

## **Consumer Attitude and Behaviour towards Food Quality among the Youngs: Empirical Evidences from a Survey**

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# **Consumer Attitude and Behaviour towards Food Quality among the Youngs: Empirical Evidences from a Survey**

## ***Abstract***

This study investigates how university students perceive food quality and attempts to demonstrate how the individual lifestyle is a useful variable for segmentation purposes. Using data from an online questionnaire on a sample of 1138 Italian university students, the study reveals that there are two dominant factors influencing the food choice behaviour of young students, i.e. food convenience and food certifications, and two main factors affecting the food store selection, i.e. food disposability and store convenience. These variables make considerable contributions in characterizing four clusters of young consumers, namely healthy and certified food consumers, comfortable consumers, saver consumers and innovative consumers. The findings provide a more comprehensive understanding of why young consumers buy foods, what they believe food quality is, and how their perception of food quality affects their buying behaviour. This is critical for marketing researchers and practitioners to define marketing programs fitting the food demand of a growing fast segment of the market.

**Keywords:** Food quality, Food consumption, Young people, University students

## **1. Introduction**

Food quality is a very important topic in the research of consumer behaviour, as well as in the public debate and food policy (Grunert, 2005). As highlighted by Grunert (2007), the way in which consumers perceive the food quality has changed considerably in recent decades, since there was a significant increase in the demand for convenient, healthy and safe food (Jennifer, Gillian & Heather, 2003). Similar changes occurred within the young segment. Past studies usually highlighted specific food habits among young people. They tended to skip meals, especially breakfast (Webster, 1995), and liked to satisfy their hunger by snacking (Hunt & Rigley, 1995). The consumption of pizza, salty snacks, confectionery and other foods rich of saturated fat and poor in fiber and calcium was very common, in relation to the increasing practice of eating outside the home (Neumark-Sztainer, Story, Perry & Casey, 1999; Guthrie, Lin & Frazao, 2002). Nevertheless, a growing number of researches

highlighted how young consumers behaviour has changed considerably in the last two decades since the demand of healthy, nutritious, convenient and safe food has gradually improved among them (Rezai, Teng, Mohamed, & Shamsudin, 2012). Young people are increasingly asking for additional food safety and health education (Byrd-Bredbenner *et al.*, 2007; Unusan, 2007). Therefore, an increasing attention towards high quality, natural and sustainable food rapidly emerged (Faber, Petersen, & Schiller, 2002).

Despite of these tendencies, the food behaviour of young consumers has always been considered more from a medical and nutritionist point of view rather than from a marketing perspective (Deshpande, Basil, & Basil, 2009; Alibabic *et al.*, 2011). Extant literature in the marketing field addressed specific topics concerning the food consumption of young people, such as the consumption of organic food (Rezai *et al.*, 2012; Çabuk, Tanrikulu, & Gelibolu, 2014; Kraus, 2015), fast-food habits (Mattsson & Helmersson, 2007; Dhar & Baylis, 2011), alcohol abuse (Previte, Russell-Bennett & Parkinson, 2015), and sustainable food consumption (Kletzan, Köppl, Kratena, Schleicher, & Wüger, 2006; Vermeir & Verbeke, 2006). However, to our knowledge, few attention has been devoted to the food behaviour of the young as a whole. Furthermore, understanding the young segment should be useful, since it is one of the most crucial markets for many businesses (Wong & Smith, 2002). In fact, young consumers are constantly faced with many life decisions, including first time purchases without the influence of parents (Muniady, Al- Mamun, Permarupan & Zainol, 2014), and they represent the consumers of the future (Vermeir & Verbeke, 2006), who are very active in consumption and shopping activities.

This study aims to provide an in-depth view of the young students' food behaviour and to profile different consumer segments based on their food lifestyle and shopping habits.

The paper is structured into 5 sections. The second section offers a literature review dealing with the constructs of food quality and the main changes occurring in the young people food

behaviour. The third section explains the methodology, while section 4 provides a description and discussion of the main findings. The last section depicts final remarks and directions for future research.

