



**Customer Perceptions towards the Use of Nutrition Information in  
Fast Food Operations**

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**Abstract**

This research aims to understand customer perceptions towards using nutrition information (NI) in a sample of fast food operations. It compares between male and female in relation to their use of Nutrition Information in fast food operations. To achieve this aim, a self-administrated questionnaire was directed to a random sample of customers in the investigated restaurants. A number of 380 forms was distributed, among them 308 forms (81.1%) were completed and valid for analysis. The findings showed that there is no significant difference between males and females regarding their agreement of perception towards using nutrition information.

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## Introduction

Humans, as a species, have a remarkable set of edible substances at their disposal, however, for and given cultural group the list of acceptable foodstuffs is usually quite restricted, As Fieldhouse (1995) stated, "the range of human nutritional requirements is fairly narrow, but the ways in which these similar requirements are met are hugely diverse". Edibility and nutrient value are not the only aspects involved in human food choices. What was first a biological need has become a culture-determined behavior. Thus, the answer to "why one eats?" is a complex one (De Garine, 1970; Mcnnel et al., 1993; Fieldhouse, 1995; Rozin, 1998).

Although there are few studies about the influence of the nutritional information on food neophobia, some recent research has showed that providing information, either about the good taste of the food or the nutritional advantages about its consumption will decrease neophobia (Martins *et al.*, 1997; Mc Farlene and Pliner, 1997; Pelchal and Pliner, 1995). The nutritional information provided regards particular characteristics of certain, e.g. high in vitamins (Martins *et al.*, 1997). This study sought to examine the general perception of fast food operations customers toward nutritional information. In addition to compare and contrast the perception based on customer gender.

## The Literature Review

Some of the fast food chains have made nutritional information available in their restaurants, but it is not always available, and not always easy to read when it is available. Many quick service restaurants make this information available on their website, which is difficult to access when making ordering decisions. Full-service restaurants rarely offer nutritional information (NI) on their menus in their restaurants or websites. This affects the image of such type of restaurants and in response to that, some international QSR chains in Egypt, e.g. McDonald's started providing nutrition labeling on their website and with each served meal with different formats (Ibrahim and Sobaih, 2016).



Zhu (2013) summarized that customers would prefer to have the largest amount information available, but they tend not to use the nutrition information to make purchase decisions every time and this result from customers' different socio-demographic factors such as gender, income, education, family size et cetera. Besides, Green (2014) found that in terms of using menu labels, income had a significant association, with higher income individuals being more likely to use the information. Additionally, more educated individuals, in general, have better health outcomes, including lower BMIs and a lower risk of diabetes.

The underlying idea is that by transmitting nutritional information, which individuals may be unaware of, in an easily accessible format at the time of consumption, people will be more likely to use such information and will make more health conscious decisions (Miller and Cassady, 2015). However, the results of such interventions appear to have mixed results in practice, either by nudging decisions to healthier options with a range of effect sizes or by finding null effects (vanEpps *et al.*, 2016; Cantor *et al.*, 2015; Auchincloss *et al.*, 2013; Elbel *et al.*, 2013; Ellison, Lusk, and Davis, 2013; Bollinger, Leslie, and Sorensen, 2011).

Scarborough *et al.* (2015) mentioned that nutrition labeling formats include health endorsement logos, extensive nutritional information, and even a simplistic "traffic light" method of affixing colored nutritional symbols onto food product packaging to denote the degree of healthiness (commonly used on ready-made meals in grocery stores throughout parts of Europe). Montandon and Colli (2016) figured most popular nutrition labeling formats of displaying nutritional information which were most familiar to quick service restaurants' customers (see Figure 1). Kerins *et al.* (2016) figured icon-based menu labels (see Figure 2) based on the 'traffic light' color coding system by Food Standards Agency (FSA) (2005) and the British Dietetic Association's (BDA) guidelines on 'Improving Outcomes through Food and Beverage Services' (2012), researchers also recommended that future research should evaluate how individual differences in socio-demographics, health values and preexisting nutrition knowledge may impact the effectiveness of icon-based menu labels.



