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**TÍTULO: *VISUAL TRANSFERS AND BIASIS ON FAST FOOD
ADVERTISING***

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CONTENTS

SUMMARY	4
I. INTRODUCTION	5
II. THE WORLD OF FAST FOOD	5
1. The global fast food market	5
2. The Spanish fast food market	8
III. THE EXPERIENCE OF EATING	11
1. Anticipating tastes	11
2. Types of clues	12
3. Inputs which create expectations	13
A. Labelling and packaging	13
B. Branding	15
C. Advertising	15
4. Variables influencing the role of product extrinsic and exteroceptive clues	15
IV. MCDONALD'S ADVERTISING	17
1. Green marketing and Greenwashing	17
2. The 'green' change experienced by McDonald's	18
3. The effect of the "green change" experienced by McDonald's	19
V. SURVEY.....	20
1. The questionnaire	20
2. Sampling	21
3. Survey results	22
A. Classification data	22
B. Main results	23

C. Other analysis and results	33
VI. IMPLICATIONS AND CONCLUSIONS	35
1. The role of education for a healthy lifestyle	35
2. Legal and political implications.....	36
3. The future of fast food is already here.....	37
4. Conclusions	39
REFERENCES	41
ANNEX 1. SURVEY (EVEN DAY)	49
ANNEX 2. SURVEY (ODD DAY)	55
ANNEX 3. C.P.	61
ANNEX 4. NUMBER OF VISITS FO FAST FOOD RESTAURANTS AND LEVEL OF STUDIES	63
ANNEX 5. NUMBER OF VISITS, NEIGHBOURHOOD, LEVEL OF STUDIES OF THE SURVEY RESPONDENTS AND OF ONE OF THEIR PARENTS	64

SUMMARY

The world of marketing is scarcely regulated in legislative terms, because it has been mainly studied through the point of view of the output of the products, services and experiences. Having said that, consumers make purchase decision daily being influenced by numerous stimuli, such as the price, the promotions or even the presentation of the products. Therefore, consumers create expectations of the taste, quality and calories, among others that can be biased.

Related to this is the concept known as “sensation transfer”, which involves transfer extrinsic information (for instance: from packaging, branding or labelling) to the real experience of the product, for example, in terms of taste. Unhealthy food and drink products are packaging, branding and labelling in order to increase their appeal. Also, marketing plays a key role in promoting the consumption of fast food products, with new concepts such as "greenwashing".

The aim of this dissertation is to verify, through previous studies and a survey, whether the marketing conducted by fast food companies leads consumers to think that fast food is not so unhealthy, and what can be done to prevent or control this fact. In addition, the new “fast casual” concept will be analysed.

I. INTRODUCTION

The concept of fast food is highly extended over the world. Many countries generate great revenues from this market. The fast food started in the street with seedy stalls and then was popularized with the drive-through in the 40s. This kind of food was spread across the world due to the influence of the USA market.

White Castle was thought to be the first fast food restaurant in the world, although McDonald's was the first fast food restaurant to use the assembly line. Founded in 1921 in Wichita, Kansas, at a time when people thought burgers sold in circuses, fairs, and carts were of poor quality.

White Castle's created an open, white restaurant with a clean name so that people could change the way they perceived this type of food and see how it was prepared. This restaurant was one of the fundamental keys in the history of fast food, as it gave it a good reputation.

II. THE WORLD OF FAST FOOD

1. The global fast food market

As we have seen, the most appealing market for fast food is the American, which is where this type of food was extended from. But nowadays, according to the report of (EAE, 2016), apart from the USA case with a market worth of 162,949 million euros, other industrialized countries and emerging markets are generating the greatest revenue from fast food. They are China, Japan, Brazil and the United Kingdom, with markets worth 162,949; 96,262; 33,206 and 18,944 million euros respectively in 2014.

Chart 1. Expense forecast on fast food in the world

	2014	2015	2016	2017	2018	2019	Variation 14-19
German	4,721	4,742	4,762	4,776	4,786	4,796	1.58%
Australia	4,207	4,295	4,932	4,502	4,623	4,755	13.02%
Brazil	12,134	12,823	13,598	14,324	15,087	15,881	30.88%
Canada	6,242	6,294	6,343	6,380	6,422	6,449	3.31%

China	36,657	38,458	40,241	42,009	43,750	45.452	23.99%
U.S.A.	65,524	67,249	69,191	71,075	72,946	74,739	14.06%
Spain	1,980	2,172	2,366	2,571	2,769	2,942	48.61%
India	11,781	12,113	12,392	12,648	12,873	13,082	11.05%
Italy	1,687	1,722	1,761	1,801	1,842	1,882	11.52%
Japan	29,396	30,180	30,614	31,018	31,372	31,644	7.65%
Mexico	6,683	6,854	7,010	7,169	7,328	7,508	12.33%
U.K.	6,320	6,366	6,415	6,478	6,551	6,640	5.08%

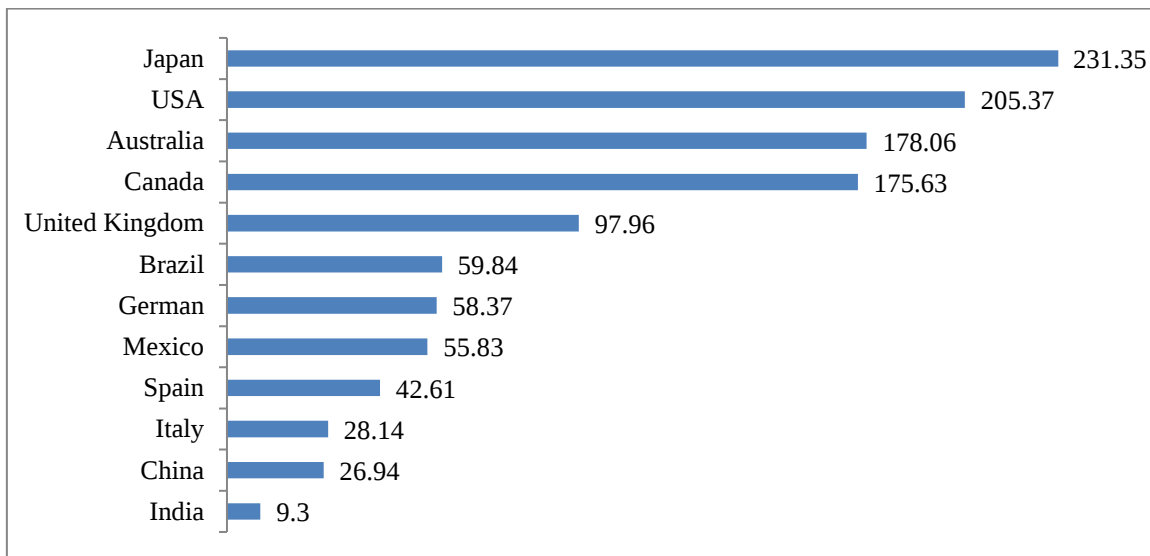
Source: EUROMONITOR INTERNATIONAL cited in EAE, 2016

The market value represents the value that someone would be willing to pay for the fast food industry in those countries, while the expense represents the actual amount spent by consumers in those countries on fast food.

As we can see in the chart above, USA, China and Japan are the countries that spend most on fast food with revenues of 65,524, 36,657 and 29,396 million euros in 2014, respectively. By comparison, Italy, Spain and Australia are the countries that spend least on fast food in 2014 at 1,687, 1,980 and 4,207 million euros.

It is estimated that the largest fast food markets in terms of expense will be the United States, China and Japan in 2019. This is due to the size of these countries and the process of globalisation that China and Japan are still suffering. However, Spain, Brazil and China are likely to experience the greatest growth in terms of spending on fast food over the next five years (EAE, 2016).

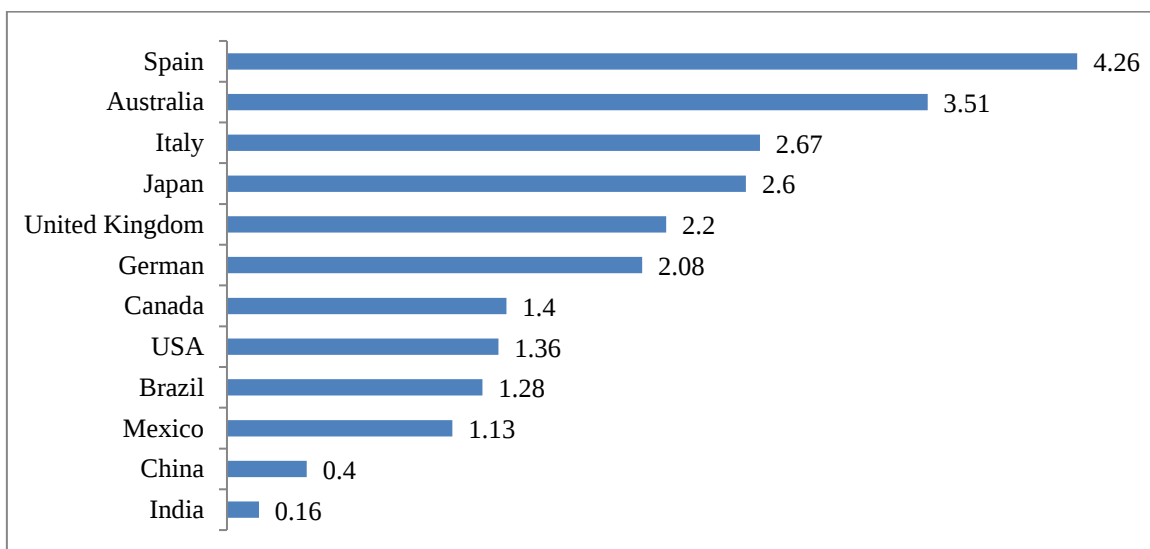
Chart 2. Annual expense per habitant in the world (2014)



Source: EAE cited in La Vanguardia, 2016

Talking about the annual expense per habitant in the world, as we can see in the chart above the greatest consumers of fast food are Japan, USA and Australia. They spend per capita: €231.35, € 205.37 and € 178.06 respectively. In the other side, the countries that spend least per capita are Indians, Chinese and Italians: € 9.30, 26.94€ and 28.14€ per person on fast food (EAE, 2016).

Chart 3. Average price per transaction in the world (2014)

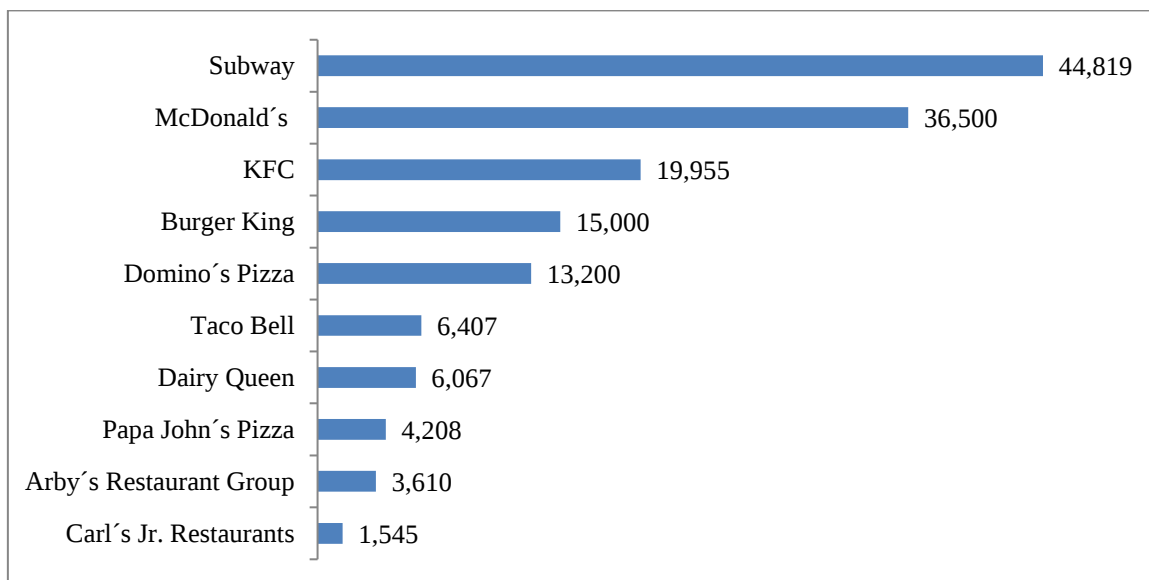


Source: EAE cited in La Vanguardia, 2016

In terms of the average price per transaction in the world, Spain is the highest of the analysed countries. Each transaction costs an average of €4.26, and it is followed by Australia that spends €3.51 and Italy that spend €2.67. As we can see, the countries that spend less per transaction in the world are India (€0.16), China (€0.4) and Mexico (€1.13) (García, 2016).

