value reading habit and every single perceptual statement. The multiple regression analysis was used to test the influence of nutrition label and energy value reading habit (as independent variables) on overall perception of the need for menu labelling, tagged as the study outcome (a dependent variable). The above overall perception represented the mean score of eight perceptual statements. The statistical significance was set at the p-value of <0.05.

## Results and discussion

In this research, the study population consisted of university students of Hospitality Management. As young adults in a transitional life phase, students are population worth studying



since in this period of their lives their diet –related behaviour changes from eating with their parents at home to independent daily meal planning and preparation. Some of them choose to prepare their own meals in their new homes, while some of them resort to different food outlets (i.e. campus cafeterias) (Fernandes *et al.* 2015). In any case, these lifestyle changes may lead to poorer dietary habits in terms of decreased con-

sumption of healthy food (i.e. fruit, vegetables, meat) and increased consumption of fast food (Pelletier & Laska 2013).

A total of 324 participants (26% of them being men and 74% women), average age 23.57 years, were included into the study (Table 1). Almost half of them (44.44%) often or always read nutrition labels found on packed food and can therefore be considered frequent food label readers.

**Table 1:** Demographic characteristics (mean  $\pm$  SD) of the study sample (n=324) and data on their habit of reading nutrition labels found on packed food

Parameters	Men (n= 84)	Women (n=240)	Total (n=324)	p*
Age (y)	23.57 $\pm$ 1.63	23.57 $\pm$ 1.62	23.57 $\pm$ 1.62	0.986
BMI (kg/m <sup>2</sup> )	23.78 $\pm$ 2.54	21.70 $\pm$ 2.88	22.24 $\pm$ 2.94	<0.001
Nutrition label reading frequency n(%):				
Never	15 (17.85)	17 (7.08)	32 (9.88)	0.030
Rarely	20 (23.81)	44 (18.33)	64 (19.75)	
Sometimes	18 (21.42)	66 (27.50)	84 (25.92)	
Often	19 (22.62)	66 (27.50)	85 (26.23)	
Always	12 (14.28)	47 (19.58)	59 (18.21)	
Interest in energy value data n(%):				
Never	39 (46.43)	26 (10.83)	65 (20.61)	<0.001
Rarely	19 (69.04)	52 (21.67)	71 (21.91)	
Sometimes	9 (79.76)	72 (30.00)	80 (24.69)	
Often	9 (79.76)	63(26.25)	73 (22.53)	
Always	8 (9.52)	27 (11.25)	35 (10.80)	
Influence of nutrition label on food choice n(%):				
Never	16 (19.05)	20 (8.33)	36 (11.11)	0.031
Rarely	17 (20.24)	36 (15.00)	53 (16.36)	
Sometimes	23 (27.38)	94 (39.17)	117 (36.11)	
Often	19 (22.62)	54 (22.50)	73 (22.53)	
Always	9 (10.71)	36 (15.00)	45 (13.88)	

\*t-test and  $\chi^2$  test for inter-gender differences

Although in the European Union voluntary nutrition labelling of all packed food became mandatory not long ago, as mentioned earlier, our students were quite interested in nutrition label information. The only study conducted in Croatia (long before the nutrition labelling became mandatory) indicated that 19% of Croatian adults always read nutrition labels, while 15% of them read the labels occasionally (Ranilović & Colić Barić 2011). A strong interest in this topic, observed among our participants, could be explained by two reasons. On one hand, in the time-period that has elapsed from the above research, nutrition labelling has become more common in the Croatian market, since ever more products are labelled as stipulated under the valid legislation. This is the main reason why consumers have become more familiar with nutrition information about the food they buy. On the other hand, our study sample includes students educated and trained

to become hospitality managers, so that they are probably more interested in, and more knowledgeable about, food-related issues than students of other backgrounds. Namely, Hospitality Management students are educated and trained to provide foodservice, so that their specific knowledge on, attitudes towards, and beliefs about, nutrition-related issues can be shaped during the course of their studies and can have a strong influence on their willingness to implement them in a real setting (Hamm *et al.* 1995).

