

# Satisfaction level and food choices of diners in a self-service restaurant

## Nível de satisfação e escolhas alimentares dos comensais em restaurante *self-service*

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### Abstract

In recent years, there has been an increase in the habit of eating out, as well as stronger competition in the food service and more concern for diners' health. The aim of the study was to evaluate diners' satisfaction with the services offered and their food choices in a self-service restaurant. The study sample had 148 individuals. They evaluated the services based on the following criteria: food appearance; buffet presentation; variety, temperature of salads, desserts and hot meals; taste of meals; seasoning; service; hygiene and cleanliness of the premises and overall assessment. Diners' satisfaction with the overall service provided had a positive evaluation, indicating a good satisfaction level. Their food choices were influenced by factors such as visual appearance, taste, variety, method of preparation, nutritional value and healthy foods. The evaluation of diners' satisfaction and food choices in self-service restaurants are tools that help determine the profile of diners and the conditions of the self-service restaurant, with a view to improving the services provided.

**Keywords:** Food Services. Consumer Behavior. Dietary Behavior. Food Habits.

### Resumo

Nos últimos anos, houve um aumento da alimentação fora de casa, juntamente com a alta concorrência nos serviços de alimentação e a preocupação com a saúde dos comensais. O objetivo do presente estudo foi avaliar a satisfação dos comensais quanto aos serviços oferecidos e suas escolhas alimentares em

um restaurante *self-service*. A amostra do estudo totalizou 148 indivíduos, os quais avaliaram os serviços prestados em relação aos seguintes critérios: aparência dos alimentos, apresentação do bufê, variedade, temperatura das saladas, sobremesas e pratos quentes, sabor das refeições, tempero, atendimento, higiene e limpeza do local e avaliação geral. A satisfação dos comensais em relação ao serviço prestado, no geral, teve avaliação positiva, indicando bom grau de contentamento. Em relação às escolhas alimentares, verificou-se grande influência dos fatores aparência, sabor, variedade, forma de preparo, valor nutricional e alimentos que fazem bem à saúde. A avaliação da satisfação e as escolhas alimentares dos comensais para restaurantes *self-service* são ferramentas que ajudam a determinar o perfil dos comensais e a realidade da unidade, visando melhorar os serviços prestados.

**Palavras-chave:** Serviços de Alimentação. Comportamento do Consumidor. Comportamento Alimentar. Hábitos Alimentares.

## Introduction

As a result of changes in life patterns and dietary behaviors, eating outside the home has increased in recent years due to several factors, such as the increased participation of women in the labor market, lack of time to prepare meals, better educational backgrounds, flexibility in mealtimes, and foods variety.<sup>1</sup>

In Brazil, the money spent on eating out raised from 22.2% in 2002/2003 to 27.9% in 2008/2009, a difference of 5.9 percent points in six years, and it is expected to increase in the coming years.<sup>2</sup>

Self-service restaurants are common in Brazil; in this type of food service, consumers choose what they want to eat and pay by the weight of the foods they put on the plate.<sup>3</sup> So, they are free to choose foods according to their preferences and the variety offered, influenced by numerous reasons, such as visual appearance, nutritional value, taste, price, variety, cleanliness, as well as biological, sociocultural, anthropological and economic aspects.<sup>4</sup>

The search for foods variety and easiness has led people to eat outside the home, but consumers have reported a concern about the nutritional quality of the foods.<sup>5</sup> However, eating out can be both practical and healthful, especially when associated with nutritional education, the provision of healthy foods and nutritional information to diners, leading them to make appropriate food choices.<sup>6</sup>

Due to a huge competition in this kind of service, evaluation of customer satisfaction is vital, so that the need for changes and resolution of the problems can be met.<sup>7</sup> Satisfaction is measured by the nutritional quality, variety of foods offered, ambience, waiting time, food textures and taste. Thus, the customers contentment depends on whether these criteria meet or surpass their expectations.<sup>8</sup>

Given the growing habit of eating out of the home and the concern about a balanced nutrition, it is vital to meet the diners' expectations, both regarding the quality of services, which includes healthy foods, and the offer of foods according to the diners' profile. In this regard, the aim of this study was to assess the diners' satisfaction with the services provided and their food choices in a self-service restaurant.