Studies have shown modest effects of menu calorie labeling on food purchasing behavior (Cawley, 2016; VanEpps *et al.*, 2016). Some studies have found that menu labeling leads to decreases in the number of calories purchased (Auchincloss *et al.*, 2013; Bollinger, Leslie, and Sorensen, 2011; Pulos and Leng, 2010; Wisdom, Downs, and Loewenstein, 2010), while others have found null effects on customer behavior (Cantor *et al.*, 2015; Downs *et al.*, 2013; Dumanovsky *et al.*, 2011;; Elbel *et al.*, 2013; Ellison, Lusk, and Davis, 2013; Finkelstein *et al.*, 2011; Schwartz *et al.*, 2012).

Higher socio-economic status (SES) groups may have greater knowledge to make better use of nutritional information as well as the economic means to potentially pay a premium for healthier items (Link and Phelan, 1995). By contrast, lower SES individuals may be less able to make use of calorie information due to lower health literacy or overall numeracy (Malloy-Weir and Cooper, 2016; Nogueira *et al.*, 2016).

Research has found that low health literacy, literacy and numeracy serve as barriers to customer understanding and the interpretation of nutrition related information. For instance, a recent scoping review found that customers with lower literacy and numeracy, which usually refers to math ability, differ from those with higher levels in some of the judgements that they make about food (Malloy-Weir and Cooper, 2016).

Another study found that higher nutrition knowledge and numeracy were positively associated with frequency of food label use (Hess, Visschers, and Siegrist, 2012). Neither study directly examined whether low health literacy or numeracy acts as a mechanism that might explain socio-economic or race-ethnic inequalities in obesity or label use. However, it is plausible that differences in numeracy (i.e., ability to convert calorie counts into percent of daily values) or health literacy (knowledge of recommended daily values) could contribute to obesity disparities due to differences in educational attainment across groups. Alternatively, lower income groups may value calories differently, for instance, preferring the higher calorie option as a means of extracting more value out of a purchase. Given the weak evidence base, researchers are calling attention to making these



equity considerations more explicit in the analysis of the evidence-base for different policy options (Fox and Horowitz, 2013; Swinburn, Gill, and Kumanyika, 2005). Descriptive evidence from observational studies supports this concern. On the one hand, menu labels were found to reduce the total calories purchased in an upscale chain coffee shop, but had no significant effect in chain fast food restaurants in New York City among customers in low-income neighborhoods (Cantor *et al.*, 2015). In a review of the evidence from laboratory settings and empirical studies, Sarink *et al.* (2016) concluded that higher SES groups would be likely benefit from the menu labels more (Sarink *et al.*, 2016).

Some of the fast-food chains have made nutritional information available in their restaurants, but it is not always available, and not always easy to read when it is available. Many quick service restaurants make this information available on their website, which is difficult to access when making ordering decisions. Full-service restaurants rarely offer nutritional information (NI) on their menus in their restaurants or websites. This affects the image of such type of restaurants and in response to that, some international fast food chains in Egypt, e.g. McDonald's started providing nutrition labeling on their website and with each served meal with different formats (Ibrahim and Sobaih, 2016).

## **Methodology**

In this study McDonald's and Subway's firms conducting nutrition labeling in Egypt were concerned. A questionnaire was conducted among a randomly selected customers who visiting these firms.



**Table 1: The Sampled Fast Food Operations Customers in Cairo and Giza**

	Item	Distributed Forms	No.	%
1	Subway Zamalek	10	10	100
2	Subway Nasr City	10	9	90
3	McDonald's Haram	40	35	87.5
4	McDonald's Tahrir	40	38	95
5	McDonald's Manial	40	30	75
6	McDonald's Mall of Egypt	40	35	87.5
7	McDonald's Mall of Cairo Festival	40	33	82.5
8	McDonald's Mall of Arabia	40	38	95
9	McDonald's Maadi	40	30	75
10	McDonald's Shoubra Misr	40	20	50
11	McDonald's El Mohandessin	40	30	75
<b>Total</b>		<b>380</b>	<b>308</b>	<b>81.1</b>

The present paper is limited in illustrating how the demographic data of the customers effect their using nutrition information when making purchase decision in fast food operations.