## **2. Background and research questions**

### ***2.1 Food quality***

Food quality has been defined differently in the literature using both objective and subjective indicators (Cardello, 1995). Recent contributions increasingly stress the subjective dimension of the construct by considering different variables corresponding to consumers' desires and expectations. In line with these studies, food quality can be defined on the following attributes (Murmura, 2015):

- *commodity requirements*: concerning those elements that contribute to product definition. They are defined by laws and rules and may include the description of raw materials, the recipe, some steps of the process and product features (chemical, physical, genetic, microbiological, mechanical, etc.).
- *Security*: it is defined as absence or maximum acceptable limits of risk factors. Food safety is guaranteed by laws and regulations aimed at ensuring that only products that meet safety requirements can be placed on the market.
- *Nutritional and sensory features*: the main purpose of eating is to meet the nutritional needs of individuals. Nutritional properties of food products could be deteriorated during the food production, storage and distribution processes under the occurrence of microbiological contamination, thermal or mechanical damage and oxidation. Therefore, the evaluation of certain nutritional components is often an indicator of the goodness of the production processes (Belitz, Grosch & Schieberle, 2009; Murmura, 2015). Sensory requirements are the most important tool for interaction between product and consumer, and therefore is the most

important element of consumer's judgement on product quality. Both nutritional and sensory requirements form the 'organic quality' of food, namely the quality linked to biological aspects of food, representing the essential aim of nutrition, that is feeding and pleasing.

- *Service requirements*: these factors concern all foods' attributes that allow an easier use of the product by the consumer; some of them are linked to the packaging and facilitate the use, transport, and storage of the product, while others are related to the food preparation. From these, the family of 'convenience products' was born; that is, the consumers tendency to prefer products that reduce, in some way, the effort to use them. Services requirements could improve the product presentation, either as a food or as a subject of gift.

- *Sustainability*: it refers to the environmental preservation, as well as to the ability to generate employment and income, to ensure the welfare of the people and to assure the respect of laws in the food supply chain.

The aforementioned requirements are critical for consumers who increasingly ask for convenience, sustainable and healthy foods (Jennifer *et al.*, 2003; Grunert, 2007). However, while these values represent one of the fundamental drivers of human behaviour, research is still interested in understanding which individual or situational factors can affect the actual intention of consumers to change their eating patterns according to these values (Contini, Casini, Stefan & Grunert, 2015; Loebnitz, Loose & Grunert 2015). Therefore, the perception of food quality and the way consumers are changing their food habits is an area worthy to be investigated further.

## ***2.2 Emerging trends in young's food consumption***

With regard to young consumers, main changes can be depicted alongside two dimensions: (1) the increasing demand of healthy, nutritious, and safe food, and (2) the growing consumer's social responsibility.

Italian researches, as well as other international studies, reveal the increasing attention of young consumers towards healthy and safe foods (Ismea, 2007; Censis, 2010; Rezai *et al.*, 2012). Additionally, young consumers are driven by an increasing social responsibility which affects their attention towards environmental and animal welfare factors (Faber *et al.*, 2002; Ellen, Webb, & Mohr 2006; Vermeir & Verbeke, 2006; Ismea, 2007). Thus, products incorporating sustainability attributes, such as organic food, which are associated with natural processes and the non-use of pesticides and fertilizers (Lockie, Lyons, Lawrence, & Mummery 2002; Sharfie & Rennie, 2012), became even more appealing to consumers' values (de Boer, Helms, & Aiking, 2006; Kletzan *et al.*, 2006).

These trends led to the development of a new profile of young consumer that appeared to be more conscious than in the past about his/her food choices and consumption, being influenced by environmental, sustainability and healthy factors when shopping for food products (de Boer *et al.*, 2006; Ellen *et al.*, 2006; Kletzan *et al.*, 2006; Vermeir & Verbeke, 2006).

In the interim, the psychological perspective highlighted (Gunter & Furnham, 1998) that young people's choices are also influenced by factors such as likes, dislikes, economic, and social factors. That's why the above mentioned conscious food behaviour could not always be implemented in practice. Taking into consideration the issue of green consumption, for example, personal (e.g. low income availability) and situational (e.g. lack of sustainable products in local retail outlets) factors may inhibit the purchase and the consumption of organic food among the young, despite their growing attention towards green products (Hume, 2010; McDougale, Greenspan, & Handy, 2011). In addition, price and sales promotion

greatly impact on the purchase behaviour of the young (Yin-Fah, Osman, & Foon 2011; Awunyo-Vitor, Ayimey, & Gayibor 2013), as well as societal factors, such as parents and peers do (Herman, 2015; Stel & van Koningsbruggen, 2015). Furthermore, young people display increasing demands for convenience foods in order to manage time and work more efficiently (Faber *et al.*, 2002). All these factors actually affects the food behaviour of the young. Thus eating patterns of young people could not always be aligned with the emerging eating values identified among them, which underline the increasing importance of healthy and environmental factors in food choices. This is also known as the ‘attitude-behaviour gap’ (Vermeir & Verbeke, 2006): even if young people are aware of what they should eat, a gap between knowledge and practice often exists.