## **Method**

This is a descriptive study designed to understand and describe the behavior of adult and adolescent customers of a commercial self-service restaurant, with quantitative characteristics. The method used was a case study, which, according to Pereira,<sup>9</sup> consists of a detailed analysis of a specific object with the purpose of obtaining an in-depth understanding of a given case. Conducting a case study in this self-service restaurant helps evaluate the quality of the services offered and know the diners' food choices. So, details on the diners' profile and the reality of the restaurant can be determined in order to improve the services provided, and strategies can be developed to meet the customer expectations and preferences. The study was conducted with male and female adult and adolescent customers of a commercial self-service restaurant in Guarapuava-PR, who voluntarily agreed to participate in the survey and signed the Free Informed Consent Term.

Data was collected in four days, and for convenience, approximately 50 individuals were interviewed per day. After serving themselves foods from the buffet line, the customers were invited to participate in the study voluntarily. In case of agreement, the participants received instructions to complete the questionnaire after having eaten their lunch and return it when leaving the restaurant.

To assess the satisfaction level, a questionnaire adapted from Proença<sup>10</sup> was used, which ranks nine criteria of satisfaction with the services provided, rating them as excellent/very good, good, fair and poor according to a scale from 1 to 10, and it was considered excellent from 10 to 9; good from 8 to 7; fair from 6 to 5 and poor below 5 points. Criteria were related with the foods visual appearance, presentation of the buffet, foods variety, temperature of salads, desserts and hot dishes, taste, seasoning, service, hygiene and cleanliness of the place and an overall assessment. The sum of the percentage of excellent/very good, when higher than 70%, indicates a good level of the diners' satisfaction with the services provided.

The food choices were evaluated through a questionnaire of food choices adapted from Jomori,<sup>4</sup> which provided information on the food practices, factors and reasons associated with the choice and what the customers consider a healthy meal. The questionnaire was adapted for teenagers to facilitate completion.

Data were compiled in an Excel® spreadsheet, analyzed descriptively into means, standard deviation, frequencies and percentages. Comparison between what the customers put on the plate and what they think they should put on the plate was made by means of the chi-square test. All analyses were carried out using the SAS software program, version 9.0, with 5% significance level ( $p < 0.05$ ).

The research was submitted to the Research Ethics Committee (COMEP) from the *Universidade Estadual do Centro-Oeste* (UNICENTRO), and approved with number 840.222/2014.

## Results

A total of 200 diners were invited to participate in the study, but 47 did not agree and five questionnaires were disregarded because they were incomplete. Therefore, the sample consisted of 148 individuals, aged 27.35 ( $\pm 14.10$ ) years on average, and 58.78% of this sample were female. The majority of the individuals declared not having a health problem, and those who did it reported high blood pressure, rhinitis and hepatic steatosis.

Most of the respondents prefer eating meals accompanied, and are not concerned about their body image when choosing foods. Regarding the frequency of having lunch at the restaurant, most of them reported twice or three times a week, four to five times a week and sometimes (Table 1).

**Table 1.** Customers' age (mean  $\pm$  standard deviation), gender, frequency of meals at the restaurant, health problems and food preferences when eating at a commercial self-service restaurant. Guarapuava, PR. 2015.

Age		27.35 $\pm$ 14.10
Sex	Male	41.22 (61)
% (n)	Female	58.78 (87)
How often they have lunch at the restaurant % (n)	4-5 times a week	24.32 (36)
	2-3 times a week	32.43 (48)
	Once a week	9.46 (14)
	Sometimes	24.32 (36)
	Rarely	9.46 (14)
Health problem % (n)	None	95.95 (142)
	High blood pressure	2.70 (4)
	Rhinitis	0.68 (1)
	Hepatic steatosis	0.68 (1)
Prefer to eat % (n)	Alone	8.78 (13)
	Accompanied	91.22 (135)
Food appearance has influence on choices % (n)	Not concerned with it	48.65 (72)
	Yes, so I eat less	47.97 (71)
	Yes, so I eat more	3.38 (5)

Scores: %= percentage; n = sample number.

Table 2 shows the results found in the customer satisfaction evaluation survey. Of the criteria assessed, those that indicated a good level of satisfaction were cleanliness of the dining area, food visual appearance, service, buffet presentation, temperature of salads/desserts, seasoning and taste of the foods. It could be noticed that the establishment has a good level of customer satisfaction.

