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Persuasive strategies in television food advertising in Spain

Estrategias persuasivas en la publicidad televisiva de alimentos en España

Estratégias persuasivas na publicidade televisiva de alimentos na Espanha

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ABSTRACT This article analyzes the persuasive strategies used in food advertising on television in Spain, according to their processing level, to get to know the messages' characteristics, the characters, and the audiovisual resources. We conducted a content analysis of the advertisements broadcasted on the two television networks with the highest audience (Antena3 and Telecinco) during four days of October, 2020, and analyzed a total of 128 hours, of which we extracted a corpus of 111 food ads. The results show an overrepresentation of ultra-processed foods which, compared to unprocessed foods, employ more persuasive strategies, such as appealing to the peripheral processing route, using more hypersexualized female protagonists, famous people, and a greater number of animations, graphics and sound effects. Thus, it can be affirmed that the promotion of a healthy diet has weaknesses insofar, as unprocessed foods are underrepresented in the media and they also use less persuasive strategies to attract the audience's attention. These results allow recommending public authorities to invest more efforts in creating efficient and forceful measures in favor of healthy eating.

KEYWORDS: food advertising; content analysis; TV; Spain; persuasive strategies; health promotion.

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RESUMEN | Este artículo analiza las estrategias persuasivas empleadas en la publicidad de alimentos en la televisión en España, según su nivel de procesamiento, para conocer las características de los mensajes, los personajes y los recursos audiovisuales. Se analizó el contenido de los anuncios emitidos en las dos cadenas de televisión con más audiencia (Antena3 y Telecinco) durante cuatro días de octubre de 2020. Se analizó un total de 128 horas, de las que se obtuvo un corpus de 111 anuncios. Los resultados arrojan una sobrerrepresentación de anuncios de alimentos ultraprocesados en comparación con los alimentos no procesados. Los primeros emplean más estrategias persuasivas, apelan a la ruta periférica de procesamiento, recurren a más protagonistas de género femenino hipersexualizadas, a personajes famosos y a una mayor cantidad de animaciones, grafismos y efectos de sonido. Se puede afirmar que la promoción de una alimentación saludable presenta debilidades, pues existe una infrarrepresentación de alimentos no procesados en los medios, sumándose al empleo de menos estrategias persuasivas que llamen la atención de la audiencia. Estos resultados permiten recomendar que las autoridades inviertan más esfuerzos en medidas eficientes y contundentes en favor de la alimentación saludable.

PALABRAS CLAVE: publicidad de alimentos; análisis de contenido; televisión; España; estrategias persuasivas; promoción de la salud.

RESUMO O artigo analisa as estratégias persuasivas utilizadas na publicidade de alimentos na televisão na Espanha, de acordo com seu nível de processamento, para conhecer as características das mensagens, as personagens e os recursos audiovisuais. Foi analisado o conteúdo dos anúncios veiculados nas duas redes de televisão com maior audiência (Antena3 e Telecinco) durante quatro dias de outubro de 2020. Foram analisadas 128 horas no total, das quais fori extraído um corpus de 111 anúncios. Os resultados mostram que há uma super-representação de anúncios de alimentos ultraprocessados, comparados aos alimentos não processados. Os primeiros empregam estratégias mais persuasivas como apelar à rota periférica de processamento, o uso de protagonistas femininas mais hipersexualizadas, de personagens famosos e um maior número de animações, gráficos e efeitos sonoros. Desse modo, pode-se afirmar que a promoção de uma alimentação saudável apresenta fragilidades, pois existe uma sub-representação na mídia de alimentos não processados e que também utilizam estratégias menos persuasivas que atraem a atenção do público. Esses resultados tornam possível recomendar que as autoridades invistam mais esforços na criação de medidas eficazes e contundentes em prol da alimentação saudável.

PALAVRAS-CHAVE: publicidade de alimentos; análise de conteúdo; televisão; Espanha; estratégias persuasivas; promoção de saúde.

INTRODUCTION

The relationship between media consumption and the promotion of unhealthy foods in advertising campaigns limits the audience's choice of beneficial foods (Hastings et al., 2003). New platforms and devices for accessing audiovisual content, as well as the elevated daily time spent consuming them, exacerbate the problem. In 2021, the average daily television consumption of Spaniards amounted to 208 minutes, ranking for the first time as the second most consumed, behind the Internet, with 215 minutes (AIMC, 2022).