## Results and Discussions

### 1- Demographic Data Analysis

The profile data of the respondents included their age, gender, educational level, monthly income, current occupation, as well as their diet status (see Table 2)

Table 2: Respondents' Profile		Freq.	%
Age	Under 21 Years	50	16.2
	From 21 less than 30 Years	216	70.1
	From 30 less than 40 Years	40	13.0
	From 40 Less than 50 Years	2	6.0
	50 Years and Over	0	0
Gender	Male	140	45.5
	Female	168	54.5
Level of Education	Secondary School Diploma or less	88	28.6
	Bachelor's Degree	172	55.8
	Master's Degree	42	13.6
	Doctor's Degree or Equivalent	6	1.9
	Other	0	0
Monthly Income	Below EGP 2,000	120	39.0
	EGP 2,000 to EGP 5,999	162	52.6
	EGP 6,000 to EGP 9,999	22	7.1
	EGP 10,000 or more	4	1.3
Current Occupation	Student	106	34.4
	Unskilled worker	4	1.3
	Skilled worker	24	7.8
	Self-employed	24	7.8
	Professional / executive / manager	134	43.5
	Unemployed	12	3.9
	Retired	4	1.3
Others	0	0	
Diet Status	Not on special diet	232	75.3
	On special diet	28	9.1
	Low fat	28	9.1
	Low sodium	0	0
	Low calories	14	4.5
	Vegetarian	6	1.9
	Others	0	0



Table (2) shows that 70.1% of the respondents were in the age between 21 less than 30 years; followed by the respondents whose under 21 years with a percentage of 16.2%. Moreover, 13% of the respondents were in the age from 30 less than 40 years, and only 6% of the respondents from 40 less than 50 years, which reflects the dominance of fast food operations customers was youth. The sample was slightly skewed to female respondents 54.5% as compared to male respondents 45.5%. Since the skewed sample may be an indicator that females are more willing to participate than males. Concerning the level of education distribution was obviously skewed toward the highly educated sector of the population, with the percentage of 55.8% of the sample having completed a bachelor's degree and about 13.6% of the sample having completed a master's degree and doctor's degree were 1.9%. Furthermore, 28.6 of the respondents were students.

With regard to monthly income may also be the reason that 52.6% of the respondents had a monthly income from EGP 2000 to EGP 5999. Moreover, 39% of the respondents had a monthly income below EGP 2000. Regarding respondents current occupation, 43.5% of respondent were professional, executive and manager. Moreover, 34.4% of respondents were students. While, both unskilled workers and retired employees' had the same percentage 1.3%.

Concerning the diet status, only twenty eight (9.1%) of the respondents were following a special diet and low-fat. This means that majority of respondents have no special diet status.

No.	Items	Gender	Mean (M)	SD	Sig. 2-tail
1	Providing nutritional information in the menu is important for me.	Male	4.107	1.198	0.287
		Female	4.250	1.146	
2	I believed nutritional information help me determine the nutrition intake when I dine at restaurant.	Male	3.814	1.244	0.562
		Female	3.899	1.293	