The report by EAE (2016) states that "sales through fast food chains reached 287,559 million euros in 2014, representing 57.8% of total fast food revenue worldwide, compared to sales through independent establishment which reached 210,311 million euros or 42.2% of total sales". Few and big companies are agglutinating an important proportion of the market, therefore this is a concentrated market.

Chart 4. Fast food chains which more establishments in Europe (2018)



Source: Statista, 2018

As we can see, Subway is in 2018 the fast food chain which has more establishments in Europe, with 44,819. This chain is mainly specialized in sandwich and wraps. It is followed by McDonald's, which specializes mainly in burgers, with 36,500 establishments and KFC, which specializes in chicken products, with 19,955 establishments (Statista, 2018).

2. The Spanish fast food market

Moving into the specific case of Spain, it is one of the industrialized countries that invest the least in fast food. According to the opinion of Spanish people, the 75% don't

usually consume fast food and the 68% say that, if they consume fast food, they do it only once per week. (Statista, 2016)

In particular, as we can see from Chart 2, each Spaniard invested 42.61€ in 2014, the second country which less invested in this kind of food, only beaten by Italy. Nevertheless, as we have seen before, each transaction in Spain costs an average of €4.26 (EAE, 2016).

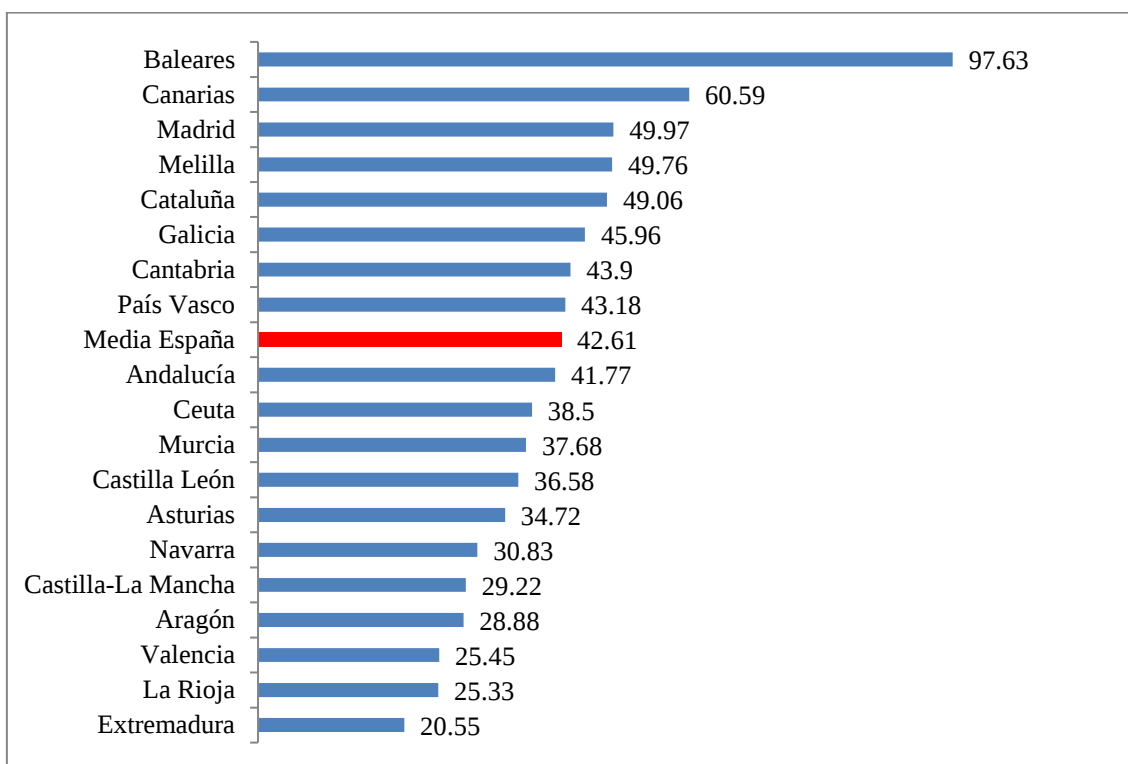
Consequently, despite the fact that each Spaniard realise a few investments in this kind of products, they are high on average according with (García, 2016).

It is estimate by the EAE (2016) that the expense on fast food in Spain will growth from 1,980 million euros in 2014 to 2,942 million euros in 2019, which represents an increase of almost 50% (as we can see from Chart 1).

Following García (2016), this difference between the Spaniards and the rest of the world is due to the different habits and routines. In northern Europe and in the USA, people take a strong breakfast and a strong dinner in comparison with us, but they take a slight lunch in contrast. They sometimes don't even sit down in the lunch time, because they take a hamburger or some portion of pizza in the street. On the other hand, the Spaniards take a longer break and usually decide to choose a menu for lunch. Therefore, people in Spain usually choose other options from fast food, but when they go to a fast food restaurant, they spend more money in a complete menu.

Moving into the specific regions, Cataluña, Andalucía and Madrid are the ones that spend the most on fast food in 2014 with turnovers of 363, 351 and 319 million euros, respectively. By contrast, the regions that spent less were La Rioja, Navarra and Extremadura, with revenues of 8, 22 and 22 million euros, respectively (EAE, 2016).

Chart 5. Average expense per habitant in Spain (2014)



Source: EAE cited in La Vanguardia, 2016

As it is shown in the chart above, the regions that spent most on fast food per capita in the same year were Baleares, Canarias and Madrid, at, more or less, €98, €61 and €50, respectively. At the end of the scale we find Extremadura, La Rioja and Valencia, at €21, €25 and 25€, respectively (EAE, 2016). This distribution of expenses is attributed to the foreign tourism. This can explain why in some regions like in Baleares the consumption per person is higher than in other regions of Spain (García, 2016).

The percentage of habitants who visited fast food restaurants in Spain increased from 20.4% in 2006 to 23.8% in 2017; this means an increment of the 3.4%. The lowest percentage is found in 2006 and the highest in 2016 at 24.3% (Statista, 2017).

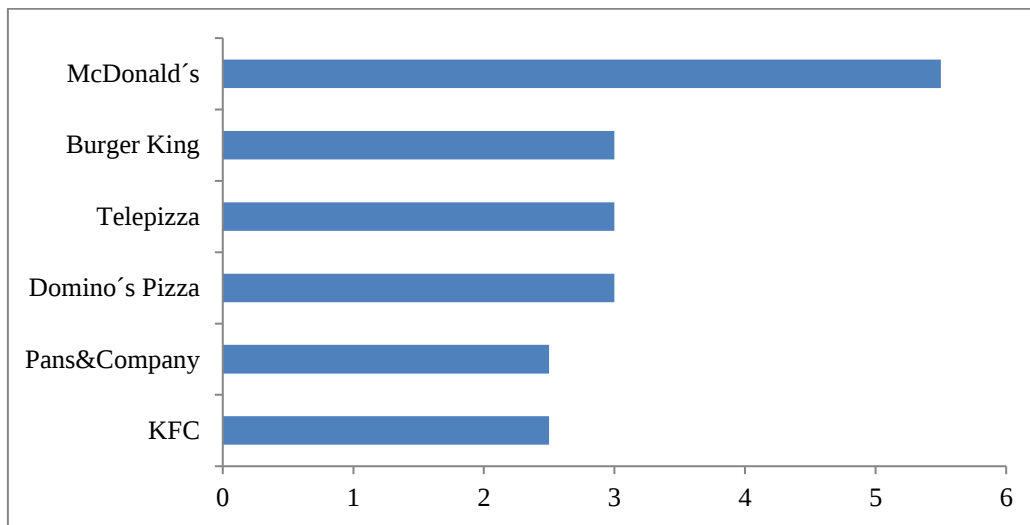
Even though, the last percentage explained represents the visit of Spaniards to fast food restaurants, so it doesn't have into account the general consumption made in fast food. The decrease in 2017 in the percentage of visits to these restaurants cannot be explained with the decrease in consumption, but with the increase of home deliveries.

In fact, home delivery represents the 14% of the sales in the food sector in 2017. This part is being increasing unlike the traditional sales, in fact in a single year; its revenues

grew by more than 13%, while in-store sales only increased by 4.5%. In addition, fast food meals are one of the popular options among the delivery food (Lechuga, 2018).

In the last year, 6 in every 10 Spaniard went to a fast food restaurant in Spain. McDonald's is the company which attracts the most visitors, among 5 and 6 visits of each client per year. Burger King is its main competitor and jointly with Telepizza and Domino's Pizza swing between 2 and 4 visits. In addition, Pans and Company and KFC are other typical fast food chains, having more than 2 visits a year (Fintonic, 2018).

Chart 6. Visits to fast food restaurants in Spain



Source: Estudios Fintonic, 2018

Hamburgers are still in the first position between the fast food products, because they represent the 50% of the market with 1,765 million euros of sales in 2017. On his behalf, the pizza business had a turnover of 620 million euros and experienced a bigger rise than the hamburger business, specifically of the 8.4% in 2017 (Lechuga, 2018).

III. THE EXPERIENCE OF EATING

1. Anticipating tastes

After explaining the rise of fast food, it is important to understand what makes people choose one type of food over another. People make decisions when choosing food every day and they often do so influenced by clues that are prior to their own experience of consuming the product.

Our brain is able to interpret and integrate previous information with any clue of the food that we are going to consume. Therefore, any visual appearance, a smell or even a noise can develop powerful expectations that may influence our particular perception of food and its properties (Piqueras-Fiszman & Spence, 2014; Woods, et al., 2010)

Sensation transfer involves transfer extrinsic information (from packaging, branding, labelling, among others) to the real experience of the product, therefore the packaging or branding can provide clues to the taste of the product (Cheskin, 1954).

Unhealthy food and drink products are packaging, branding and labelling in order to increase their appeal and promote consumption (Chandon, 2013). These have important implications in terms of both public health strategies and in terms of regulation. Since unhealthy food and drink are indulgences ideally consumed infrequently, consumers may have a strong appeal and brand loyalty (Skaczkowski, et al., 2016).

While we cannot evaluate the flavour of a product without tasting it, its flavour should be independent of the brand name, but this is not always true. Even just reading a food name can make people salivate or smell, despite the fact that the consumer is not tasting or smelling anything (Winer, et al., 1965). Of course, the intensity of the effects of these stimuli depends on the ability of each person to create a mental representation; this is called mental imagery (Krishna, 2014).

For this reason, marketing can set up a powerful experience around the consumption of one product through different inputs.

2. Types of clues

There are two types of sources that provide the consumer with clues: extrinsic to the product or “product extrinsic” and intrinsic to the product or “product intrinsic”. Extrinsic sources are those that are related to the product but are not as such a physical part of it. Some examples are the labelling, packaging, branding or the specific location in which the product is placed to be sold. All of this can give the consumer clues about the type of product they are going to buy.