Previous studies document a significant relationship between television viewing time with a predisposition to obesity and overweight, both in the case of children and adults (Marshall et al., 2004; Cleland et al., 2008; Martínez-Moyá, et al., 2013). On the other hand, the media influence our perception of the world (Díaz Ramírez & Souto-Galardo, 2011; Avery et al., 2017; Da Silva et al., 2021); not in vain are they known as the fourth power (Castells, 2009). Therefore, the representation they construct of a behavior such as eating should not be overlooked, as there are key factors that influence unhealthy habits: high television consumption, the type of content broadcast, or its effects on the audience's decisions (World Health Organization, 2015; Organización Panamericana de la Salud & Organización Mundial de la Salud, 2015). These factors have a significant impact on populations such as children, who are especially vulnerable as recipients of audiovisual content, as they do not have the necessary knowledge to differentiate and evaluate messages or to identify their persuasive intent (Pinto et al., 2020; GarcíaSoidán et al., 2020; Busse & Taylor, 2016).

Studies on food advertising

Due to its persuasive power on audiences, what it entails for the consumer industry and, indirectly, for health, the analysis of advertising in the food sector has been a recurring topic of study for decades (Royo Bordonado, 2020). According to the World Health Organization (Organización Mundial de la Salud, 2010), television advertising influences food preferences and consumption patterns through the deployment of persuasive techniques to draw attention (Petty & Cacioppo, 1986; O'Shaughnessy, 2003; Han & Shavitt, 1994; Moreno & Luque, 2014).

Persuasive communication is defined as "a type of constructed message that poses a recommendation to the audience (...) it will be justified on the basis of explicit or implicit arguments, of an affective or rational nature" (Igartua et al., 1997, p. 44). From this standpoint, when talking about persuasive processes, it is worth remembering that of elaboration probability (Petty & Cacioppo, 1986; Reyes Pedraza et al., 2018), which proposes the existence of two routes through which persuasion occurs: central and peripheral. Advertising supports the promotion of products when it comes to influencing consumer behavior, elaborating attractive

messages, with eye-catching characters or whose features draw attention and appeal to the peripheral processing route. In Spain, food advertising, especially that aimed at children, has been a subject of analysis based on the PAOS Code (Advertising, Food, Obesity, and Health) (González Díaz, 2013; Ponce & de Ayala, 2019; Romero, 2016). Previous studies (Menéndez García & Franco Díez, 2009; Ramos & Navas, 2015; González-Díaz, 2013; Fernández & Díaz-Campo, 2014) have concluded that advertising aimed at children is characterized by being hypercaloric, high in sugar, fat, and salt. More specifically, Ponce-Blandón and colleagues (2017) found that children were exposed to more unhealthy food advertisements, characterized by presenting incentives for viewers, such as gifts or fantasy. In Romero Fernández's (2016) research, 74% of the ads analyzed resorted to some type of marketing strategy, with graphics suggestive of healthy products being the most employed. Regarding nutritional claims, vitamins and low-fat content were the most recurrent (23% and 19%, respectively). Morales Rodríguez and colleagues (2019) analyzed food advertising on the Boing children's network and found that all the ads did not comply with the recommendations of the World Health Organization (Organización Mundial de la Salud, 2010) and 73.9% did not comply with the PAOS Code.

At the international level, research such as that of Castillo-Lancellotti and colleagues (2010), Keller and Schulz (2010), Mink and colleagues (2010), Harrison and Marske (2005), or Powell and colleagues (2007) also found a prevalence of ultraprocessed food advertisements during the programming of television networks dedicated to children. For example, Castillo-Lancellotti and colleagues (2010) studied food advertisements for children on five free-to-air television networks in Chile for 15 days, concluding that 78.8% referred to unhealthy foods. Likewise, the persuasive elements used by this type of advertisements make children more vulnerable targets. Studies such as those by Warren and colleagues (2008), Kelly et al. (2008), or Hastings and colleagues (2006) identified how appeals to the audience's peripheral route (gifts, fantasy) are very recurrent in this type of messages. Harris and colleagues (2009) further tested the hypothesis that exposure to food advertising on television contributed to increased obesity.