Continued





Item	Statement	Gender	Mean	SD	t-value
3	I am interested in looking for nutritional information of menu items in a restaurant.	Male	3.621	1.272	0.888
		Female	3.601	1.239	
4	I intent to pay attention to nutritional information while choosing a menu item in a restaurant.	Male	3.692	1.252	0.924
		Female	3.679	1.364	
5	I could not care less whether the restaurant having nutritional information or not.	Male	2.707	1.491	0.090
		Female	2.411	1.545	
6	I am quite knowledgeable about nutritional information.	Male	3.336	1.227	0.014*
		Female	3.000	1.153	
7	I feel confident about my ability to comprehend nutritional information on the menu.	Male	3.521	1.220	0.353
		Female	3.393	1.199	
8	I am confident in using nutritional information.	Male	3.886	1.176	0.771
		Female	3.845	1.248	
9	I will always be looking for nutritional information of menu items in a restaurant in future.	Male	3.779	1.182	0.204
		Female	3.956	1.278	
10	I would like to see additional nutritional information about menu items in a restaurant in the future.	Male	3.364	1.282	0.007*
		Female	3.774	1.348	
11	I would not buy the product without high nutritional information in the future.	Male	3.857	1.185	0.168
		Female	4.048	1.222	
12	Restaurant should accurately tell nutritional information in the menu.	Male	4.307	0.966	0.363
		Female	4.411	1.017	
13	I believe nutritional information should not be misleading.	Male	4.357	0.849	0.664
		Female	4.405	1.040	
14	Percentages on nutritional information could be sufficient to provide how much of a given ingredients a food product contain.	Male	4.007	1.063	0.505
		Female	4.095	1.225	
15	I believe it is quite costly for restaurateur to include nutritional information in the menu.	Male	2.850	1.586	0.506
		Female	2.732	1.514	

Note: \*  $\geq 0.05$  \*\*  $\geq 0.01$

Despite slight differences on certain aspects, both gender customers however sharing similar levels of agreement on their perception items used in the instrument. This can be seen from the magnitude of the mean scores which also showing no statistically significant differences. Both male and female customers in agreement that fast food operations should accurately tell nutritional information in the menu (M= 4.307 for female and



M=4.411 for male,  $p= 0.363$ ), should not be misleading the nutritional information (M= 4.357 for female and M= 4.405 for male,  $p= 0.664$ ) and providing nutritional information in the menu is important for me (M=4.107 for male and M= 4.250 for female,  $p= 0.287$ ). while, This can be seen sharing similar levels of agreement on their perception items and also showing statistically significant differences such as quite knowledgeable about nutritional information (M=3.336 for male and M= 3.00 for female,  $p= 0.014$ ) and see additional nutritional information about menu items in a restaurant in the future (M=3.364 for male and M= 3.774 for female,  $p= 0.007$ ). In sum, these results fits quite well with the idea that both male and female despite realizing a slight burden for fast food operations to place nutritional information in the menu but still demand and attentive about it.

### **Conclusions and Implication**

Results of this study demonstrate that there is an awakening of nutritional awareness among the fast food operations customers. Majority of fast food operations customers positively perceived the important of providing nutritional information in the fast food operations menu. Although, presently many of the fast food operations customers are believed not having such experience in the quick service restaurants, providing nutritional information on restaurant menu is more likely to be accepted by them in year to come and it availability will directly influence their future purchase decision. As with other studies, female customers were found to be slightly concerned than males customers on certain elements related to nutritional information. This is not surprising as female by nature are slightly picky than male's customers with regard to food and they are also consider by many scholars as a gatekeeper role in providing the meal and meal solution for the families.

The fast food operations in Egypt therefore should start to equip themselves with nutritional knowledge as they most likely to be one of the targeting types of restaurants after the fast food despites some might argue that restaurant is not about health but all about profit.



In addition, when restaurants present nutrition information for healthy menu options, customers are likely to recognize the good source of nutrition and select the healthier menu options over the less healthy options. Moreover, customers are willing to pay more for an item when nutrition information is provided.

As a conclusion, it is hoped that the recommendations and information flow from this study will facilitate restaurant operators with valuable information on the future customer concern because managing customers' needs is becoming an important and critical area as the world economy progressively turns to a service orientation. Finally, investigation on the willingness, constraints and obstacles on providing the nutritional information from Egyptian fast food operations perspectives need to be further explored.

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