On the other hand, the sources of information that are intrinsic to the product are those that are physically part of it. Because they are part of the product, they are more complicated to change than the previous ones. It can be the colour of a food, an aroma, the taste or how much crunchy it is (Piqueras-Fiszman & Spence, 2014).

Also, by taking into account the senses and their role in the consumption of food, there are two types of clues: exteroceptive clues are those that give us most of the expectations, they include vision, audition and orthonasal olfaction and are stimulated before (and sometimes during) the consumption of food and drink. On the contrary, interoceptive clues are those that are typically stimulated while a person tastes the food, like the real taste or smell of the food (Spence, 2012).

This project is focused on the previous experience to food intake of fast food, and therefore on the role of product extrinsic and exteroceptive clues.

3. Inputs which create expectations

As stated above, there are different clues which integrate the consumer experience; some of these can be set up in order to create a better expectation.

A. Labelling and packaging

Labelling and packaging can lead to positive or negative expectations of the foods. In accordance with these expectations, the consumer can be lead to correct or wrong judgments about the properties of the products.

As Cardello (2007) states: "Especially influential in setting sensory expectations are pictorial and photographic representations on the labels of products, because they provide direct information about the product's expected colour, shape, size, and even its likely textural and moistness properties".

It has been proved by Lee, et al., (2013) that people rated organically labelled cookies and chips with lower calories, lower in fat and more nutritious than a "regular" cookie or chip. In addition, cookies labelled as "organic" are expected to have a worse taste than cookies labelled as "regular". In other similar study carried out by Kähkönen, et al. (1998), a Bologna sausage labelled as Regular type of Bologna (20%) fat received higher salt and fat ratings than when labelled as "Light Bologna (10%) fat". In addition, only because of the label, it was expected that the "light" sample would be less tasty than the "regular" sample, without tasting any of them.

Norton, et al. (2013) showed that labelling a chocolate as "reduced-fat" had a significant negative effect on the expectation of liking, as compared to the same sample without fat information. This could be an example of a halo effect. A halo effect is a bias done by a generalization made with one characteristic or attribute of an object or a person.

Organic labelling has different effects on consumers depending on the type of products. Compared to certain products especially sweets, labelling fruits and vegetables as “organic” or from the local country of origin are preferred in terms of the expectation of liking experienced by consumers than when they do not have information about them (Ekelund, et al., 2007).

Genetically modified food labels are found to be less preferred in terms of the expectation of liking than when the same food is in an unlabelled condition or when labelled as being produced in a traditional way (Caporale & Monteleone, 2004; Cerjak, et al., 2011).

Therefore, even the same product with a different label can generate a wide ranging of effects in the consumer. In the case of the natural/organic labelling is harder to predict the change in consumer expectations. This seems to have as much to do with the kind of products and the beliefs of the consumer.

It has been proved that the "health-related information given to consumers not only created expectations but actually affected their reported sensory perception, their liking of the product and how much they serve themselves and eventually consume" (Piqueras-Fiszman & Spence, 2015). In addition, the social importance of food labelling has also been claimed by the researchers made by Wansink & Chandon (2006): "The introduction of low-fast nutrition labels might actually contribute in some small way to the growing obesity crisis". Their suggestion is that people consume more of these products because they think they are light or healthier.

The colour or pictures of the packaging are also important when the consumer is forming an idea of the product. Deliza, et al., (2013) point out that the picture shown in any packaging can have a significant effect on consumers' expectation. For demonstration, in the important study developed by Underwood & Klein (2002), it was reported that consumers rated products as tasting significantly better when they are represented with a picture than without it.

A study conducted by Piqueras-Fiszman & Spence (2011) shows how by switching potato crisps from a blue packet to a green one affects the perception of the flavour and, it may lead consumers to misjudge flavours.

The packaging material of the product itself can change the perception of the product. In fact, chips from a polyvinyl bag were rated as tastier, crisper and more preferable by consumers if compared to the chips from a wax bag (McDaniel & Baker, 1977).

B. Branding

Some studies look for different reactions from consumers when presented with different brands. McClure, et al. (2004) identified that areas of the brain related to emotion and behaviour experienced greater brain activity when Coca Cola was presented, in contrast no such effect was experienced when Pepsi branding was presented. This may be because Coca Cola is a better known brand and has appealed more to emotions than Pepsi through, for example, its advertising.

These results suggest that extrinsic information activates areas of the brain, which alters how sensory information is processed. Moreover, these brands are typically associated with rewards and for this reason they are preferred, like when we had a beer after finishing our workday.

Children are easily influenced to eat more of the branded food than the unbranded food. It is related to the familiarity with certain brands and how friendly they are (Skaczkowski, et al., 2016).

C. Advertising

Apart from the physical appearance of the product itself (including the brand, its colour, its package, among others) through advertising the perception of certain products can be easily changed, specifically with the own photos of the product.

For example, an advertisement showing a cheese-bacon hamburger served with a cake may be perceived as very appetising but unhealthy, while if the same hamburger is served with fruit, the consumers' perception may change and perceive it as healthier.

Fast food brands have studied in detail the clues that make consumers feel more attracted to these brands, making them more appealing as well as healthy.

4. Variables influencing the role of product extrinsic and exteroceptive clues

Despite the influence exerted by label or brand, certain variables may intensify or diminish such effect. This is the case of the socio-economic status, having more or less wealth

can make a person approaches or not to this kind of food. This is known as a moderating variable, something that increase or decrease the powerful of a relationship.

There are different moderating variables such as the age, the gender, the socio-economic status, personal characteristics, the race, familiarity and frequency of consumption, among the most representatives.

Taking the case of the age, in a sample of 12-30 year-olds carried out by Gates, et al. (2007), younger participants were more likely to identify with the brand names of chocolate milk and soft drinks than older participants. Therefore, they preferred the product in an inform condition than in a blind condition. Whereas in the case of organic cookies and chips, there was no difference between older and younger participants.

There are also differences in terms of gender, for example, the effect of fat-content labelling is stronger in women (Bowen, et al., 1992). This might be because women are more likely to be dissatisfied with their body and they are more likely to avoid this kind of products than men do (Markey & Markey, 2005; Rolls, et al., 1991).

The attitude towards fat-content can also be a moderating variable. In Irmak, et al. (2011) study, participants who followed any kind of diet scored a candy labelled “fruit chews” more preferable in terms of their expected taste than the same candy labelled “candy chews”. In general, as the participants are on a diet, they induce that a candy called fruit has less sugar; therefore, they induced a positive expectation and transferred the sensation that this product tastes better.

Another important factor is the socio-economic status of participants, which was analysed by Sosa & Hough (2006). "Children from medium and high-income families rated chocolate cake better when it was presented under an expensive brand name", whereas children from low-income families rated this equally to a cheaper brand, according with Skaczkowski, et al. (2016).

Information that evokes the origin of a product can be seen as favourable and increase the attractiveness of a product, especially if consumers are familiar with it. For example, a Rioja wine can be seen as good for a consumer who understands wines and considers that good wines are made in La Rioja.

The familiarity with a product can make consumers less or more susceptible to the effect of extrinsic information. For example, Lee, et al. (2013) found that non-user of

nutrition label was more influenced by the label in their calorie judgments. In contrast, frequent users were able to judge calorie content without relying on the label information.

In addition, several studies have found that familiarity or frequency of consumption of a particular brand is likely to develop loyalty. In the case of drinks such as Coca Cola, a regular consumer can induce a stronger sensation transfer in terms of taste. To give another example Robinson, et al. (2007), found that the branding of McDonald's has more influence on children who have the habit to go to eat at that restaurant frequently.

Following with the cultural factors, Werle, et al. (2013) point out that the French associate "healthy" with "taste" and "unhealthy" with "untasty". Whereas, North Americans, tend to associate "unhealthy" with "taste", according with Raghunathan, et al. (2006). These results suggest that the effect of health-labels depends on the consumers' culture.

Having everything into account, it is important to emphasise that "expectations grounded on previous experience/exposure to the product [...] are always going to be seen through the lens of the consumer, and their beliefs, attitudes, and personality" (Piqueras-Fiszman & Spence, 2015).

IV. MCDONALD'S ADVERTISING

1. Green marketing and Greenwashing

As has been seen, advertising can change consumers' perception of products. Focusing on the case of fast food, the traditional leader of this market is McDonald's. This company has been able to take advantage of the concept of "greenwashing", coined by Greed & Bruno (1996). Greenwashing is when companies use marketing to exaggerate the promotion of "clean" attributes, therefore they misrepresent facts in order to highlight some aspects considered as positive by the consumer.

This idea comes from the concept of "green marketing", which nowadays is more than the ecological marketing, involving a sustainable marketing and merging with concepts such as the health or the nutrition. As a result, it is not strange to speak about "ecological burgers" or "organic lettuce".

2. The “green” change experienced by McDonald’s

McDonald’s is one of the top brands in the world; in fact according with Interbrand (2018) is in the 10th place and with a value of 43,417 million of dollars in terms of brand in 2018.

McDonald's history started in 1937 with the brothers Richard and Maurice McDonald’s, who opened a drive-in restaurant in Pasadena (California). The entrepreneur who expanded this idea was Ray Kroc in 1954 and years later he decided to buy the exclusive rights of McDonald’s to the two brothers (McDonald’s).

The number of McDonald’s restaurants increased since 31,046 in 2006 to 37,241 in 2017 in all the world, following the survey made by (Statista, 2017).

Being a fast food restaurant, McDonald’s experienced a gradual change trying to connect with the idea of being more “green”, that was being increasingly demanded by the consumer.

The trigger of this “green” change was the book *Fast Food Nation* by Eric Schlosser, jointly with health reports done by the OMS, obesity claims and specially, the documentary *Super Size me* in 2004 from the filmmaker Morgan Spurlock’s proving the drawback effects of eating exclusively McDonald’s products during 30 days (De Almeida, 2016).

The phrase “going green” is a marketing strategy use to reposition the brand to be more organic, healthy and ecofriendly (Horton, 2014). McDonald’s used this strategy to try to change or, at least, improve the perception of the consumer about their unhealthy products.

The first marketing action called *Go for Green* was in 2007, year in which the film *Shrek III* was released. McDonald’s used the characteristic green colour of the ogre to introduce in their Happy Meal healthy products, such as fruits, salads and vegetables (Marketing Directo, 2007).

The influence of colours is being widely studied. McDonald’s knows that and therefore, it was on November of 2009, when the company started its rebranding strategy in Munich. The famous red background was progressively changing until reaching the actual vegetable green colour trying to be more ecological and natural (Spiegel, 2009).

McDonald's wanted to reinforce the quality of its products. As well, the company launched a spot, in which his main character, who went to one of the McDonald's factories, claim that the burgers were made with 100% beef meat (McDonald's, 2012). Since 2015, they started to introduce gourmet burgers with well-known cooks, betting for quality products (McDonald's, 2015).

In fact, one of the sections in the McDonald's website is called quality, highlighting the importance of it. They state that they carry out quality processes in the products they choose, in the supply chain and also, they carry out a good follow-up in the own restaurants.

Furthermore, they speak about the food balance, emphasising that they offer a wide variety of products according with different life styles. McDonald's considers that for a balanced diet, no foodstuff should be banned and in all their products nutrition information can be found.

McDonald's promotes sport in their own restaurants with recreational areas called PlayPlace and Ronald Gym Club. In addition, the company is the sponsor of the Olympic Games since 1998 and of the European Championship and the FIFA World Cup since 2004 (McDonald's).