Food advertising regulations are mostly limited to protecting the child audience, assuming that those over 15 years of age are sufficiently capable of identifying and evaluating it. There are several regulatory bodies, from the World Health Organization to State authorities, which propose heterogeneous recommendations (Organización Mundial de la Salud, 2010, 2015; Ministerio de Sanidad y Consumo, 2005; Ley 7/2010, 2010; Ley 17/2011, 2011).

In 2010, the World Health Organization published a series of recommendations prohibiting the marketing of unhealthy foods to children, recognizing the

great influence that television advertising has on their consumption patterns (Organización Mundial de la Salud, 2010). It was not until 2015 that the World Health Organization (2015) created its own nutritional profiling model, classifying foods into 17 categories to clarify which could or could not be advertised based on their nutritional composition. This was intended to be a basis from which to start for European countries, which could adapt it to reduce marketing to children. To check whether or not these scales applied in Spain, the Consumers and Users Organization (Organización de Consumidores y Usuarios, 2019) analyzed television advertising aimed at children, concluding that only 19% could have been advertised according to the World Health Organization's criteria.

Spanish regulators have attempted to restrict unhealthy food advertising with a series of state proposals; in 2005 the NAOS Strategy (Ministerio de Sanidad y Consumo, 2005) set out to prevent obesity. This included the 2005 PAOS Code, which established self-regulatory guidelines for advertisers of food aimed at children under 12 years of age. Adherence to this code is voluntary and does not imply any sanction.

In 2010, the General Law on Audiovisual Communication (Ley 7/2010, 2010) established child protection time slots, based on the premise that at certain hours children under 13 years of age could not be accompanied by adults or may not have parental control. The Food Safety and Nutrition Law (Ley 17/2011, 2011) has an entire chapter dedicated to food advertising, which prohibits testimonials from health professionals, health or scientific endorsements, and promoting the consumption of foods that replace the common nutrition regime. This law also encourages public authorities to create voluntary regulatory frameworks, paying particular attention to advertising to children under 15 years of age. In 2013, the Healthy Lifestyle Habits plan was published (http://www.habitosdevidasaludables.com), a campaign driven by the Spanish Agency for Consumer Affairs, Food Safety, and Nutrition (AECOSAN, by its Spanish acronym) and the Alimentum Foundation, born to make healthy lifestyle habits visible in television campaigns.

In 2020, the Ministry of Consumer Affairs declared that, in order to combat childhood obesity, advertising of unhealthy foods aimed at children under 15 years of age (and not 12 years, as indicated in the PAOS Code) would be prohibited (Medina, 2020). This regulation would follow the establishment of NutriScore labeling. Thus, once classified according to this reformulated PAOS Code, only foods classified as A or B in NutriScore could be promoted to children. However, if the same food is evaluated with the criteria of the World Health Organization (2015) and those of NutriScore (Sota, 2018), there are discrepancies that allow or not its advertising, the latter being more permissive.

These international and national measures seek to limit, to a greater or lesser extent, the promotion of unhealthy foods. As we have seen, numerous studies have questioned their effectiveness, since the overrepresentation of unhealthy foods is a fact.

During the COVID-19 pandemic, the overrepresentation of unhealthy foods intensified, as food marketing adapted to the circumstances of spending more time at home. Screen time skyrocketed, especially in children, implying a commensurate increase in the consumption of food advertisements. In September 2020, the World Health Organization warned that people with higher obesity and overweight (non-communicable diseases) are more likely to be hospitalized if infected (Organización Mundial de la Salud, 2020).

In the pandemic context, public and private entities have proposed measures to prevent this increase in obesity. The Prime Minister of the United Kingdom proposed banning the advertising of foods high in fat, sugar, and salt. Google banned food advertisements around content published for children and those for foods high in salt, fat, and sugar for children under 18 years of age in the European Union and the United Kingdom. Countries such as Mexico, Colombia or Argentina have joined Chile in banning toys and celebrities in ads, and included warning labels (Allén, 2020). Within this framework, the aim of this study is to provide an empirical basis on the representation of food advertising according to its degree of processing in Spanish television aimed at the general population, in order to check the persuasive strategies employed.