Regarding gender-specific differences, female participants were more interested in nutrition label information (p=0.030) and food energy value (p<0.001), as compared to their male counterparts. Most of the participants (36.11%) stated that food label information sometimes influence their food choice, while 22.53% of the participants reported that their food choice is often determined by nutrition label informati-



on. Food choices of female participants were more influenced by food label information than those of male participants ( $p=0.031$ ). The systematic review of 120 articles conducted by Campos and co-workers (2011) reported women to be significantly more frequent food label readers as compared to men, hence also more often influenced by the acquired information when making their food choices and also more prone to trust

nutrition label information. Similar frequency rates of nutrition label reading have been documented among women of different financial and socio-economic standing.

Student perception of menu labelling reflects their habits of nutrition label reading while shopping for food. The answers to the majority of questions posed by the questionnaire confirmed their positive attitudes towards menu labelling (Table 2).

**Table 2:** Scores (mean  $\pm$  SD) pertaining to the perception of the need for displaying nutritional information on restaurant menus ( $n=324$ )

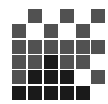
Perceptual statement	Men (n=84)	Women (n=240)	Total (n=324)	p*
Provision of nutritional information on a menu is important for me	3.62 $\pm$ 1.02	3.58 $\pm$ 0.93	3.59 $\pm$ 0.95	0.741
Nutritional information on a menu could help me to eat healthier	3.65 $\pm$ 0.83	4.07 $\pm$ 1.01	3.96 $\pm$ 0.98	<0.001
Nutritional information on a menu could help me in controlling my caloric intake	3.53 $\pm$ 0.96	3.91 $\pm$ 1.09	3.81 $\pm$ 1.07	0.004
I feel confident about my ability to comprehend nutritional information on a menu	3.26 $\pm$ 0.98	2.93 $\pm$ 1.01	3.02 $\pm$ 1.01	0.011
Nutritional information could be misleading	3.13 $\pm$ 1.31	2.85 $\pm$ 1.23	2.92 $\pm$ 1.26	0.047
Implementation of nutrition labelling in restaurants is quite costly	2.63 $\pm$ 1.18	2.69 $\pm$ 1.17	2.67 $\pm$ 1.17	0.687
When I choose food in a restaurant, I am not sure whether to choose based on taste or healthiness of the food	2.56 $\pm$ 1.44	3.22 $\pm$ 1.35	3.17 $\pm$ 1.32	0.012
I am not prone to fully neglect the health impact of the food I choose	2.70 $\pm$ 1.27	2.97 $\pm$ 1.37	2.87 $\pm$ 1.33	0.114

\**t*-test for inter-gender differences

Study participants of both genders consider nutritional information on a menu important (3.59  $\pm$  0.95) and view upon it as a tool which could help them to eat healthier (3.96  $\pm$  0.98) and better control their caloric intake (3.81  $\pm$  1.07), female participants thereby advocating the above stronger than male participants ( $p<0.001$ ;  $p=0.004$ ). Previous research also confirmed that prior to the introduction of menu labelling in the USA and Malaysia, women had more positive attitudes towards menu labelling than men (Avcibasoglu *et al.* 2011; Din *et al.* 2012). Since health and well-being pose as a mega-trend which determines consumer behaviour (Sigh 2012), the wish to eat healthy is a link between the habit of nutrition label reading and the perception of the need for menu labelling, as confirmed also by our study (Tables 1 and 2). Students included in our study are of the opinion that health-related information displayed on menu labels is more important than mere information on energy intake, suggesting that their future expectations of menu label information go beyond mere energy value input. This finding is similar to the results of Hwang and Lorenzen (2008), who also showed that respondents perceive menu labels providing more nutrition information (i.e. that about calories, fat and sodium content, etc.) as more effective and more credible as compared to those offering one type of nutrition information only.