Despite McDonald's efforts for being a "green" company, there has been claims saying that their food is still fat and bad food, for example Harris, S. (2016) stated that one of the "salads has more calories, fat and sodium than a Double Big Mac".

3. The effect of the "green change" experienced by McDonald's

The truth is that over the 25% of the population has obesity in Spain and we are the second country in which more people have this disease, according with (Barnett, 2017).

It is well known that fast food is unhealthy, although its consumption has not been reduced. Apart from the common explanation that people just do not care; other classical answer is that marketing can make people consume more and more of certain products.

One of the techniques uses in advertising tries to appeal to the consumer emotions by changing the perception of the consumption. Other techniques are de 2*1 or 3*1 offers, the plays for Kids in their Happy Meals, the snack moment, the exaggeration of products, among others (Zamorano, 2018).

Other explanation is that through “greenwashing” companies such as McDonald’s can alter consumers’ opinion about their products. Little by little, they have given more relevance in their advertisements to certain elements of the burger such as the lettuce or the tomato, so the consumer unconsciously can think that fast food cannot be so bad.

Furthermore, they have presented Happy Meals with fruits, juices and vegetables, even though kids probably are going to ask for chips and not for a salad. This is also called as the “health halo”, and it also works for the situation in which an adult has to decide what menu they want. This health halo occurs when consumers believe that the main dish on a menu is healthier, for example a salad, then they end up consuming more caloric drinks, desserts or side dishes. McDonald’s knows that, and therefore the menu is usually shown with an apparently “healthy product”, so that we can feel less guilty by consuming other caloric products (Albrecht, 2018).

In fact, MacDonald’s on its own website calls its burgers “sandwiches”, which can probably unconsciously lead consumers to think that its products have fewer calories.

Also, the own restaurant has changed its interior design, in order to be more modern and appealing to the consumer, and trying to get away from the idea of being a fast food chain. For example, the uncomfortable chairs were replaced by cosy sofas, and the red and yellow colours are become more neutral and relaxing, such as "terra cotta, olive and sage green" (Teicu, 2010). Modern lamps and wood have been also incorporated in their restaurants. All of these contribute to the feeling of natural, healthiness and that you want to stay more in their restaurants sharing the moment with your family or friends.

As a result, “greenwashing” can make people misjudge fast food and promote consumption of this kind of food.

V. SURVEY

1. The questionnaire

As we have seen, our perception of the products can be shape with different stimuli such as colours, names, among others, one of the powerful influences can be the own advertising of the products. Therefore, this survey tries to analyse whether they really manage to alter our perception, focusing precisely on advertising photos of burgers, since they are the most representative product within fast food and on the

“greenwashing” effect. Also, other questions were analysed in order to see how popular these restaurants are and how they are perceived by consumers.

Two versions of a questionnaire were presented and most of the questions were for the purpose of compare burgers photos with different changes, such as one having lettuce whereas the other have not, and see if those changes influenced the calories that the respondent assigned to each hamburger. The rest of the questions were the same in both versions of the questionnaire.

Respondents were asked how often they go to fast food restaurants and why and if they have the application of any of them. Also from a list with the names of fast food restaurants, they had to choose which ones they knew and which ones they considered to be fast food restaurants. They were also asked if they pay attention to the advertising of these restaurants, the changes they had perceived in recent years in them and how much they spent each time they went to one.

Finally, classification questions were included, such as age, level of studies, or the neighbourhood.

The whole questionnaire is in the Annex 1 (even day) and in the Annex 2 (odd day).

2. Sampling

The questionnaire was done online with a simple random system. The population of the sample is of both genders and resident in the Comunidad de Madrid. In order to obtain this sample, the questionnaire was published on the Virtual Campus of students of the Universidad Complutense and it was sent to a list of emails to be resent (this is called *member get member*).

Both versions of the questionnaire were answered by 150 people. Specifically, 79 persons answered one of the versions because they were born on an even day (*día par*), whereas 71 persons answered the other because they were born on an odd day (*día impar*).

This classification criterion is random and has the simple purpose of both versions having a similar proportion of responses, and does not alter the survey since the fact that the day of birth is even or odd is an independent variable.

3. Survey results

A. Classification data

Moving to the classification data, 63.5% of the people were women, whereas 36.5% were men. In the following graphic we can see their age classification.

Chart 7. Age classification

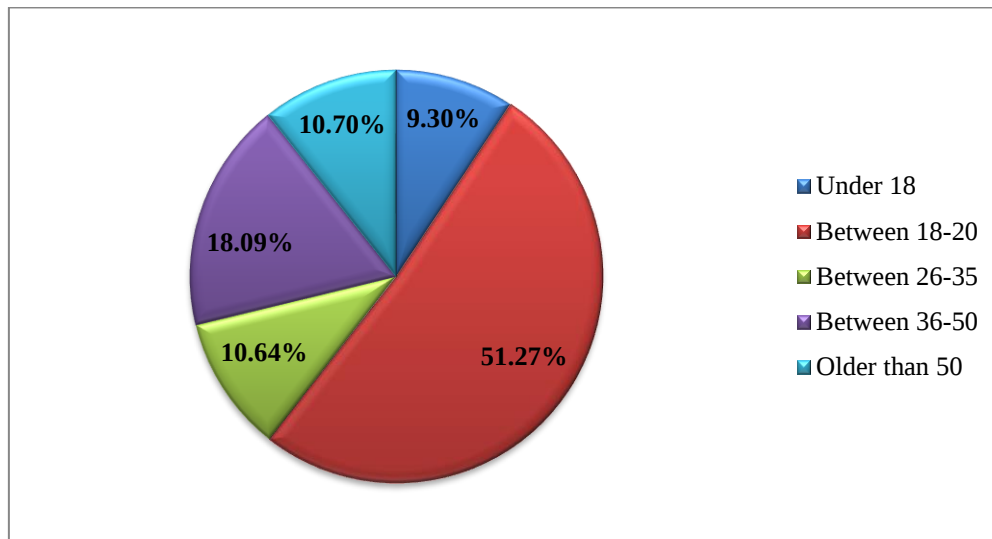
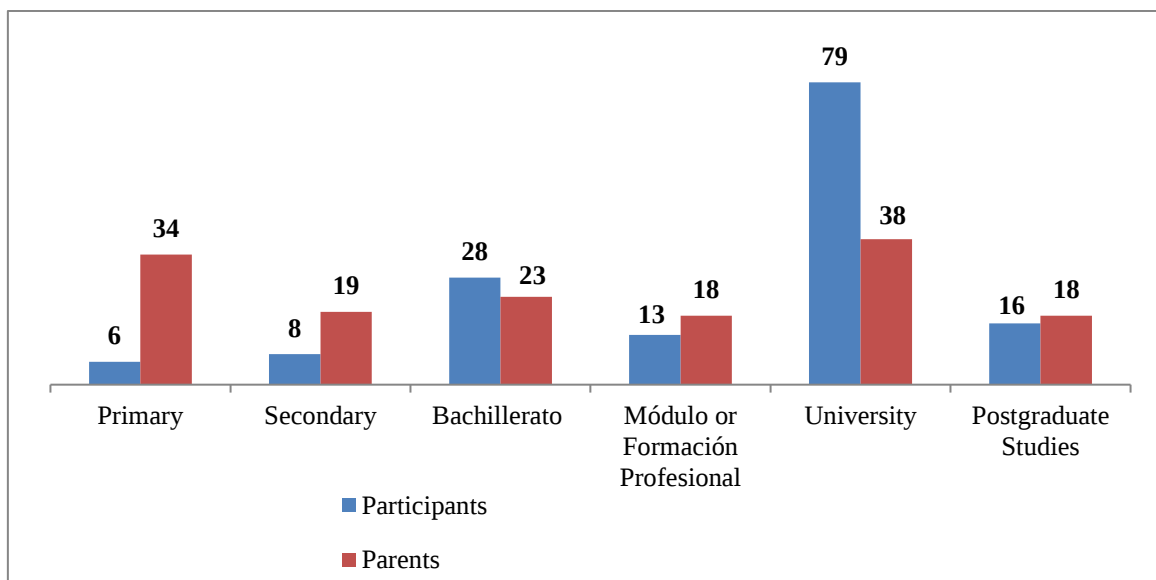


Chart 8. Level of studies of the participants and of one of their parents



Moving on to their level of studies, the graphic above shows the level of studies of the people who carried out the survey (in blue) and the highest level of studies of one of the parents of those participants (in red). As can be seen, the highest level of studies of the people who did this survey is University studies (79 persons), and on the other hand, the

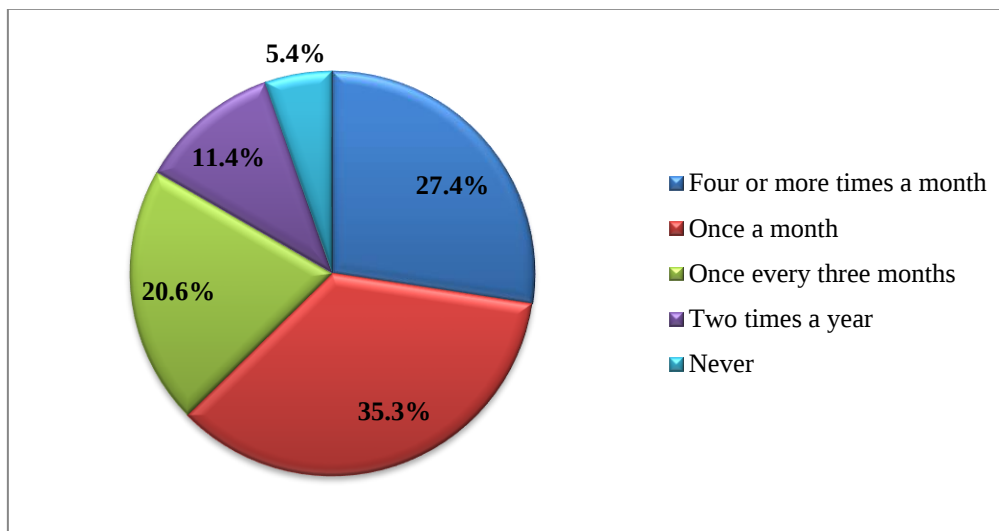
lowest level of studies is Primary studies (6 persons). In comparison, considering the level of studies of their parents, the highest is the University studies (38 persons), but it is closely followed by the Primary studies (34 persons).

Considering their current occupation, 40.83% of the people are students; 37.33% of the people are employees; 17.69% of the people are both, students and employees; 2.75% of the people are unemployed and 1.4% of the people are retired.

They were also asked to include their C.P. (Código Postal) in order to know the kind of neighbourhood they belong to. The whole list of the C.P. is included in the Annex 3.

B. Main results

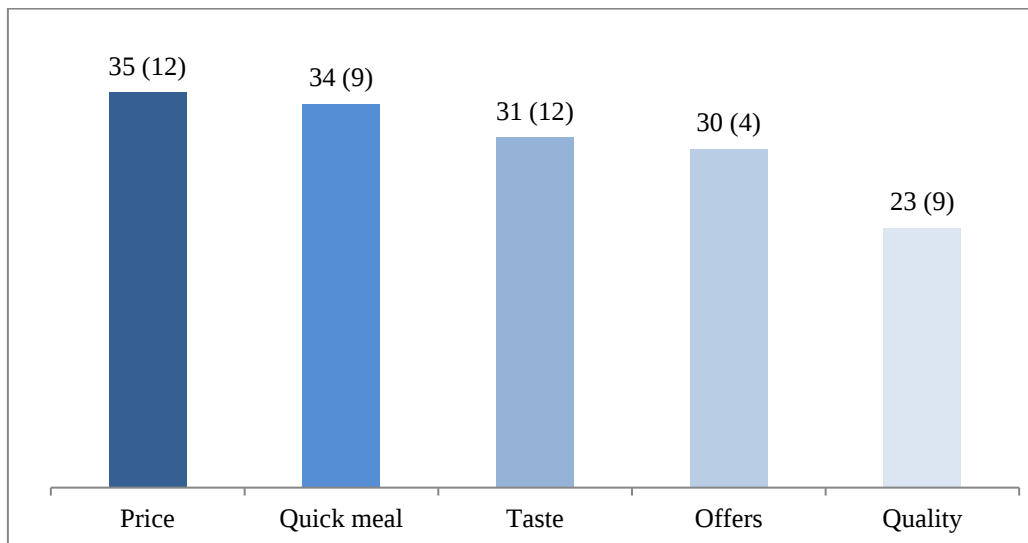
Chart 9. Number of visits to fast food restaurants



As can be seen from the graphic above, the majority of the people go at least once a month, representing 35.3% and another significant percentage of people go four or more times a month, reaching 27.4%. As a result, fast food is not only a trend, because it has been maintaining though several years and it is still very popular nowadays.