According to AIMC (2021), television continues to lead as the most consumed medium in Spain (85.1% penetration), as well as being the second with the highest advertising investment (behind digital media). Eight out of ten Spaniards believe that TV ads are more impactful and emotional, as well as being the best channel to remember them. Two thirds of Spaniards believe that the TV ad gives the brand more credibility, helps them to get to know it and decide to buy it (UTECA, 2020).

The study posed the following research questions:

- 1. What types of foods, according to their level of processing, are advertised on television?
- 2. What persuasive strategies do the messages employ?
- 3. What are the features of the characters appearing in the advertisements?
- 4. What audiovisual resources are most recurrent to reinforce the message?

METHODOLOGY

The works cited above constitute the starting point for constructing the study variables (included in table 1). The updated information seeks to contribute to complete the panorama of research on food advertising in Spain, in a context in which policy makers are beginning to give approve new restrictions and measures to promote health.

We used content analysis of televised food advertisements considering aspects such as the context, the characters, the message, and the audiovisual resources used. This technique is intended to "formulate, from certain data, reproducible and valid inferences that can be applied to their context" (Kripendorff, 1990, p. 28). Previous research corroborates its effectiveness in analyzing advertising according to the representation of gender, ethnicity, or type of advertised product (Annala & Vinnari, 2019; Nasreddine et al., 2019; Mattasi & Silva, 2016; Ramos & Navas, 2015; Mastro & Stern, 2003; Folta et al., 2006; Ford et al., 1998).

To select the sample, we used television audience ratings between October 24 and 27, 2020. Pay networks were excluded to ensure that a wider audience could view advertising. According to Barlovento (2020), in October of that year the most watched generalist television networks were *Telecinco* (with a 14.8% audience share), *Antena3* (with 12.8%) and *La 1* (8.9%). *La 1* was excluded from the sample because it is publicly owned and, therefore, does not have advertising.

The hours studied were from 8:00 a.m. to 00:00 p.m. to have a global view of both the time slots with the highest audience and the reinforced protection hours for children (Monday to Friday from 8:00 a.m. to 9:00 a.m. and from 5:00 p.m. to 8:00 p.m., and Saturdays and Sundays between 9:00 a.m. and 12:00 p.m.) (Ley 7/2010, 2010).

As for the duration of the data collection, we considered appropriate to analyze two weekdays and two weekend days (Saturday, October 24; Sunday, October 25; Monday, October 26, and Tuesday, October 27). This month was chosen since summer programming comes to an end and the new seasons of primetime programs begin.

Thirty-two hours of programming were analyzed over four days, for a total of 128 hours. Once the sample was selected, the hours were recorded. A total of 1,090 food advertisements were viewed (550 on *Antena3* and 540 on *Telecinco*).

In the case of *Antena3*, food commercials were more varied (107 different ones in the four days). The most broadcasted were Donettes and Oikos, with 13 broadcasts each. In the case of *Telecinco*, the frequency of food ads was similar to *Antena 3*, with 103 different ads. The most aired were Nestlé Gold (20 broadcasts) and El Ventero cheese (18 broadcasts).

Table 2 shows the distribution of ads by network analyzed.

Variables

Type of food according to the World Health Organization (2015) classification.

Type of food by degree of processing (unprocessed, processed, ultra-processed).

Message

Persuasive techniques used.

On-screen text on healthy lifestyle habits.

Characters

Voice-over. Celebrities. Presence of more men or women. Protagonists: Gender and age. Hyper-sexualization.

Audiovisual resources

2D/3D animation. Visual effects. Infographics/graphics.
Sound effects.

Table 1. Study variables

Source: Own elaboration.

	Total	Average/day (SD)	Average/ week days (SD)	Average / weekend (SD)
Antena3	550	137.5 (25.51%)	124 (8.48%)	151 (33.94%)
Telecinco	540	135 (23.22%)	119.5 (10.6%)	150.5 (23.33%)

Table 2. Distribution of ads by network

Source: Own elaboration.

In terms of time slot, *Antena3* has its highest peak of food ads between 5:00 p.m. and 6:00 p.m., followed by 2:00 p.m. and 3:00 p.m., corresponding to snack and lunch time in Spain. *Telecinco* broadcasts more food ads in the dinner slot (from 10:00 pm to 0:00 p.m. and mid-morning (from 12:00 p.m. to 1:00 p.m.). To analyze the content of each ad, repeated cases and those sponsoring a program or slot on the network were eliminated from the sample, as well as advertising placements. Of the 1,090 ads, after filtering, we obtained a sample of 111 different ads.