In general, Hospitality Management students (men stronger than women) feel confident ( $p=0.011$ ) about their ability to interpret nutritional information displayed on menus, which comes as a consequence of the previously described selection of a knowledgeable and motivated study sample. This fact, in combination with their disagreement with the statement that the introduction of menu labelling in restaurants would be quite costly (2.67  $\pm$  1.17), represents a solid platform for the implementation of this new concept into real-world catering facilities. Moreover, several studies have confirmed that menu labelling does not decrease income or overall restaurant turnover (Bollinger *et al.* 2011; Ellison *et al.* 2011).

The last two perceptual statements (*When I choose food in a restaurant, I am not sure whether to select based on the taste or the healthiness of the food*; and *I am not prone to fully neglect the health impact of the food I choose*) relate to the potential conflict in consumer's mind in terms of whether to make health- or taste-based food choices. This conflict plays an important role in understanding food choices (Hassan *et al.* 2010). Selecting food is one of the most regular everyday activities and often involves different rationales (i.e. taste, health aspects, price, nutritional value, etc.) (Finkelstein & Fishbach 2010). The desire to enjoy food often competes with the desire to eat healthier, so that consumers struggle between the desi-



re to indulge themselves and the tendency to avoid negative health consequences (Geyskens *et al.* 2008). As for our study sample, it is evident that this struggle is more severe in female participants ( $p=0.012$ ), who are more dissatisfied should they neglect the health impact of the food they choose. Several stu-

dies have confirmed gender-specific differences in using nutrition information as the food choice rationale. Men were less likely to underpin their food choices by nutrition information than women and are less worried about the health impact of food they choose (Stran *et al.* 2013; Su *et al.* 2015).

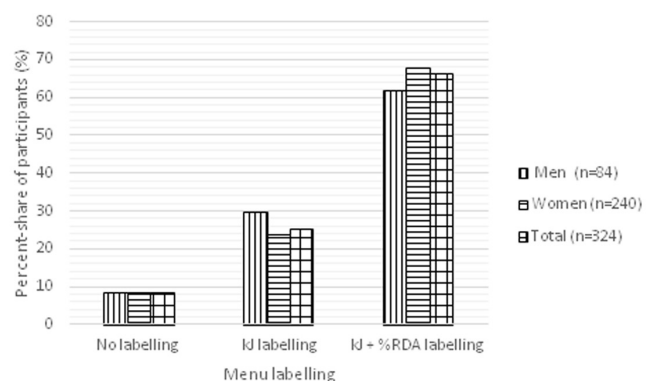
**Table 3:** Scores (mean  $\pm$  SD) pertaining to the perception of importance of the information on food energy value and particular nutrients on menus ( $n=324$ )

Menu information on	Men (n=84)	Women (n=240)	Total (n=324)	p*
Energy	4.26 $\pm$ 0.80	4.17 $\pm$ 0.96	4.20 $\pm$ 0.93	0.042
Fat	4.35 $\pm$ 0.83	4.44 $\pm$ 0.79	4.42 $\pm$ 0.80	0.376
Saturated fat	4.03 $\pm$ 1.01	4.01 $\pm$ 0.96	4.02 $\pm$ 0.97	0.871
Carbohydrates	4.19 $\pm$ 0.80	4.19 $\pm$ 0.87	4.19 $\pm$ 0.85	0.989
Sugar	4.12 $\pm$ 0.78	4.13 $\pm$ 0.80	4.13 $\pm$ 0.79	0.805
Protein	4.04 $\pm$ 0.83	4.07 $\pm$ 1.00	4.06 $\pm$ 0.95	0.041
Salt	4.04 $\pm$ 0.95	4.22 $\pm$ 0.91	4.18 $\pm$ 0.93	0.124
Dietary fibre	3.72 $\pm$ 0.93	3.94 $\pm$ 1.00	3.89 $\pm$ 0.99	0.078