Then, they were asked to order why they decide to go to fast food restaurants, being the principal reason the price, the special offers, the quality of the food, the taste of the food or because they want a quick meal.

Chart 10. Reasons to go to a fast food restaurant ranked by Mean (Std Dev.)



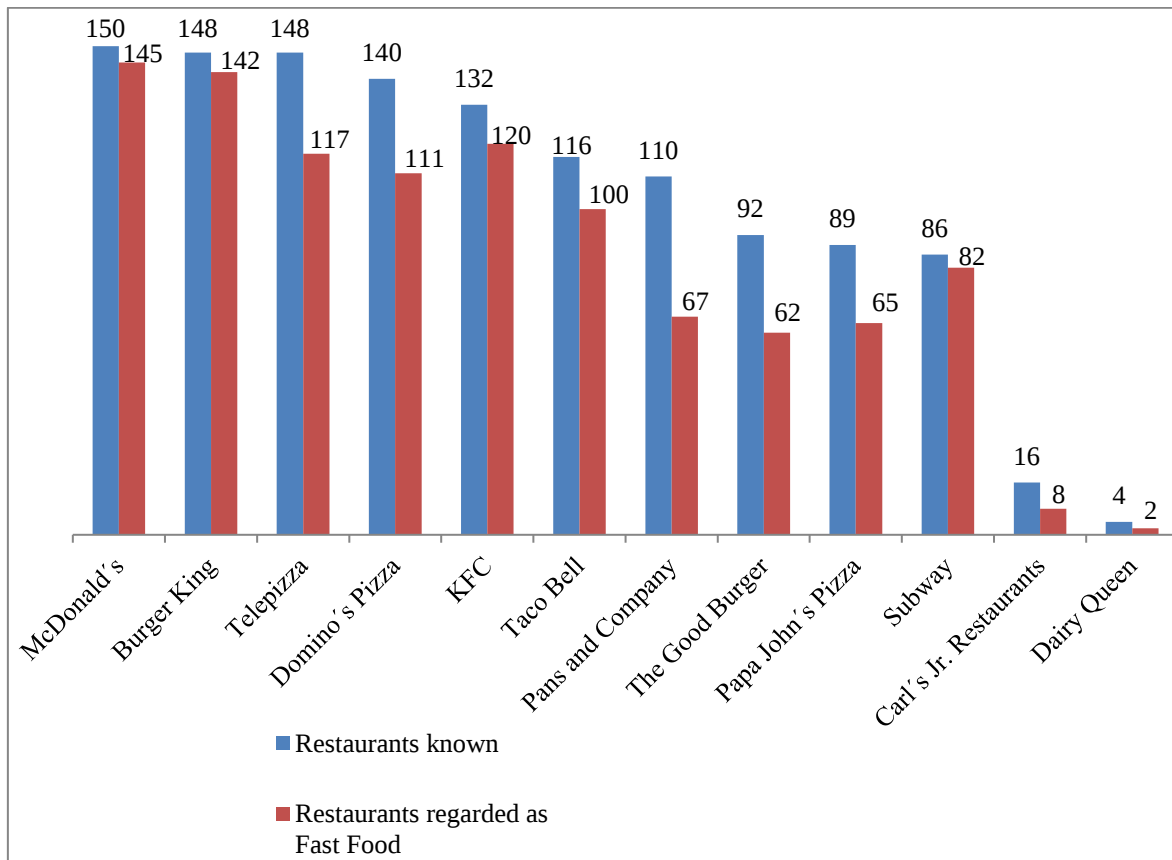
As a result, the principal reason is that people value these kinds of restaurants as a place where they go when they do not want to waste a lot of money. By contrast, the minor reason to go to this kind of restaurants is the quality of the food.

In addition, the percentage of the participants who go to fast food restaurants and have a mobile application of any fast food restaurant is 36.15% whereas the remaining 63.85% have no fast food application at all.

The most repeated fast food apps were McDonald's, with 36 persons having the app, representing a 24% of the people who answered the survey. Also, 29 persons have the Burger King app, and it is followed far away by 3 persons having Telepizza, 3 persons having KFC and 1 person having Domino's Pizza and the Subway app. Other apps such as Just Eat were mentioned, but it includes several fast and non fast food restaurants.

A list of fast food restaurants that have been mentioned in this paper was presented. As we can see from the following graphic, participants had to select the restaurants they knew (in blue) and which they considered to be fast food restaurants (in red). Most people know Burger King, McDonald's and Telepizza, while few people know Dairy Queen and Carl's Jr. Restaurants.

Chart 11. Restaurants that are known and which are thought to be fast food by the participants



Surprisingly, burger restaurants like McDonald's and Burger King were considered fast food restaurants by the vast majority, while some people do not regard pizza restaurants such as Telepizza and Domino's Pizza as fast food.

Fast food advertising is something that can easily influence consumers' perception of products, as they pay more or less attention to it. In fact, the 42.85% of the people sometimes pay attention to the advertising of fast food restaurants.

Then, they were presented with different photos of burgers with the information that a regular one has 246 Kcal (this contains hamburger bread, meat, gherkins, ketchup and mustard), so they were asked how much calories did they think that the hamburger had considering each photo (Burger King). They had to choose between six ranges: 300-400; 401-500; 501-600; 601-700; 701-800 and 801-900.

An ANOVA analysis was used to see to what extent the results obtained in the survey are significant, which happens when $p < .05$. It was necessary to make a change of

variables so that the 300-400 Kcal interval corresponds to 1 and so on until we reach the 801-900 Kcal interval that corresponds to 6.

Model 1 refers to the version of the questionnaire that was answered by 79 persons, whereas Model 2 refers to the version of the questionnaire that was answered by 71 persons.

The aim is to see if there are differences in the perception of the average calories that hamburgers have. The point is to explore whether the perception of hamburger calories may be influenced by the way the product is photographed or presented.

In question 8 the same burger was presented with and without lettuce:

Model 1: with lettuce



Model 2: without lettuce



Chart 12. Anova Analysis of Question 8

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	3.73	1.327	.149	3.44	4.03
Model 2	71	3.21	1.433	.170	2.87	3.55
Total	150	3.49	1.399	.114	3.26	3.71

There are significant differences between the calories estimated by participants for each hamburger; while model 1 has an average of 3.73 (near 600 Kcal), model 2 has an average of 3.21 (over 501 Kcal) for $p < .05$. This means that consumers understand well that the more ingredients a hamburger has, the more calories it will have, but they failed to calculate them or, at least, to make an approximation because this burger has 900 Kcal (a little more with the lettuce).

In question 9 the same burger was presented with oranges with and with an Oreo Milkshake:

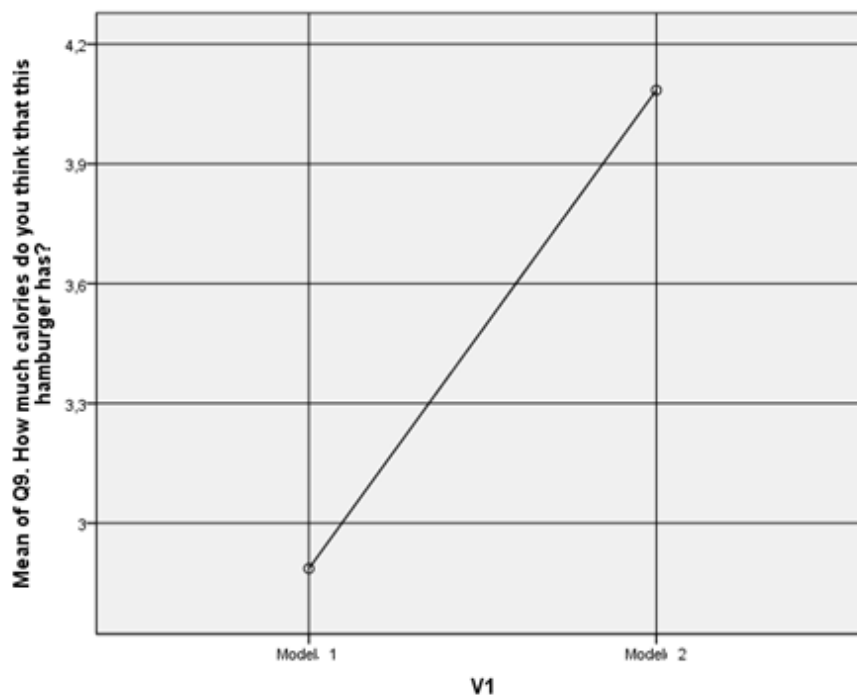
Model 1: with oranges

Model 2: with and Oreo Milkshake



Chart 13. Anova Analysis of Question 9

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	2.89	1.432	.161	2.57	3.21
Model 2	71	4.08	1.637	.194	3.70	4.47
Total	150	3.45	1.641	.134	3.19	3.72



The picture in model 1 receives an average of 2.89 (near 500 Kcal), whereas the picture in model 2 receives an average of 4.08 (near 601 Kcal) for $p < .05$. In fact this burger has 530 Kcal.

In question 10 the same burger was presented with a cake and with tomatoes:

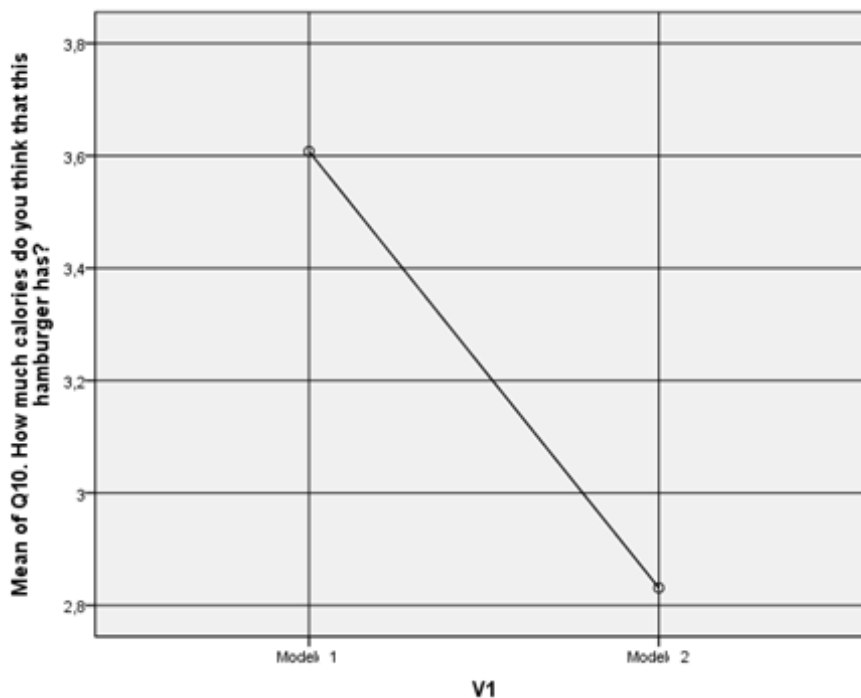
Model 1: with a cake

Model 2: with tomatoes



Chart 14. Anova Analysis of Question 10

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	3.61	1.628	.183	3.24	3.97
Model 2	71	2.83	1.414	.168	2.50	3.17
Total	150	3.24	1.574	.129	2.99	3.49



There are significant differences between the calories estimated by participants for each hamburger; while model 1 has an average of 3.61 (over 550 Kcal), model 2 has an average of 2.83 (near 500 Kcal) for $p < .05$. In fact, this burger has 461 Kcal.