However, a significant number of diners rated foods variety, temperature of hot dishes, seasoning and taste of the foods as “fair”. Temperature of hot dishes was also rated as “poor” by some customers.

In general, most of the customers rated the food service as good.

**Table 2.** Satisfaction level (% , n) of the customers of a commercial self-service restaurant. Guarapuava, PR. 2015.

Criteria	Satisfaction rating			
	Excellent/ Very good % (n)	Good % (n)	Fair % (n)	Poor % (n)
Foods appearance	52.03 (77)	36.49 (54)	11.49 (17)	0 (0)
Buffet presentation	39.19 (58)	47.97 (71)	12.84 (19)	0 (0)
Variety	31.76 (47)	38.51 (57)	27.03 (40)	2.70 (4)
Temperature of salads / desserts	32.43 (48)	54.05 (80)	10.14 (15)	3.38 (5)
Temperature of hot dishes	29.05 (43)	38.51 (57)	23.65 (35)	8.78 (13)
Taste of the meals	38.51 (57)	41.89 (62)	19.59 (29)	0 (0)
Seasoning	35.81 (53)	45.27 (67)	16.89 (25)	2.03 (3)
Quality of service	63.51 (94)	27.70 (41)	8.11 (12)	0.68 (1)
Hygiene and cleanliness of the place	60.81 (90)	35.14 (52)	4.05 (6)	0 (0)
In general, how do you evaluate our service	38.51 (57)	54.73 (81)	6.76 (10)	0 (0)

Scores: %= percentage; n = sample number.

The diners’ food choices are described in Table 3. The factors that have most influenced their decision are the foods appearance (how appealing they look), variety, taste and smell, and cooking method, and the most cited reasons that made them chose these foods are: “they are good for health”, “because I hardly ever eat them at home” and “because they look good, tasty”.

Most of the diners reported that they usually eat at this restaurant because they are sure of the hygiene of the place. They also reported that they do not pick up some food with a bad appearance from the buffet line nor do they serve themselves mayonnaise or pork meat because of fear of contamination and/or food poisoning. The most preferred dishes are: dishes that taste good, dishes that are different from those they usually eat at home, and homemade food (Table 3).

**Table 3.** Factors (% , n) that influence the food choices of diners of a commercial self-service restaurant in Guarapuava, PR. 2015.

Factors that influence food choice	% (n)
<b>How they select the food to be put on the plate</b>	
Visual appearance (how appealing the food is)	74.32 (110)
Taste and smell	41.89 (62)
Cooking method	41.89 (62)
Variety	44.59 (66)
Nutritional value	39.19 (58)
Price	19.59 (29)
Something new to try	22.30 (33)
Something that does not make me fat	10.14 (15)
<b>Reasons for choosing these foods</b>	
It is healthy / it sustains, makes me stay full longer	85.14 (126)
Do not want to gain weight / Want to gain weight	37.16 (55)
Professional advice / for treatment of a health problem	14.86 (22)
Foods that weigh less on the plate, so I pay less	18.92 (28)
Because I rarely eat them at home	43.24 (64)
Because they looked good, tasty	72.30 (107)

to be continued

Continuation of Table 3

Factors that influence food choice	% (n)
<b>Something that you would not put on the plate</b>	
I choose only what I usually eat at home because I know how it is prepared	10.81 (16)
I do not choose salads or raw foods, because I do not know if they were washed well.	6.76 (10)
I do not pick up mayonnaise or pork meat because I am afraid of contamination /poisoning	20.95 (31)
I eat everything; I do not care about hygiene and cleanliness; what matters is taste,	6.08 (9)
If I go to a place, I trust it	42.57 (63)
I do not pick up something looking bad	57.43 (85)
I do not pick up something that makes me gain weight	11.49 (17)
<b>Preferred dishes</b>	
Traditional homemade foods	38.51 (57)
Different dishes that I do not usually eat at home	32.43 (48)
Rare dishes that I only eat at dinner parties/celebrations	6.76 (10)
Dishes that taste good	64.86 (96)
Typical dishes	22.97 (34)

Scores: %= percentage; n = sample number.