To measure the variables, we prepared a codebook and an analysis sheet. The variables were grouped into four categories.

1. Basic identification data: identify the assigned coder, the type of food announced according to the World Health Organization (2015) classification and according to its level of processing.

- 2. Message: analysis of the ad's dialogues, voice-overs, or textual elements. It considers the use of 17 persuasive techniques, starting from the persuasive appeals scheme of Warren and colleagues (2008), Kelly et al. (2008), Ponce-Blandón and collaborators (2017), Bringué (2001), and Kim and colleagues (2016) in food advertising. These were grouped into appeals to the central or peripheral route of processing, and the occurrence or not of additional healthy habits information was measured based on the HAVISA Plan (http://www.habitosdevidasaludables.com).
- 3. Characters: used to identify the presence or not of voice-over and more men or women on screen. The variable protagonists included gender, whether it is a celebrity and its scope, and its possible hyper-sexualization based on six features (classification by Smith, Choueiti, and Pieper in the report *Gender Bias Without Borders*, 2014).
- 4. Audiovisual resources used in the production and post-production of the audiovisual piece (based on the classification of Kim et al., 2016; Gil González & Cortés Gracia, 2020) considering sound effects and visual resources (infographics, visual effects, 2D or 3D images).

Coding

Three judges participated in the coding. Each randomly analyzed one-third of the ad sample (37 ads). To calculate intercoder reliability, a random subsample of 18% of the 111 ads (20 ads) was selected. Krippendorf's Alpha, (2004) yielded an average reliability of α =.87, a satisfactory value. The process was conducted from November 9 to 20, 2020 using an online coding template, utilizing the Qualtrics platform. The average time to complete the template per advertisement was 15 minutes. For the statistical analysis, SPSS was used to correlate the variables with Pearson's coefficient, Student's t-test, and Chi-square.

RESULTS

Regarding the type of food advertised, following the classification of the World Health Organization (2015), chocolate (18.9%) is the most frequently advertised food, followed by precooked products (14.4%), and fast food (7.2%). Table 3 shows the frequency of appearance of the type of food advertised.

The analyses presented here exclude nutritional supplements (a total of six units of analysis). According to their level of processing, 66.7% (n=70) of the ads aired corresponded to ultra-processed foods, 26.7% (n=28) to processed foods, and only 6.7% (n=7) to unprocessed foods. No significant differences were found between this classification and the broadcast network.

Chocolates 18.9 21 Precooked products 14.4 16 Fast food 7.2 8 Coffees, infusions 6.3 7 Nutritional supplement 5.4 6 Yogurt 5.4 6 Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Meat, fish 0.9 1 Meat, fish 0.9 1	Food type	% of occurrence	n	
Fast food 7.2 8 Coffees, infusions 6.3 7 Nutritional supplement 5.4 6 Yogurt 5.4 6 Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Chocolates	18.9	21	
Coffees, infusions 6.3 7 Nutritional supplement 5.4 6 Yogurt 5.4 6 Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Precooked products	14.4	16	
Nutritional supplement 5.4 6 Yogurt 5.4 6 Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Fast food	7.2	8	
Yogurt 5.4 6 Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Coffees, infusions	6.3	7	
Milk 5.4 6 Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Nutritional supplement	5.4	6	
Pastries and cookies 5.4 6 Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Yogurt	5.4	6	
Bread 5.4 6 Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Milk	5.4	6	
Cheese 3.6 4 Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Pastries and cookies	5.4	6	
Alcoholic beverages 3.6 4 Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Bread	5.4	6	
Savory snacks 3.6 4 Fruits, legumes, processed vegetables 2.7 3 Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Cheese	3.6	4	
Fruits, legumes, processed vegetables Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 Candies 1.8 Pasta, rice, grains Fats 1.8 Sauces, dressings 0.9 Breakfast cereals 0.9 1	Alcoholic beverages	3.6	4	
Processed meat 2.7 3 Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Savory snacks	3.6	4	
Fruits, pulses, vegetables 1.8 2 Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Fruits, legumes, processed vegetables	2.7	3	
Candies 1.8 2 Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Processed meat	2.7	3	
Pasta, rice, grains 1.8 2 Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Fruits, pulses, vegetables	1.8	2	
Fats 1.8 2 Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Candies	1.8	2	
Sauces, dressings 0.9 1 Breakfast cereals 0.9 1	Pasta, rice, grains	1.8	2	
Breakfast cereals 0.9 1	Fats	1.8	2	
	Sauces, dressings	0.9	1	
Meat, fish 0.9 1	Breakfast cereals	0.9	1	
	Meat, fish	0.9	1	

Table 3. Frequency of food advertisements as classified by the World Health Organization (2015)

Source: Own elaboration.