The conclusion of questions 9 and 10 is that products that are placed next to burgers lead the consumer to think that the main product (the burger) is healthier (if for example there are oranges or tomatoes) or unhealthier (if for example there is a milkshake or a cake). These differences between burgers are really important and significant and therefore a graphic was added in each of the questions in order to see the difference in the average of each model.

In question 11 the classical menu for kids was presented with water, salad and a juice and with water, fries and a chocolate ice cream:

Model 1: with water, salad and a juice



Model 2: with water, fries and a chocolate ice cream



Chart 15. Anova Analysis of Question 11

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	2.43	1.499	.169	2.09	2.77
Model 2	71	2.62	1.448	.172	2.28	2.96
Total	150	2.52	1.473	.120	2.28	2.76

In Model 1 the burger has an average of 2.43 (near 450 Kcal). By contrast, in Model 2 the burger has an average of 2.62 (more than 450 Kcal), these differences are not significant ($p > .05$). In fact, this burger has 340 Kcal, a little more than a regular hamburger because it contains cheese.

In question 12 the same burger was presented with and without Christmas decoration:

Model 1: with Christmas decoration



Model 2: without Christmas decoration



Chart 16. Anova Analysis of Question 12

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	4.34	1.367	.154	4.04	4.65
Model 2	71	4.25	1.349	.160	3.93	4.57
Total	150	4.30	1.355	.111	4.08	4.52

In Model 1 the burger receives an average of 4.34 (more than 600 Kcal). By contrast, in Model 2 the burger receives an average of 4.25 (more than 600 Kcal), these differences are not significant ($p > .05$). In fact, this burger has 832 Kcal, so participants failed to calculate them or, at least, to make an approximation.

In question 13 the same burger was presented with and without a wooden base:

Model 1: with a wooden base



Model 2: without a wooden base



Chart 17. Anova Analysis of Question 13

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	3.89	1.414	.159	3.57	4.20
Model 2	71	3.59	1.316	.156	3.28	3.90
Total	150	3.75	1.372	.112	3.53	3.97

In Model 1 the burger has an average of 3.89 (near 600 Kcal), while in Model 2 the burger has an average of 3.59 (over 550 Kcal). However, these differences are not significant ($p > .05$).

It would be also interesting to show the same burger with a wood base and a plastic base, to increase the contrast in order to see if the wood leads the consumer to think that a burger is healthier. In fact, this burger has 828 Kcal, so the majority of respondents failed to calculate its calories.

In question 14 the same burger was presented with and without seeds:

Model 1: with seeds



Model 2: without seeds



Chart 18. Anova Analysis of Question 14

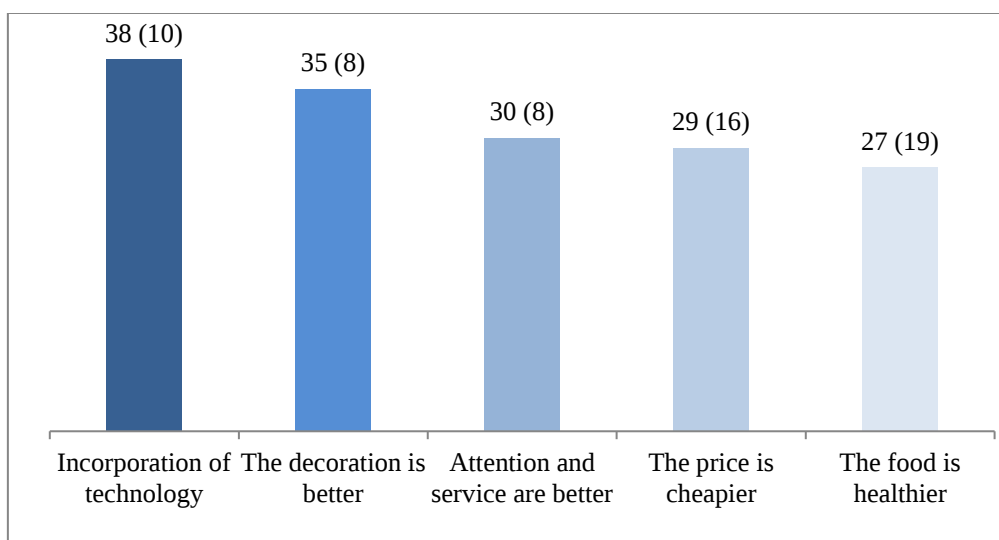
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Model 1	79	3.14	1.421	.160	2.82	3.46
Model 2	71	3.35	1.288	.153	3.05	3.66
Total	150	3.24	1.359	.111	3.02	3.46

In Model 1 the burger receives an average of 3.14 (more than 501 Kcal), while in Model 2 the burger has an average of 3.35 (more than 501 Kcal). In this case, these differences are not significant ($p > .05$).

In conclusion, the significant and important results are that participants consider that the more ingredients added to a burger, the more calories it has (regardless of the ingredient) and that products placed near a burger can influence consumers' perception of its calories, making it more or less healthy.

Then, they were asked to order the changes that they have perceived in fast food restaurants in recent years, being the principal change the decoration, the healthier food, the cheaper price, the incorporation of technology or the better attention and service.

Chart 19. Changes that have been produced in fast food restaurants in recent years ranked by Mean (Std Dev.)



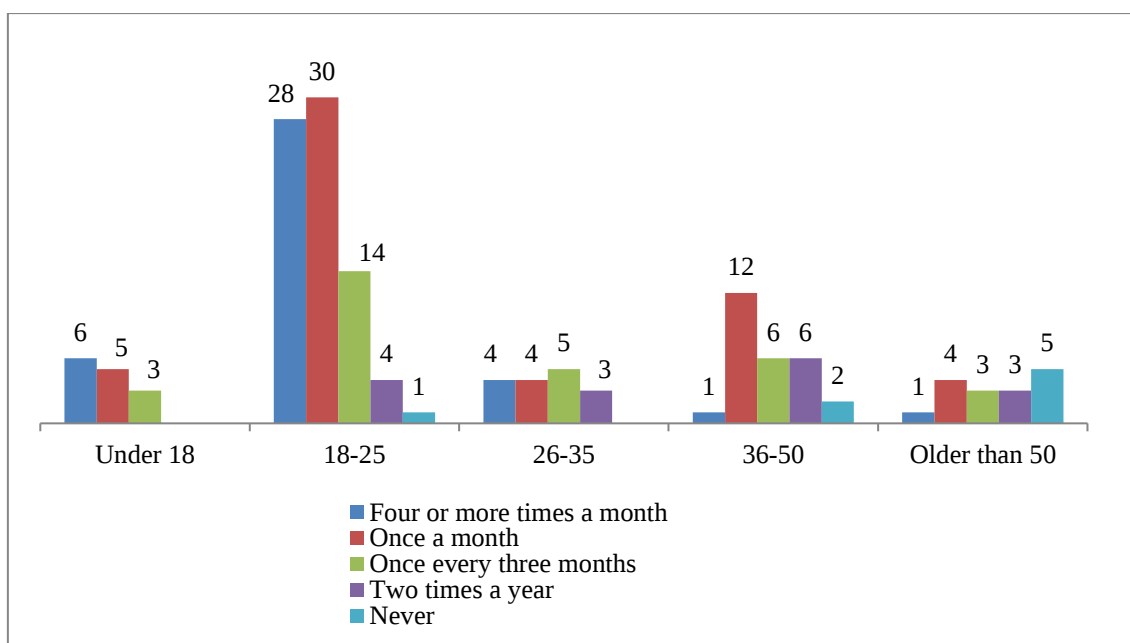
The principal change perceived by customers was the incorporation of technology. By contrast, the minor change is the fact that the food is healthier. So, in general, people still have in mind that the food in these restaurants is not healthy.

Considering their expense on fast food, the 45.55% spend between €6.01 and €8 each time they go to a fast food restaurant or, at least, is the amount that they would be willing to spend if they ever decided to go to one. The 31.6% spend between €4.01 and €6, the 20.9% more than €8 and the rest, representing the 5.9% between €1 and €4. As we have seen, Spaniards spend a good amount of money each time they go to a fast food restaurant.

C. Other analysis and results

Finally, it can be interesting to look for correlations between certain questions that is, to see if two or more variables are related to each other, such as the age and occupation with the number of visits to fast food restaurants.

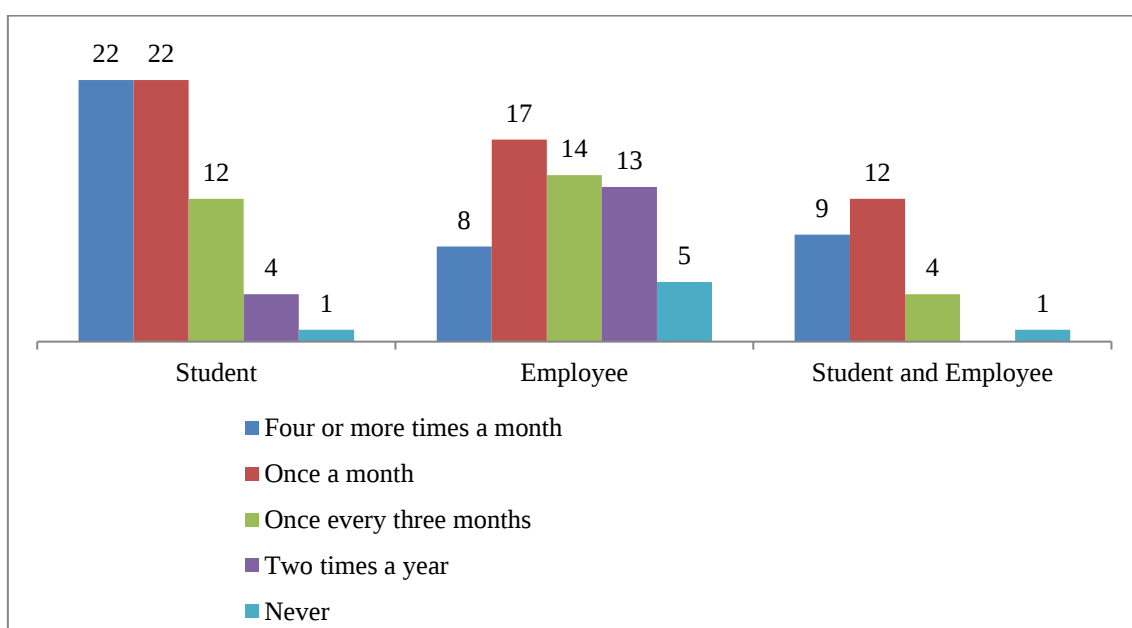
Chart 20. Visits to fast food restaurants and age



Considering the influence of age on the numbers of visits to fast food restaurants, the majority of the participants under the age of 18 go four or more times a month (6 persons). The majority of the people who did the survey had between 18 to 25 years old, and 30 persons among those ages go to fast food restaurants once a month, closely followed by 28 persons that go four or more times a month. In the case of people older than 50 the majority never go to a fast food restaurant (5 persons). As it can be seen, young people are the most likely to go to fast food restaurants.