Starting from the existing literature, the present study aims at providing further insights into the attitude-behaviour gap related to the food consumption of young people and tries to improve the overall comprehension of the young segment’s food behaviour by examining the following research questions:

1. What do young people search for in food products? Which food quality requirements most attract their attention?
2. Which factors affect food behaviour and practices of young people, especially in terms of store choice?
3. How does the food lifestyle of young people affect the perception of food quality and their purchasing behaviour?

### **3. Research method**

#### ***3.1 Sampling and data collection***

Data were collected using a questionnaire survey performed on a sample of n= 1138 Italian University students from March to December 2015.

A structured questionnaire was distributed via CAWI (Computer Assisted Web Interviewing) and paper administration (self-completed questionnaire) consisting of three sections. After investigating the socio-demographic characteristics of the respondents, the second section explored the food patterns of the interviewees. In detail, it has been investigated where students usually have their daily meals, their attitude towards new foods, the food attributes most affecting their food choice, the lifestyle values driving their food consumption, and the food categories mostly used. The third section queried respondents' food shopping habits: where they usually buy food products, which factors most affect their store selection, and their attitudes towards food brands.

Table 1 summarizes the sample profile.

(Table 1)

### ***3.2 Process analysis***

Data were elaborated through SPSS 21.0 statistical software package.

A principal component analysis (PCA) followed by varimax rotation (Malhotra, 1999) was applied to food lifestyle values and to factors influencing the young students' food choice and store selection. Variables with factor loadings less than 0.6 were excluded from further analysis, as they were not considered statistically significant. Moreover, to verify the reliability of the factor analysis, the Cronbach's alpha values were computed, taking into account only alpha values greater than 0.60, as suggested by Nunnally and Bernstein (1994).

Additionally, a two-stage clustering approach was carried out, using the results obtained from the factorial analyses. The appropriate number of segments was established through hierarchical cluster analysis based on the k-means algorithm (Johnson & Wichern, 2007).



#### **4. Results and discussion**

This Section displays the main findings of the empirical study providing a detailed description of both the young people's food lifestyle and their perception of food quality. Moreover, showing the dominant patterns prevailing in the food purchasing behaviour of the sample examined, the analysis ends with a proposal for young students segmentation that reveals four groups of individuals having different food preferences and shopping habits.

##### ***4.1 Food lifestyle and food quality perception among young students***

University students usually have their daily meals at home, especially breakfast (87.9%) and dinner (87.3%). For lunch, respondents may attend the university canteen (18.9%), as well as bar, fast food and other places (17,7%), to achieve fast meals during the short break of university activities.

Dietary patterns of the respondents are characterized by great consumption of fruit and vegetables. About 40% consumes vegetables and fruits every day. Bread is consumed daily by 35.4% of the respondents, while only 9.9% consumes it less than once per week. Pasta is included in the everyday habits of more than 35% of the interviewees. The daily use of meat is lower, despite 40.6% of students who declared to consume meat from 2 to 3 times a week. Regarding the Km-0 foods, these are preferred everyday only by 8% of respondents. About 26% of students buy Km-0 foods at least once a week, while about 33% buy them from two to six times a week.

Additionally, students like to experience new foods by testing new products. More than 80% of respondents declared to taste new foods often, while only a little percentage (5.10%) dislikes to experience different and new flavors when eating. This strengthens the typical exploratory attitude of young people, as recognized in past studies (Baumgartner & Steenkamp, 1996), which enhances the individual risk-taking in making product choices

(Cox, 1967) and the innovativeness in the adoption of new products such as sustainable, healthy and natural foods.