\**t*-test for inter-gender differences

Study participants showed a well-balanced interest in various pieces of information that could be displayed on menus (Table 3). They were shown a list of nutrients they are familiar with because these items are listed on packaged food labels and were asked to rate the importance of each food component a restaurant menu could inform about. The three nutrients considered to be the most important turned out to be the fat content, the energy value and the carbohydrate content, followed by salt, sugar, protein, saturated fat and dietary fibre contents in a descending order. Such a ranking should not come as a surprise. First of all, students participating in the study were shown to make use of the nutrition label information displayed on packed food and to be quite confident about their ability to interpret that information correctly, so that they can be equally expected to be able to correctly understand and interpret the same information displayed on a restaurant menu. Additionally, the energy value of packed food is quite important to them, so they expect this information to be available on restaurant menus, as well. Their interest in labelling fat and carbohydrate contents on restaurant menus could be explained by the assumption that when reading menu labels, similar as with food labels, consumers tend to look more closely into the nutrients they are trying to avoid (Krešić & Mrduljaš, 2016). However, it is not realistic to expect all these components to be listed on restaurant menus, since such an abundance of information would be tiresome and unappealing for the majority of restaurant guests. This raises the issue of how to communicate relevant information to the guests without antagonizing them. The first step in the implementation of menu labelling is energy menu labelling. At present, no literature data on the possibility of listing information on food components other than energy value are available. Studies concerned with the most effective way of presenting energy value information on menus so as to achieve better energy intake control have been conducted. Morley and co-workers (2013) confirmed that the provision of

kilojoule intake information using or not using a “traffic light” label, leads to the selection of lower energy meals as compared to food choices made in the absence of such an information. In this research, consumers reported that their food choice is often guided by a “traffic light” label, while data on the %RDA were least utilised to that regard. Fotouhinia-Yepes (2014) has also confirmed that, although a “traffic light” label presented to students using a modern IT technology (tablets) was highly ranked for its attractiveness, it did not motivate them to order low-calorie foods.



**Figure 1:** Types of menu labelling students would prefer ( $n=324$ )

When our students were asked to choose between no caloric value labelling and two types of caloric value labelling, one quarter of them (25.39%) claimed that they would like to see energy value labelled on a menu, while as many as 66.25% voted for the labelling mode that provides both the information on kJ intake and the information on the percentage of fulfilment of daily energy needs (%RDA). Only 8.35% of the participants stated that the information on the energy intake is



needless. Those participants also rated the importance of menu labelling with 1 or 2 on a 5-point Likert scale (Figure 1). Students' interest in daily energy needs could be driven by their knowledge on nutrition, but also by the fact that the percentages of the recommended dietary allowances (%RDA) are often listed on nutrition labels found on packed food sold in Croatia. Since it was reported that consumers often underestimate the caloric content of restaurant items (Burton *et al.* 2006), the information on the percentage of daily energy needs fulfilled by a certain meal could help them estimate the real caloric value of

the menu items. In absence of this information, the majority of consumers probably do not realize that a single restaurant meal could provide more calories than daily needed (Avcibasoglu *et al.* 2011). In the USA, respondents identified energy intake data as the information having the greatest influence on food selection (Lowe, 2012), but it was also confirmed that the information on daily recommended energy intake had no impact on the amount of energy consumed (Girz *et al.* 2012, Roberto *et al.* 2010).

**Table 4:** Correlations between the habit of reading the entire packed food nutrition label or just the energy value data, and the perception of the need for menu labelling (n=324)