In the case of the relationship between the number of visits to fast food restaurants and the current occupation of those participants, it can be seen in the following graphic that students or students and employees attend this type of restaurant the most. Employees are the most proportionate group in terms of the number of visits.

Chart 21. Visits to fast food restaurants and occupation



Having into account the number of visits to fast food restaurants and the level of studies there is no such correlation, but it seems that the relationship is with the age and their occupation. For example, people with university studies tend to go at least once a month, but because most of them are young and students, while those with primary studies tend to go twice a year, but most of them are adults and employees (Annex 4).

There is no clear relationship between the neighbourhood, the level of education of the respondents and one of their parents and the number of visits to fast food restaurants. Nevertheless, it is true that some conclusions can be drawn by choosing, for example, the Moncloa-Aravaca District as a good neighbourhood in terms of its average family income of €56,443.79 in 2015 and the Villaverde District as a medium-bad neighbourhood for its average family income of €26,599 in 2015 (Portal Web del Ayuntamiento de Madrid, 2018)

In the Moncloa-Aravaca District, the number of visits to fast food restaurants is lower and the level of education of those survey respondents and especially of one of their parents is higher with respect to the Villaverde District (Annex 5).

VI. IMPLICATIONS AND CONCLUSIONS

1. The role of education for a healthy lifestyle

As has been seen, fast food restaurants remain a popular choice especially among young people and students. Although they are not considered to be a healthy meal, it seems that the presentation of advertising photos can influence the consumer's perception of them, especially when a healthy product is introduced into them, creating a “greenwashing” effect.

To avoid being cheated or influenced by this advertising, education should have a role in teaching children healthy eating and to be in control (as far as possible) of their decisions. This idea does not mean to be like a robot, because sometimes it is good to give in to our temptation, but for our health we need to have a certain control of our nutrition and a varied diet. It is not a matter of not going to certain places, but of learning to choose. In addition, learning to cook is something that all children should do, as it is easier for them not to go to these kinds of restaurants.

In the case of children, it is important to restrict TV time and increase outdoor activities. Also, if possible, we should try to make them see as few adverts as possible, because it has been proved that they eat more things, such as snacks, when exposed to advertising (Zamorano, 2018).

In addition, it is important to learn how to read nutrition information. The problem with consumers is that they think that it is easier to look at a burger and try to figure how healthy it is. But, as it has been proved, sometimes we fail to do so. For this reason, it is important to have at least minimum understanding of the things we eat.

All restaurants should have the nutritional information of their products close to the price, so that consumers can at least see what they are going to eat. In addition, effective and truthful labelling systems should be put in place for this type of products.

As I have said, it is not about getting obsessed with the amount of calories that we intake, but it is important to bear in mind the things that we eat and have a varied and balance diet. In addition, a good measure is to avoid that going to this kind of restaurants becomes a habit, which happens only 21 days after of introducing a change in our lives. Of course, in relation with have a healthy eating is important to practice sport and keep active.

2. Legal and political implications

The world of fast food is scarcely regulated in legislative terms. A recent study by De Vogli, et al. (2014) shows the effects of deregulation and globalization in the economy in certain sectors such as the agriculture or the food sector and the consequent increase in fast food transactions on obesity over time.

Between 1998 and 2008, the average number of annual fast food transactions per capita increased from 26.61 to 32.76, while the average Body Mass Index increased from 25.8 to 26.4. Therefore, each 1 unit increase in the annual fast food transactions per capita corresponds to an increase of 0.0329 in BMI in that period (De Vogli, et al., 2014).

Governments can take some legislative measures, such as tighter regulation of advertising for fast food and refreshments especially aimed at children. In Spain, there is a Corregulation Code of food and drink advertising aimed at minors, obesity prevention and health (known as *Código PAOS* in Spanish), created in 2005 and amended in 2012 and in 2013 (*Código PAOS*, 2012).

The problem is that it is an ethical code that applies to the companies adhered to it. In addition, nine out of ten advertisements (88%) violate the PAOS in 2017. The guarantor of compliance with PAOS is the industry itself, grouped into the association for the self-regulation of commercial communication (known in Spanish as *Autocontrol*). This organism only responds when there is a complaint, either from the advertisers themselves or from particulars (Domínguez, 2017).

All of this suggests that the voluntary regulatory code is of scarce use and that a compulsory rule should be designed by the Government. Particular importance should be attached to junk food advertising, advertising aimed at children and time frames for each type of advertising.

In Spain Law 17/2011 of 5 July on Food Security and Nutrition does not solve the consequences of fast food and attributes the regulation of advertising aimed at children under 15 to Codes of Conduct. In relation to the trans fatty acids, the Law only requires that they must be minimized in industrial processes and that operators require information about their content from suppliers (BOE, 2011).

Aside from this measure, the Government can allocate economic incentives to companies that invest on healthy and fresh food and disincentives to fast food,

ultraprocessed food or refreshments containing large amounts of sugars by creating a tax for such products (De Vogli, et al., 2014).

France, Mexico, Norway and several cities in the USA have already imposed taxes on sugary beverages. In Hungary, a so-called “crisp tax” targets packaged foods high in sugar or salt.

The research carried out by Cobiac, et al. (2017) bets on taxing all foods high in saturated fat, salt and sugars, except milk and meat. In addition, the price of vegetables and fruit should be lowered through government subsidies.

The models presented in the study showed that this combined strategy would add 470,000 additional years of healthy living to Australia's 22 million population in 2017. It should also save 3.4 billion of Australian dollars in health care costs for the remainder of the lives of all Australians who are alive today.

Other measures that De Vogli, et al. (2014) suggests are zoning policies to control the number and type of food establishments and trade regulations that dissuade the import and consumption of fast food, ultraprocessed foods and refreshments.

3. The future of fast food is already here

Nowadays, people are more concerned about their health and well-being, and the food industry knowing that has introduced a new concept called “fast casual”. This term is also known as “naturally fast food” or “healthy fast food”.

The fast casual industry is a new gastronomic trend that offers fresh, quality meal and a good ambience with the convenience of a quick service chain. Casual food chains offer delicious and ecologic meals, something that appeals to the millennial client. In addition, this kind of consumer is concerned about the environment and wants to be more sustainable.

The fast casual food is the answer to the fast food and the fine dining. Opening within this model are restaurants Chipotle, Panera and Five Guys, among others. This industry has growth rates not seen before, for example, sales of fast food rose by 6,1% in 2014, whereas sales of fast casual rose by 10,5% in the same year.

In general, this new concept of food is more expensive than the traditional fast food. Nevertheless, consumers are willing to pay them, because they want natural ingredients

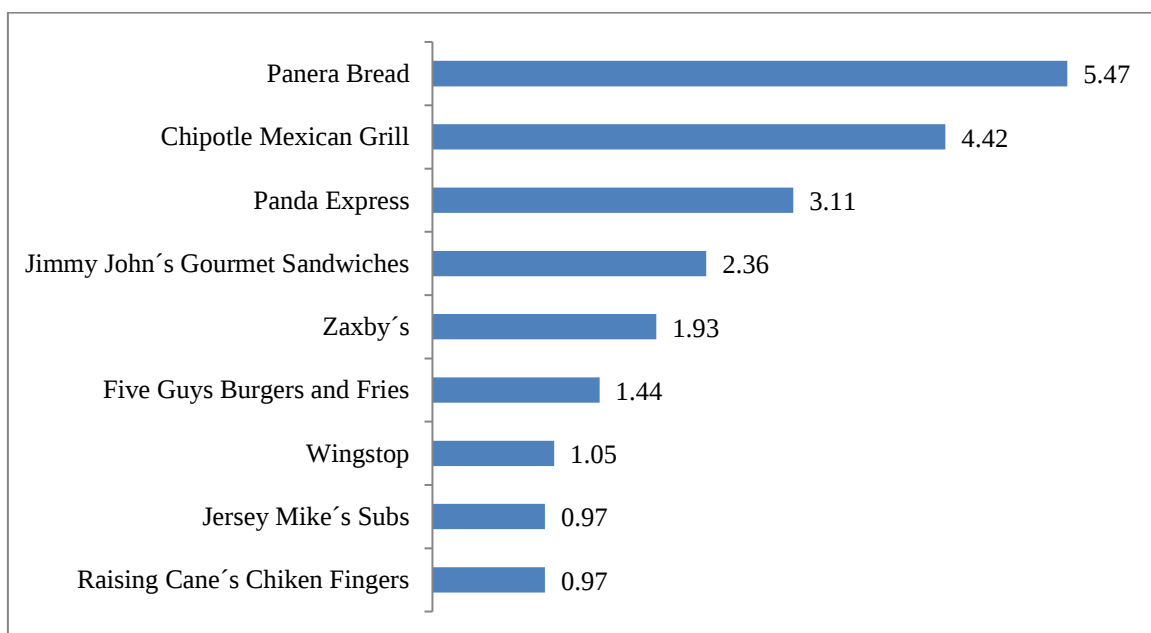
and custom meals. The average customer spends £11.56 per visit in Chipotle Mexican Grill, while a fast food meals costs between £5 and £7. Organic ingredients, fresh and non-GMO are associated with higher prices. This suggests inelastic demand due to people prefer quality over low prices (Investopedia, 2015).

In a survey done by Statista (2014) in June 2014, 64% of consumers in the USA said that they had visited a fast food restaurant at least weekly. Considering the new concept of fast casual, 40% of the people asked, said that they had visited at least weekly a chain of this kind.

Other survey done by Statista (2014) in July 2014 shows that in the USA, the Millennials have decreased their frequency of visits to fast food restaurants by 20 percent, while they have increased their visitation to fast casual restaurants by 42 percent.

Having into account the sales of the leading fast-casual restaurant chains in the USA in 2017, Panera Bread is at the top with 5.47 billion dollars of sales. It is followed by Chipotle Mexican Grill with 4.42 billion dollars of sales and Panda Express with 3.11 billion dollars of sales (Statista, 2017).

Chart 22. Sales of the leading fast-casual restaurant chains in the USA in 2017 (in billion dollars)



Source: Statista, 2017

“Fast casual” restaurants may be best in terms of the quality of their food, but that said, only the bread of a hamburger and the meat in the Five Guys restaurants has 433 Kcal (Five Guys), and in Chipotle Mexican Grill only the flour tortilla and the chicken of a burrito has 500 kcal, regardless of the extras (Chipotle).

Some fast food traditional restaurants such as McDonald’s are repositioning its brand by copying this concept, through the introduction of changes such as the change in decoration, the addition of fruits and vegetables in their menus, and showing their quality process to their clients.

I do not think that fast food restaurants are going to go away because they are developing with the various strategies above mentioned, trying to maintain their clients and attract new ones. In addition, the price of its products is other incentive to the people that cannot afford fast casual restaurants, at least so often. Having this in mind, it is true that their sales can be affected by these new “fast casual” restaurants.

4. Conclusions

This dissertation aims to study the fast food nowadays and how advertising (among others) can alter our perception of this type food so that it does not seem so unhealthy, since this is a subject that has not been particularly studied and that has important repercussions on the population’s health.

To this end, the fast food market in the world and in Spain has been analysed, then it has been considered which clues can influence our decisions about food, pointing out that advertising is one of the most important, something that McDonald’s has known to take advantage of (as the largest fast food company) to wash its image, through the concept known as “greenwashing”.

In addition, a survey was conducted to assess the consumption habits of residents in Madrid and to find out whether advertising through hamburger photos influences their perspectives on the calories of a hamburger. One of the most important conclusions is that when healthy products are introduced with the hamburger, people tend to think that the hamburger is healthier. The introduction of apparently healthier food by fast food restaurants may have the counter-effect of increased consumer consumption, as the products are perceived to be healthier.