The preference for eating at home and the main dietary patterns of university students reveal their attention toward both convenience and safe foods. Students like food requiring less preparation time, such as pasta, and prefer foods they can eat on-the-road, such as bread, fruits and vegetables. At the same time, they prefer to cook food themselves, by eating at home, not only to save money but also to assure a more healthy meal. The high use of fruit and vegetables, together with the relevant attention toward Km-0 foods, provides evidence of the safety-related preference of the respondents, despite the use of some products, especially Km-0 goods, could be still limited by the high prices, as well as by the difficulty to find them in retail stores, conveniently located near to the students' homes.

This is confirmed by the students' declarations about their food lifestyle. Attention towards the consumption of foods assuring the environmental protection emerge as a crucial value driving the food lifestyle of young students. However, as shown by the factor analysis results (Table 2), high sensibility towards health preservation and nutritional characteristics of food products is underlined, since students put great attention on the consumption of high quality and Km-0 foods.

(Table 2)

This is in line with previous studies of Jennifer *et al.* (2003) and Grunert (2007). At the same time, the low interest towards fast food consumption, is consistent with recent contribution of Rezai and colleagues (2012), demonstrating a changing in young people food habits who seems to be increasingly conscious and safety oriented when purchasing and choosing food products.

With regard to quality perception, taste ( $\mu=7.1$ ), price ( $\mu=6.3$ ), promotions ( $\mu=6.1$ ) and nutritional characteristics ( $\mu=5.8$ ) are perceived as the most important factors affecting the university students' food choice (Table 3).

(Table 3)

After performing a factor analysis of variables affecting the food choice two main components emerged, namely 'food quality certifications' and 'food convenience'. As shown in Table 4, food convenience explains the 63.2% of the cumulative variance. University students mostly appreciate the convenience-related attributes of foods, including the type of packaging, the easy storage and the ease of products' preparation and consumption. Also the food quality and certifications play a critical role, as students based the food quality perception on factors such as the country of origin, the nutritional characteristics, the product label, and the presence of some certifications like PDO, PGI and Organic certification.

While the 'food convenience' component is more linked to the 'service requirements' attributes (Murmura, 2015), the 'food quality and certification' component places attention on attributes belonging to 'security' and 'sustainability' categories. Therefore, even if students still ask for convenience foods in order to manage time and work more efficiently as stated by Faber *et al.*, (2002), a great attention towards the food quality and the consumption of healthy, nutritious, and safe foods clearly emerges from the research.

(Table 4)

#### ***4.2 Food purchasing behaviour***

Results illustrate that interviewees are well informed about food products they buy. The main source of information is the product label (57%), followed by television (50.8%), Internet (45%), flyers (34%) and - less important – the word of mouth (13.3%).

Regarding brand attitudes, more than 70% of respondents define themselves as ‘very loyal’ or ‘loyal’ (i.e.: the individual generally buys the same brand, but sometimes, under certain conditions, such as promotional offers or friends’ advices, experiences other brands). University students prefer industrial labels (47.2%). A relevant percentage (15.6%) purchase commercial brands, while others declare to choose indifferently between industrial and commercial brands when buying food products (17.9%) or to choose the less expensive one (19.3%). This is aligned with other findings of this study and previous researches of Yin-Fah *et al.* (2011) and Awunyo-Vitor *et al.* (2013), stressing the high attention of young people towards price and sales promotion, since they usually have very little income available.

The supermarket is the commercial channel where students frequently purchase food (73.8%). This format is followed by specialized proximity stores, such as greengrocers and butchers (13.1%), discounts (10.3%) and the open-air markets (2.8%).

Additionally, students were asked to indicate which factors affect their store selection when buying food products. This is of notable interest as it affects where consumers buy, as well as what and how they buy (Solgaard & Hansen, 2003; Carpenter & Moore 2006).

Factors most affecting the store selection of the sample result as follows: high quality of fresh food availability (81%), order and cleanliness of the store (78,7%), good prices (75,5%), convenient location of the store (70,5%) and sales promotions (70,4). Again, this confirms the dual nature of university students’ behaviour, paying attention to both quality and convenience of foods.

After performing a factor analysis of variables affecting the store choice three main components emerged (Table 5). Component 1, named ‘price saving’, includes economical aspects related to price and promotion. The second component, named ‘convenience’, refers to features such as ease of arrival to the store, parking availability and opening time. Finally, the third component, named ‘food assortment and quality’, concerns factors such as high

quality of fresh food, assortment mix and takeaway food availability; it has the greatest weight in terms of cumulative variance. This is followed by 'store convenience', with a cumulative variance of 50.1%, concerning the possibility of purchasing food quickly. The first component, 'price saving', has a lower weight, thus indicating that the price is important, because of the tight budget that young people can devote to the food purchasing, but low prices and sales promotions are less important than freshness of foods, assortment mix and convenience of shopping. This shows how the changes in food consumption behaviour of young people, observed in recent literature (Grunert, 2007; Ancc-Coop; 2014), can be confirmed by our research.