Table 4 shows a comparison between what diners consider a routine meal with a healthy meal in the self-service restaurant. It should be noticed that in what they consider a healthy meal there is a significant reduction of fried foods, dessert, pasta, potato, beef ( $p < 0.001$ ) and rice ( $p = 0.02$ ) compared to the usually eaten meal. On the other hand, in the healthy meal there was a significant increase in the number of customers that cited salad ( $p = 0.011$ ).



**Table 4.** Foods that the customers of a commercial self-service restaurant usually put on the plate compared with the foods that they *should* put on the plate (% , n) to have a healthful life. Guarapuava, PR. 2015.

	Foods that they usually put on the plate % (n)	Foods that they should put on the plate % (n)	p <sup>a</sup>
Salad	81.08 (120)	91.22 (135)	0.011
Rice	85.14 (126)	74.32 (110)	0.020
Bean	69.59 (103)	74.32 (110)	0.365
Pasta	54.73 (81)	15.54 (23)	<0.001
Potato	41.89 (62)	18.24 (27)	<0.001
Beef	50.68 (75)	24.32 (36)	<0.001
White meat (chicken/fish)	72.50 (107)	70.27 (104)	0.699
Deep fried foods	30.41 (45)	6.08 (9)	<0.001
Oven-cooked and grilled foods	63.51 (94)	67.57 (100)	0.463
Dessert	61.49 (91)	13.51 (20)	<0.001

Scores: <sup>a</sup> p = statistical value (chi-square test) %= percentage; n = sample number

## Discussion

The evaluation of customers satisfaction and their food choices has the purpose of providing information for the development of actions that aim to improve the quality of the services in the food service. Once the level of customers satisfaction is identified, plans can be developed to deliver better services, especially those which received a low mark.<sup>11</sup>

In general, the results found in the present study indicate a good level of customer satisfaction. Similar results were reported by Feil,<sup>12</sup> who found a satisfactory customer satisfaction level in a food service with respect to the services provided. In the study conducted by Araújo et al.,<sup>13</sup> customer evaluations ranged from 89.6% to 95.3% for very good and good parameters for ambience, cleanliness, service quality, variety, taste and presentation of the dishes.

However, regarding some variables such as temperature of hot dishes, the food service unit in this study received a larger percentage of negative scores, which deserves attention, considering that dishes held at improper temperature may contribute to the multiplication of microorganisms and risks of food poisoning and infections.<sup>14</sup> In this regard, it is worth emphasizing the importance of following the RDC no. 216, which indicates that foods must be held at a temperature over 60°C for six hours maximum to ensure safety and hygienic and sanitary quality.<sup>15</sup> In the study by Ramos et al,<sup>16</sup> it was found that diners who had lunch at the end of service also evaluated negatively the foods temperature, which may indicate a heating failure in the buffet line. Conversely, in the study conducted by Bessa,<sup>17</sup> no customer was unsatisfied with the foods temperature.

Of the criteria evaluated in this study, not only the temperature of hot dishes, but also the taste of dishes, seasoning and variety had a high percentage of responses rated as “fair” and “poor”, compared to the other criteria. It can be seen the importance of finding strategies to satisfy these customers, because foods variety is related with the quality of the food service, and the foods taste helps win new customers and keep old ones as well as reduce wastes and increase profits.<sup>18</sup> However, in a study conducted in a food service unit in Pelotas, it was found 46.2% of unsatisfactory ratings for foods variety and 38.6% for the foods taste, which are higher than the percentages observed in the present survey.<sup>19</sup>

A customer satisfaction evaluation is not restricted to food-related aspects only but also the staff service, ambience and price of the meal.<sup>20</sup> In this study, the overall evaluation of the food service received a higher percentage of “good” ratings, especially for the staff service, foods appearance and cleanliness of the dining area, most of them rated as “excellent”. The satisfactory evaluation of the unit can be justified by good planning, organization, management and supervision of the unit.<sup>21</sup>

In recent years, there has been a growing competition in the self-service restaurants sector.<sup>7</sup> For this reason, food service units should develop different ways to satisfy and maintain their customers. One option could be to determine the diners’ food choices to characterize their profile and complement the information on the satisfaction level in order to improve the services provided.

With respect to the factors that determine foods choice, it was found that some diners consider important the visual appearance of foods, taste, variety, cooking method, and nutritional value before putting the food on the plate. In a study conducted by Jomori et al,<sup>22</sup> it was found that the main criteria that influenced the choice of foods were the foods appearance, cooking method, health associated with body image and hedonism, which are similar to the results of this study.