Along with this, the data indicated that in Spain people do not go much to this type of restaurants, however, the results of the survey show that many people, mainly students, go at least once a month.

Finally, the educational, legislative and policy implications were pointed out and the new direction of fast food was introduced through the concept known as "casual fast". In Spain, there is no adequate regulation of fast food or its advertising; hence, along with education, it is necessary to control this type of products that can cause serious health problems.

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ANNEX 1. SURVEY (EVEN DAY)

Survey on Fast Food

This is a survey on fast food aimed at everyone. Please answer all the questions in order and following the instructions.

1. Q1. How often do you go to a fast food restaurant?

Mark only one oval.

- ☐ Four or more times a month
☐ Once a month
☐ Once every three months
☐ Two times a year
☐ Never (go to question 5)

2. Q2. Order from 1 to 5, why do you decide to go to a fast food restaurant, being 1 the principal reason and 5 the minor reason

Mark only one oval per row.

	1	2	3	4	5
For the price	☐	☐	☐	☐	☐
For the special offers	☐	☐	☐	☐	☐
For the quality of the food	☐	☐	☐	☐	☐
Because I like this kind of food	☐	☐	☐	☐	☐
Because I want a quick meal	☐	☐	☐	☐	☐

3. Q3. Do you have the app of any fast food restaurant?

Mark only one oval.

- ☐ Yes
☐ No (go to question 5)

4. Q4. Write the brand names of your fast food apps

5. Q5. Select the restaurants that you know

Check all that apply.

- ☐ Burger King
☐ McDonald's
☐ Telepizza
☐ Domino's Pizza
☐ Papa John's Pizza
☐ Dairy Queen
☐ Carl's Jr. Restaurants
☐ Pans and Company
☐ KFC
☐ Taco Bell
☐ The Good Burger
☐ Subway

6. Q6. Considering the restaurant that you know, select the ones that you think that are fast food restaurants

Check all that apply.

- ☐ Burger King
- ☐ McDonald's
- ☐ Telepizza
- ☐ Domino's Pizza
- ☐ Papa John's Pizza
- ☐ Dairy Queen
- ☐ Carl's Jr. Restaurants
- ☐ Pans and Company
- ☐ KFC
- ☐ Taco Bell
- ☐ The Good Burger
- ☐ Subway

7. Q7. Do you pay attention to the advertising of fast food restaurants?

Mark only one oval.

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Hardly ever
- ☐ Never

8. Q8. Considering that a standard hamburger has 246 Kcal. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

9. Q9. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

10. Q10. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

11. Q11. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

12. Q12. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

13. Q13. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

14. Q14. How much calories do you think that this hamburger has?



Mark only one oval.

- ☐ 300-400
- ☐ 401-500
- ☐ 501-600
- ☐ 601-700
- ☐ 701-800
- ☐ 801-900

15. **Q15. Order the changes that you have perceived in fast-food restaurants in recent years, being 1 the principal change and 5 the minor change**

Mark only one oval per row.

	1	2	3	4	5
The decoration is better	☐	☐	☐	☐	☐
The food is healthier	☐	☐	☐	☐	☐
The price is cheaper	☐	☐	☐	☐	☐
Incorporation of technology	☐	☐	☐	☐	☐
Attention and service are better	☐	☐	☐	☐	☐

16. **Q16. How much do you spend when you or if you decide to go to a fast food restaurant?**

Mark only one oval.

- ☐ Between €1 to €4
- ☐ Between €4,01 to €6
- ☐ Between €6,01 to €8
- ☐ More than €8

Classification Data

Please answer these questions that are only for classification purposes

17. **Gender**

Mark only one oval.

- ☐ Female
- ☐ Male

18. **Age**

Mark only one oval.

- ☐ Under 18
- ☐ Between 18 to 25
- ☐ Between 26 to 35
- ☐ Between 36 to 50
- ☐ Older than 50

19. **Level of studies**

Mark only one oval.

- ☐ Primary
- ☐ Secondary
- ☐ Bachillerato
- ☐ Módulo or Formación Profesional
- ☐ University Studies
- ☐ Postgraduate Studies

20. Occupation

Mark only one oval.

- ☐ Student
- ☐ Employee
- ☐ Student and Employee
- ☐ Unemployed
- ☐ Retired

21. Select the highest level of studies of one of your parents

Mark only one oval.

- ☐ Primary
- ☐ Secondary
- ☐ Bachillerato
- ☐ Módulo or Formación Profesional
- ☐ University Studies
- ☐ Postgraduate Studies

22. Introduce your C.P. (Código Postal)

ANNEX 2. SURVEY (ODD DAY)

Survey on Fast Food

This is a survey on fast food aimed at everyone. Please answer all the questions in order and following the instructions.

1. Q1. How often do you go to a fast food restaurant?

Mark only one oval.

- ☐ Four or more times a month
- ☐ Once a month
- ☐ Once every three months
- ☐ Two times a year
- ☐ Never (go to question 5)

2. Q2. Order from 1 to 5, why do you decide to go to a fast food restaurant, being 1 the principal reason and 5 the minor reason

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	1	2	3	4	5
For the price	☐	☐	☐	☐	☐
For the special offers	☐	☐	☐	☐	☐
For the quality of the food	☐	☐	☐	☐	☐
Because I like this kind of food	☐	☐	☐	☐	☐
Because I want a quick meal	☐	☐	☐	☐	☐

3. Q3. Do you have the app of any fast food restaurant?

Mark only one oval.

- ☐ Yes
- ☐ No (go to question 5)

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- ☐ Carl's Jr. Restaurants
- ☐ Pans and Company
- ☐ KFC
- ☐ Taco Bell
- ☐ The Good Burger
- ☐ Subway

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7. Q7. Do you pay attention to the advertising of fast food restaurants?

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- ☐ Hardly ever
- ☐ Never

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- ☐ 701-800
- ☐ 801-900

15. **Q15. Order the changes that you have perceived in fast-food restaurants in recent years, being 1 the principal change and 5 the minor change**

Mark only one oval per row.

	1	2	3	4	5
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The food is healthier	☐	☐	☐	☐	☐
The price is cheaper	☐	☐	☐	☐	☐
Incorporation of technology	☐	☐	☐	☐	☐
Attention and service are better	☐	☐	☐	☐	☐

16. **Q16. How much do you spend when you or if you decide to go to a fast food restaurant?**

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- ☐ Between €6,01 to €8
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- ☐ Male

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- ☐ Under 18
- ☐ Between 18 to 25
- ☐ Between 26 to 35
- ☐ Between 36 to 50
- ☐ Older than 50

19. **Level of studies**

Mark only one oval.

- ☐ Primary
- ☐ Secondary
- ☐ Bachillerato
- ☐ Módulo or Formación Profesional
- ☐ University Studies
- ☐ Postgraduate Studies

20. Occupation

Mark only one oval.

- ☐ Student
- ☐ Employee
- ☐ Student and Employee
- ☐ Unemployed
- ☐ Retired

21. Select the highest level of studies of one of your parents

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- ☐ Secondary
- ☐ Bachillerato
- ☐ Módulo or Formación Profesional
- ☐ University Studies
- ☐ Postgraduate Studies

22. Introduce your C.P. (Código Postal)

ANNEX 3. C.P.

The C.P. are the following:

28002. (Ciudad Jardín-Prosperidad). Belonging to the District of Chamartín.

28007. (Pacífico-Estrella). Belonging to the District of Centro.

28008. (Zona de Arguelles-Gaztambide). 28011. Casa de Campo. 28034 (Mirasierra-Valverde). 28035 (Peña Grande-Ciudad Universitaria). Belonging to the District of Moncloa-Aravaca.

28009. (Zona de Ibiza-Jerónimos). Belonging to the District of Retiro.

28015. Chamberí.

28017. (Ventas-Pueblo Nuevo). Belonging to the District of Ciudad Lineal.

28018. (Portazgo-Miguel Hernandez). Belonging to the District of Puente de Vallecas.

28019 (Oporto). 28025. (Vista Alegre-Puerta Bonita). Belonging to the District of Carabanchel.

28020. (Cuatro Caminos-Castillejos). 28029 (El Pilar-La Paz). 28039 (Valdezarza-Berruete). Belonging to the District of Tetúan.

28021. (Villaverde Bajo Cruce-San Cristobal). 28041. (El Espinillo). Belonging to the District of Villaverde.

28022. (El Capricho-Alameda de Osuna). Belonging to the District of Barajas.

28026. (Zofío-Pradolongo-Almendrales). Belonging to the District of Usera.

28027. (San Pascual-Concepción). Belonging to the District of San Blas-Canillejas.

28030. Moratalaz.

28032. Vicalvaro.

28034. (Herrera Oria-Fuencarral). Belonging to the District of Fuencarral-El Pardo.

28033-28036-28043. Chamartín.

28044. (Cuatro Vientos-Las Aguilas). 28047. (Laguna-Eugenia de Montijo). Belonging to the District of La Latina.

28045. Arganzuela.

28050. Hortaleza.

28110. Algete.

28223. Pozuelo de Alarcón.

28231. Las Rozas de Madrid.

28293. Zarzalejo.

28400. Collado-Villalba.

28523. Rivas-Vaciamadrid.

28600. Navalcarnero.

28660. Boadilla del Monte.

28702. San Sebastián de los Reyes.

28760. Tres Cantos.

28770. Colmenar Viejo.

28791. Soto del Real.

28903-28906-28909. Getafe.

28912-28913-28914-28915-28918. Leganés.

28921-28922-28923-28924-28925. Alcorcón.

28931. Móstoles.

28939. Arroyomolinos.

28941-28943-28944. Fuenlabrada.

28981. Parla.

ANNEX 4. NUMBER OF VISITS FO FAST FOOD RESTAURANTS AND LEVEL OF STUDIES

	Primary
Four or more times a month	1
Once a month	
Once every three months	2
Two times a year	3
Never	2
Total	8

	Secondary
Four or more times a month	2
Once a month	4
Once every three months	1
Two times a year	
Never	1
Total	8

	Bachillerato
Four or more times a month	9
Once a month	8
Once every three months	5
Two times a year	
Never	
Total	22

	Módulo or Formación Profesional
Four or more times a month	
Once a month	6
Once every three months	7
Two times a year	1
Never	1
Total	15

	University
Four or more times a month	27
Once a month	34
Once every three months	13
Two times a year	8
Never	3
Total	85

	Postgraduate Studies
Four or more times a month	2
Once a month	3
Once every three months	5
Two times a year	3
Never	1
Total	14

ANNEX 5. NUMBER OF VISITS, NEIGHBOURHOOD, LEVEL OF STUDIES OF
THE SURVEY RESPONDENTS AND OF ONE OF THEIR PARENTS

1) Good neighbourhood: Moncloa-Aravaca. Average household income: €56,443.79 in 2015.

Visits	Studies	Studies of one of their parents
Four or more times a month	Bachillerato	University Studies
Once every three months	University Studies	Módulo or F.P.
Once every three months	Primary	Primary
Once a month	University Studies	University Studies
Four or more times a month	University Studies	Postgraduate Studies
Two times a year	University Studies	University Studies
Once every three months	University Studies	Secondary
Two times a year	University Studies	Postgraduate Studies
Once every three months	Bachillerato	Secondary
Once a month	University Studies	Primary

1) Medium-bad neighbourhood: Villaverde. Average household income: €26,599 in 2015.

Visits	Studies	Studies of one of their parents
Once a month	University Studies	University Studies
Four or more times a month	Secondary	Módulo or F.P.
Four or more times a month	University Studies	Secondary
Once a month	University Studies	Secondary
Once a month	Módulo or F.P.	Primary
Never	Primary	Primary
Once a month	Módulo or F.P.	Primary
Once a month	Secondary	Primary