(Table 5)

#### ***4.3 A proposal for young students segmentation***

Evidences from our study, as well as recent researches (Vermeir & Verbeke, 2006; Rezai *et al.*, 2012), suggest that in the current environment, young consumers have a greater complexity of attitudes and values, compared to the past. Thus, it could be very useful to develop a market segmentation to investigate the individuals' behaviour relating to food consumption.

For this purpose, a K-means clustering was performed, based on the results of the above factor analyses. The clustering procedure strongly suggested the presence of four clusters and profile was depicted by using a variety of demographic and behavioural characteristics of the students (Table 6). Only variables explaining relevant differences among clusters were considered to describe the characteristics of each cluster.

(Table 6)

The first cluster, named 'Healthy consumers', consists of 28% of the sample. Its members are driven by health values in food consumption. Factors affecting the food choice are mainly related to food quality and certifications, while the store convenience influences much of their store selection (especially focused on supermarket). This cluster is characterized by a medium weekly expenditure for food purchasing, ranging from 20 to 100€. Healthy consumers tend to be very loyal to food brands and prefer changing their eating habits. Their dietary patterns are characterized by the higher consumption of fruits and vegetables, compared to other clusters, since they are particularly healthy and safe-oriented.

The second cluster, comprising 32% of the sample, is called 'Lazy consumers'. These are driven by convenience-related values when choosing food products and stores (mainly supermarket). Like healthy consumers, this group employs medium weekly expenditure for food shopping. On the contrary, Lazy consumers tend to be characterized by a lower brand loyalty, as convenience is the main driver of their food patterns. They also like to experience new tastes and foods, always meeting their need for convenience. As concerning food habits, these consumers make a much lower use of fruits and vegetables compared to healthy consumers, since they are less involved in healthy issues.

'Saver consumers', comprising 24% of the sample, consists of university students who are very price sensitive for what concerns both the food choice and the store selection. Consumers in this cluster present the minimum level of weekly food expenditure (less than 20€). Moreover, they tend to be disloyal, because they always search for sales-promotions and low prices. They also like to experience new foods more than the previous clusters described. The high attention towards economic convenience make these consumers weakly linked to a specific format of store for food purchasing. Notably, this group presents the highest preference towards discounts. The consumption of fruits and vegetables is similar to that of the Lazy consumers.

The fourth and smallest cluster, representing 16% of the sample, is called 'Innovative consumers', since it is represented by university students who are completely disloyal to food brands and like to change their eating habits very often, in order to experience new flavours and foods. They are not particularly attached to any of the factors resulting from the principal component analyses. Moreover, they are substantially aligned to Healthy consumers in relation to the store format selection, and similar to Lazy and Saver consumers as for the fruits and vegetables consumption.

Regarding the socio-demographic characteristics, similarly to the whole sample, the four clusters consist of individuals with a mean age of 18-21 years, mainly attending bachelor degree. Notably, Saver consumers are mainly the youngest, attending a first level course, while Innovative consumers are more male than female, even older than 25, presenting higher attendance of Masters and Ph.D courses.

These four clusters represent the food behaviour of young students as a whole, by considering both their food preferences and food shopping habits. The proposed segmentation and the different weight of each cluster with respect to the whole sample shows that not only convenience and price are relevant factors in food choices, but also quality, health and environmental saving are increasingly taken into consideration by the young when choosing and buying food products.

## **5. Conclusions and future research**

The main findings of this study confirm the emerging trends that were discussed in recent literature concerning the food consumption of young people. They present a developed food behaviour, and greater variety of attitudes and values, compared to the past (Censis, 2010; Rezai *et al.*, 2012).

This study attempted to give answers to three main research questions. As for food lifestyle and food quality perception, the results highlight an increasing consciousness and safety-oriented attitude among the young as already stated in recent literature (de Boer *et al.*, 2006; Ellen *et al.*, 2006; Kletzan *et al.*, 2006).