Message

First, we quantified whether or not there was presence or absence of 17 persuasive techniques divided according to Petty & Cacioppo's (1980, 1981) classification, also employed in the study by Kim and colleagues (2015), based on the appeal to the central or peripheral route. According to the authors, appeals to the central route focus on real or rational data, while appeals to the peripheral, on emotions. Table 4 illustrates the percentage of use of these techniques according to the type of food.

	Unprocessed	Processed	Ultra-processed
Appeal to the central route			
Flavor/texture	42.9 (3)	50 (14)	62.9 (44)
Nutritional content/properties	42.9 (3)	42.9 (12)	28.6 (20)
Health/wellness	28.6 (2)	32.1 (9)	48.3 (14)
Images or graphics suggestive of healthy characteristics	14.3 (1)	14.3 (4)	21.4 (15)
New product	0	10.7 (3)	20 (14)
Convenience	14.3 (1)	7.1 (2)	5.7 (4)
Quantity	0	0	4.3 (3)
Average	18.39	22.44	27.31
Appeal to the peripheral route			
Action, adventure, fun	0	3.6 (1)	25.7 (18)
Mood disturbance	14.3 (1)	14.3 (4)	12.9 (9)
Special emotional relationship	28.6 (2)	14.3 (4)	11.4 (8)
Adult approval	0	3.6 (1)	14.3 (10)
Third-party acceptance	14.3 (1)	10.7 (3)	8.6 (6)
Presence of gifts	0	0	7.1 (5)
Appearance of promotional characters appealing to children	0	0	4.3 (3)
Magic, fantasy	0	3.6 (1)	1.4 (1)
Financial deal	0	0	11.4 (8)
Average	6.36	5.57	10.8

Table 4. Use of persuasive techniques (central and peripheral appeal) by type of food (% (n))

Source: Own elaboration.

In the case of action, adventure, and fun, we found statistically significant results [$\chi^2(2, N=105) = 8.273$, p<0.05], with these terms being more employed in ultra-processed foods. The percentage data in table 3 indicate a greater use of flavor and texture, health/wellness, images or graphics suggestive of healthy characteristics, new product, and quantity as the most common strategies in ultra-processed foods. Unprocessed foods, on the other hand, use a higher percentage (table 3) of special affective relationship, third-party acceptance, and convenience as persuasive strategies.

Based on the above data, we elaborated two indexes containing the variables on the persuasive elements appealing to the peripheral route and the central route to correlate them with the three types of food according to their level of processing. Statistically significant results showed that, the more ultra-processed, the more elements of appeal to the peripheral route are employed (p<.05). It was also found that there was a negative relationship between both indexes [t(104)=-0.460, p<.01]. I.e., those advertisements that employ fewer central route appeal tools use more peripheral route appeal tools, and vice versa. Thus, advertisers bet on appealing to one route or the other instead of complementing them.

In the sample of ads analyzed, the text at the bottom of the screen about healthy lifestyle habits was present in 30.5% of the cases. Of these, 90.6% showed the habitosdevidasaludables.com website and a healthy recommendation, while the rest showed only a habit. Depending on the type of food advertised according to its level of processing, it was found that 42.9% of unprocessed foods did include this text in the advertisement, followed by ultra-processed foods (31.4%), and processed foods (25%).

Characters

According to the type of food advertised, we found statistically significant differences with some of the variables related to the protagonists. Firstly, a significant relationship (p<.05) was obtained with the voice-over. In all non-processed foods with voice-over, the voice-over was male, while in the other types of food, despite the predominance of a male voice-over, there was also a presence of a female voice. Distinguishing between the type of food advertised, it can be concluded that the more processed the food, the more a protagonist is used, especially in the case of women.