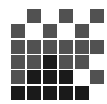
Perceptual statements	Nutrition label use			Energy value label use		
	Men (n=84)	Women (n=240)	Total (n=324)	Men (n=84)	Women (n=240)	Total (n=324)
Providing nutritional information on a menu is important for me	r=0.32 p=0.015	r=0.22 p<0.001	r=0.19 p=0.001	r=0.46 p=0.231	r=0.30 p<0.001	r=0.22 p<0.001
Nutritional information on a menu could help me to eat healthier	r=0.21 p=0.110	r=0.19 p=0.003	r=0.20 p<0.001	r=0.235 p=0.564	r=0.15 p=0.016	r=0.14 p=0.01
Nutritional information on a menu could help me in controlling my caloric intake	r=0.16 p=0.21	r=0.23 p<0.001	r=0.21 p<0.001	r=0.18 p=0.732	r=0.22 p=0.003	r=0.12 p=0.026
I feel confident about my ability to comprehend nutritional information on a menu	r=0.46 p<0.001	r=0.21 p=0.001	r=0.21 p<0.001	r=0.39 p<0.001	r=0.26 p<0.001	r=0.28 p<0.001
Implementation of nutrition labelling in restaurants is quite costly	r=-0.20 p=0.40	r=-0.13 p=0.007	r=-0.10 p=0.047	r=-0.13 p=0.329	r=-0.19 p=0.732	r=-0.15 p=0.623
When I choose food in a restaurant, I am not sure whether to choose based on taste or healthiness of the food	r=0.21 p=0.103	r=0.34 p=0.412	r=0.29 p=0.193	r=0.21 p<0.001	r=0.16 p=0.13	r=0.17 p=0.002
I am not prone to fully neglect the health impact of the food I choose	r=0.14 p=0.271	r=0.21 p=0.02	r=0.11 p=0.04	r=0.22 p=0.07	r=0.22 p<0.001	r=0.22 p<0.001

The results of correlation analysis confirmed that a weak, but still statistically significant correlation exists between the nutrition label reading habit and the perception of importance of menu labelling (p=0.001), the perception of health effect of menu labelling (p<0.001), the perception of possibility to better control energy intake (p<0.001), and self-confidence about understanding nutritional information displayed on menus (p<0.001). The same correlations (but of different strength and significance) were established between reading just the energy value of food and the perception of menu labelling. Gender-specific differences were observed, since significant correlations were proven among female, but not among male participants (Table 4). As recently reviewed by Krieger and Saelens (2013), many studies have confirmed that women are more interested in information displayed on food or menu labels as compared to men, and that the information on energy value drives them to purchase or order lower-calorie food. Study participants in habit of reading nutrition label information are of the opinion that menu labelling should not pose as a significant cost for restaurants introducing it (r=-0.10; p=0.047). The fear of cost growth displayed by managers and the cost-cutting pressure they are constantly under, hinder innovation in foodservice to a significant extent. Still, modern restaurateurs are becoming more and more aware that providing nutrition information might as well pay off. This is discussed in the

work by Yamamoto *et al.* (2005), who showed that if customers perceive menus offering healthier food choices and additional nutrition information as those of a greater value, then they might as well be willing to pay for that added value. This is exactly the path restaurants should pursue in their effort to attract healthy diet-prone customers, which would ultimately reflect in sound revenues. A study conducted in a fine dining restaurant setting confirmed that menu labelling helps not only in attracting health-conscious clients, but also in better selling of lower-calorie foods (Fotouhinia-Yepes, 2013).

The results of multiple regression analysis confirmed that the habits of nutrition label ( $\beta=0.161$ ; p=0.005) and energy value label reading ( $\beta=0.126$ ; p=0.028) pose as significant predictors of students' perception. Food label reading frequency was a significant predictor of the perception of menu labelling need, but only for female (nutrition label reading habit,  $\beta=0.17$ ; p=0.008; energy value label reading habit,  $\beta=0.23$ ; p<0.001), not male participants.

In terms of its theoretical implications, this study fills some gaps in the scarce literature on the perception of the need for menu labelling in countries where menu labelling is still not implemented, so that our findings and methodology could be used in other EU member states dealing with similar issues. Additionally, the presented findings are of extreme importance in view of the fact that the study participants will soon become



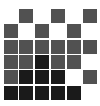
hospitality managers responsible for the implementation of restaurant menu labels.

## Conclusions

This survey proved the association between regular packed food nutrition label reading and positive perception of the need for menu labelling in a group of future hospitality managers. This study sample was targeted because of the growing interest in menu labelling, which is currently still voluntary and depends not only on customer needs and expectations, but also on the knowledge and attitudes of foodservice managers. Their specific knowledge on the subject-matter and their positive perception of menu labelling will surely contribute to the successful implementation of menu labelling in real settings.

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