Considering that in the present study the restaurant obtained a positive evaluation for service and cleanliness, it can be inferred that these factors are also associated with the foods selection. In general, the main reasons that influence the choice of a restaurant are the variety of foods and beverages offered, the interior aspect of the restaurant, sensorial aspects, healthy and nutritious foods, payment conditions,<sup>23</sup> cleanliness of the place, hygiene of employees and the foods quality.<sup>19</sup>

The type of food service also influences the customer preference. In a self-service, or buffet-type restaurant, choices are usually more healthful than those in *a la carte* serving restaurants<sup>24</sup> and there is also less likelihood of overeating since customers pay by the weight of the food put on the plate.<sup>6</sup>

According to the diners of this study, the main reason of their food choices is “because they are healthy”. In a study with similar results, it was found that the diners mentioned health as the main reason that influences the foods choice.<sup>25</sup> Other research that evaluated the influences on the customers’ food practices also observed a concern about health.<sup>26</sup> So, foods choice is possibly associated with a health-conscious behavior.

However, other study reported that healthy foods are not a key factor when selecting the food; this is atypical, because other aspects are involved in the foods choice, such as price, taste and dietary habits.<sup>6</sup> In this regard, the option for foods is influenced by other reasons, such as in the present survey, when customers stated, for instance, “because they looked good, tasty” “because I do not want to get fat”, “because I rarely eat them at home”, and “because they weigh less on the plate so I pay less”.

Still about the food choices of the diners of this study, the restaurant is reliable concerning the hygiene aspect. Even so, only a small percentage of the respondents reported being afraid of contamination or food poisoning, and for this reason they do not serve themselves mayonnaise or pork meat. Other study also indicated that factors relating to risks of food poisoning are not significant in the food choices.<sup>4</sup>

On the other hand, a large number of diners stated that they do not serve themselves a food that looks bad, showing that sensorial aspects are one of the main factors that determine a food choice.<sup>27</sup> This is similar to the present study, which found that the food visual appearance is the main factor when choosing something to be put on the plate.

About the comparison between the usual meal with what they would put on the plate to have a healthy meal, it could be seen that most of diners choose deep fried foods, pasta and desserts, which are highly caloric dishes. Overconsumption of fried foods, pasta and sweets is associated with the development of obesity.<sup>28</sup> Furthermore, it was found that in Brazil eating out of the home has a positive relationship with overweight and obesity in men.<sup>29</sup>

In the present study, it could also be seen that the diners know that a healthy meal should include salad, but in most of the cases it was not present in the usual meal. Increasing the intake of fresh, *in natura* foods such as greens, vegetables and fruits to promote health is largely encouraged and supported, especially by the Dietary Guidelines for the Brazilian Population (*Guia Alimentar para a População Brasileira*).<sup>30</sup> However, a study that compared types of restaurants found that self-service restaurants increase the consumption of fruits and vegetables and diminish the intake

of calorie-rich foods.<sup>26</sup> Thus, it is considered that customers of self-service restaurants can serve themselves from a variety of foods offered, according to their preferences, which allows them to decide between healthy or unhealthy foods.

## Conclusion

The self-service restaurant under study achieved a good level of customer satisfaction, especially regarding the service quality, foods appearance and cleanliness. But the temperature of hot dishes was evaluated by some diners as “fair” and “poor”. In addition, with the administration of the food choices questionnaire, it could be seen that the diners are influenced by appearance, variety, taste and smell of the foods when choosing them to eat, including “those that are good for health”.

Thus, by evaluating the satisfaction level and food choices, it is possible to identify negative criteria and implement specific strategies for correction, in order to meet the diners’ expectations, know and build their food choice profile and so offer foods according to these preferences.

Finally, it should be emphasized that evaluations are useful tools to help determine the customers profile and the food service reality, aiming to improve the services provided.

## Collaborators

Honicky M and Schwarz K participated in the study conception and design, data analysis and interpretation and in writing the manuscript. Honicky M participated in data collection. Vieira RLD, Freire PLI and RR Gatti RR made a critical review of the content.

Conflict of interest: The authors declare that there is no conflict of interests whatsoever.

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