These values drive the food purchasing behaviour of the young, who like to be well informed about products they buy and appreciate stores providing high quality and fresh foods. The search for convenience also emerges as an important factor, due to the social status of the young, that is usually characterized by limited income availability, the unavailability of a personal car, and the economic dependence on their parents. This can lead to an attitude-behaviour gap (Vermeir & Verbeke, 2006), that confirms the dual attitude of young consumers towards both food quality and efficiency (Hume, 2010; McDougle *et al.*, 2011).

Combining the lifestyle values with the purchasing behaviour of young students, the cluster analysis reveals four different segments which attitudes and characteristics are largely useful for defining marketing strategies. Notably, Healthy consumers are those who are focused on the attributes of security and sustainability according to the description of food quality defined by Murmura (2015). Lazy consumers, on the other hand, mainly perceive the service requirements of food, facilitating the use of the product. Innovative consumers put great attention on sensory requirements, linked to the pleasant-related dimension of food. Finally, Price savers are not univocally oriented towards some quality requirements, since they are mainly focused on price-saving, thus emphasizing the economic convenience of the product.

Managerial implications can be derived which, in turn, call for further investigations aimed at improving the competitiveness of food industries.

Suggestions can be formulated in terms of communication: it could be important to improve the use of communication channels that allow the food companies to reach directly the young segment, such as Internet and the social media channels. Moreover, communication contents



should be defined in order to inform consumers rather than just to attract them. Also pricing strategies should take into account the low income of young students, even considering the possibility to develop targeted promotions. Finally, specific distribution strategies should be developed to reach the young students because they seem to prefer wide assortments and like to find all they need inside stores located near their home.

Moreover, even if university students represent a very interesting market segment, because they constantly face with a lot of life decisions, including first time purchases without their parents (Muniady *et al.*, 2014), they have a very specific lifestyle which cannot be generalized to the whole market of young people. Therefore, future research is useful to increase the sample size and variety, by considering a wider population of young individuals, with different status conditions, and combining the food behaviour analysis with that of non-food goods. Notably, an area to be investigated would be clothing, in order to provide a more comprehensive understanding of the shopping and consumption orientation of young people.

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## Tables

Table 1. Socio-demographic composition of the sample

		<i>n</i>	%
Gender	Male	504	44.3
	Female	634	55.7
Age	18-21	674	59.2
	22-24	335	29.4
	25 and more	129	11.3

Level of course	Bachelor	905	79.5
	Master	224	19.7
	Ph.D. or Professional Doctorate	9	0.7
Students's accomodotation	Resident	260	22.8
	Commuter	400	35.1
	External	478	42.1
Monthly income	<200 €	741	65.1
	da 200 a 500 €	345	30.3
	da 500 a 1000 €	37	3.3
	>1000 €	15	1.3
Weekly food expenditure	< di 20 €	391	34.4
	20- 50 €	594	52.2
	50 - 100 €	128	11.2
	>100 €	25	2.2

Table 2. Principal component analysis of lifestyle values. KMO=0.90

	<i>Component 1: Health values</i>	<i>Component 2: Environmental values</i>
I am health-conscious	<b>0.827</b>	0.115
I am sensitive to environmental issues	0.253	<b>0.777</b>
I am careful to high quality food consumption	<b>0.850</b>	0.197
I believe that the consumption of certain foods can help the environment	-0.115	<b>0.787</b>
I believe that km-0 products are healthier	0.837	-0.215
Cumulative Variance	50.1	77.8
Cronbach Alpha	0.85	0.80

Table 3: Factors affecting the food choice

	Mean	Std. Deviation	F
Country of origin	5.7	2.40	6.23
Price	6.3	2.23	7.23
Brand	5.0	2.25	14.86
Nutritional characteristics	5.9	2.40	----
Product label	5.3	2.36	----
Taste of product	7.1	2.10	5.87
Type of Packaging	3.8	2.20	6.31
Place of sale	4.5	2.41	4.52
PDO	4.7	2.48	----
PGI	4.6	2.51	----
Organic certification	5.0	2.60	----
Promotions	6.2	2.33	----
Easy storage	5.6	2.34	----
Ease of preparation and consumption	5.4	2.45	11.10

Table 4. Principal component analysis of factors affecting food choice. KMO=0.89.

	<i>Component 1: Food quality and certifications</i>	<i>Component 2: Food convenience</i>
Country of origin	0.721	-
Nutritional characteristics	0.665	-
Product label	0.640	-
PDO	0.903	-
PGI	0.900	-
Organic certification	0.841	-
Type of Packaging	-	0.791
Easy storage	-	0.818



Ease of preparation and consumption	-	0.804
Cumulative variance	45.0	63.2
Cronbach Alpha	0.81	0.79

Table 5. Principal component analysis of factors affecting store selection. KMO=0.86.

	<i>Component 1: Price saving</i>	<i>Component 2: Convenience</i>	<i>Component 3: Food assortment and quality</i>
Price	0.757	-	-
Sales promotions	0.814	-	-
Other promotions (collections/fidelity cards)	0.771	-	-
Ease to arrive to the store	-	0.756	-
Parking availability	-	0.631	-
Opening time	-	0.76	-
High quality of fresh food	-	-	0.613
Assortment mix	-	-	0.656
Takeaway food availability	-	-	0.553
Cumulative variance	30.5	50.1	64.4
Cronbach Alpha	0.80	0.84	0.78

Table 6. Segmentation of university students: K-mean cluster results

	<i>Cluster 1: Healthy consumers (28%)</i>	<i>Cluster 2: Lazy consumers (32%)</i>	<i>Cluster 3: Saver consumers (24%)</i>	<i>Cluster 4: Innovative consumers (16%)</i>
<i>Factors resulting from PCA</i>				
1. Food quality and certifications	<b>0.770</b>	-0.560	-0.038	-0.128
2. Food convenience	0.202	<b>0.680</b>	0.107	0.082
3. Price saving	0.015	-0.212	<b>0.808</b>	0.125
4. Store convenience	0.050	<b>0.650</b>	0.225	-0.102
5. Food assortment and quality	-0.156	<b>0.802</b>	0.078	-0.124
6. Health values	<b>0.765</b>	0.182	-0.172	0.208
7. Environment values	<b>0.630</b>	-0.130	0.228	-0.202
<i>Gender (%)</i>				
Male	44,5	41,9	42,1	52,0
Female	55,5	58,1	57,9	48,0
<i>Age (%)</i>				
18-21	58,1	57,3	65,1	56,3
22-24	28,0	30,0	32,0	27,0
25 and more	13,9	12,7	2,9	16,7
<i>Level of course (%)</i>				
Bachelor	78,1	80,4	83,3	74,6
Master/Ph.D	21,9	19,6	16,7	25,4
<i>Weekly food expenditure (%)</i>				
< 20 €	34.4	36.2	56.6	36
20-50 €	52.2	50	30	50.5
50-100 €	11.2	11.4	11.2	11.2
>100 €	2.2	2.4	2.2	2.3
<i>Brand loyalty (%)</i>				
Very loyal: I always buy the same	36.0	8.0	4.4	4.0

brand				
Loyal: I generally buy the same brand, but, sometimes, under certain conditions -promotional offers, friends' advices, .... – I experience other brands	46.0	66.7	60.0	21.0
Disloyal: I never buy the same brand	18.0	25.3	35.6	75.0
<i>Attitude to change eating habits (%)</i>				
Never, I don't like to change my eating habits	4.8	5.0	5.3	4.0
Sometimes	60.1	54.9	51.7	7.0
Often	20.1	15.1	11.3	19.0
Always, I love to experience new foods and tastes	15.0	25.0	31.7	70.0
<i>Fruits consumption (%)</i>				
Everyday	82.5	44.0	43.0	48.0
About 2-3 times a week	11.0	23.4	25.4	24.8
About 4-6 times a week	4.0	20.0	19.8	16.0
Once a week or less	2.5	12.6	11.8	11.2
<i>Vegetables consumption (%)</i>				
Everyday	80.1	42.4	44.3	53.0
About 2-3 times a week	10.0	19.1	18.3	17.0
About 4-6 times a week	6.0	20.7	20.7	20.7
Once a week or less	3.9	17.8	16.7	9.3
<i>Preference towards store format (%)</i>				
Supermarket	80.0	85.3	48.5	78.0
Specialized grocery stores (i.e.: greengrocer, butcher, ...)	11.5	8.0	20.5	14.8
Discount	4.5	4.2	28.0	6.0
Open-air market	4.0	2.5	3.0	1.2

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