In unprocessed foods, for example, only one case was found with a clear protagonist, a famous man. In the rest of the ads, either there was no clear protagonist or there were no characters at all. In those where several people appeared, it was concluded that women had a greater presence than men. Of the total number of TV ads, 32.4% were female-dominated, 31.4% were equally represented by women and men, and 21% featured more men. This variable was related to the gender of the protagonist $[\chi^2(6, N=89)=34.739, p<0.001]$. When the protagonist was a woman, she was more likely to be accompanied by more women, and vice versa.

The presence of celebrities on screen was similar in the three types of food, although in all three cases men predominated. Likewise, in processed foods the areas in which they were celebrities were more disparate, including youtubers, singers, actors and chefs. No unprocessed food resorts to elements of hyper-sexualization

of its protagonists, but, as they were more processed more of these characteristics were employed, especially in the case of women, representing them as attractive and slim. Table 5 summarizes the features of the characters analyzed according to the type of food.

	Unprocessed	Processed	Ultra-processed
Voice-over			
Male Female	71.4 0	50 39.3	58.6 38.6
Protagonist			
Men	Celebrity 14.3	Adult 14.3 Celebrity 10.7 Total: 25	Child 10 Adult 7.1 Celebrity 7.1 Total: 24.2
Woman		Adult 25 Old woman 3.6 Celebrity 3.6 Total: 32.2	Child 7.1 Adult 18.6 Old woman 5.7 Celebrity 1.4 Total: 32.8
Celebrity			
Men	TV/actor: 14.3	Cook: 7.1 Humorist: 3.6	Cook: 2.9 Musician: 1.4 Youtuber: 1.4 TV/actor: 4.3
Woman		Actress 3.6	Actress: 2.8
	Total: 14.3	Total: 14.3	Total: 13.7
Hyper-sexualization			
Slimness/musculature Male Female	0	0 21.4	4.3 10
Attractive			
Male Female	0 0	3.6 28.6	15.7 24.3
Sexually suggestive clothing Male Female	0	0	0 2.9
remate	0	U	2.7
Body part fragmentation Male Female	0 0	0 0	0 4.3
Body part fragmentation Male	0	0	0

Table 5. Features of the characters appearing in the advertisements according to the type of food (%)

Source: Own elaboration.

Audiovisual resources

According to Kim and colleagues (2015), the use of visual and sound effects is also identified as peripheral route appeals. These were defined as visual cues that draw viewers' attention to the advertisement (Warren et al., 2008) and sound cues as attention-grabbing audios (such as familiar music). In the sample, unprocessed foods predominated by not presenting audiovisual resources or by including infographics or graphics (e.g., texts superimposed on the image with names of ingredients). In the case of ultra-processed foods, they stand out for having more 2D and 3D animations and more sound effects (table 6).

When correlating these variables with the type of food, significant results were found in the case of 2D/3D animations $[\chi^2(2, N=105) = 12.192, p<.005]$. We then created an index of the use of audiovisual and sound resources to perform a bivariate correlation with the type of food, which showed statistically significant results (p<.05), indicating that advertisements for more ultra-processed foods used more of these audiovisual resources.

	Unprocessed	Processed	Ultra-processed
None	28.6 (2)	32.1 (9)	12.9 (10)
2D/3D animation	0	10.7 (3)	41.4 (28)
Visual effects	14.3 (1)	17.9 (5)	11.4 (7)
Infographics/graphics	71.4 (5)	57.1 (16)	70 (49)
Sound effects	28.6 (2)	35.7 (10)	47.1 (33)

Table 6. Use of audiovisual resources by type of food (% (n))

Source: Own elaboration.

DISCUSSION AND CONCLUSIONS

The study allows us to conclude that there is an overrepresentation of advertising of unhealthy products and that, in addition, these use more persuasive strategies that emphasize the emotional side, so that audiences are subjected to a double attraction to consume this type of unhealthy food. No significant differences were found between the two television networks analyzed (*Antena3* and *Telecinco*), both in the quantity of advertisements and in the quality of the foods advertised.

Specifically, only 6.7% (n=7) of the advertised foods were unprocessed, while 66.7% (n=70) were ultra-processed, a figure similar to those stated by Ponce-Blandón and colleagues (2017), Romero (2016), Jenkin and collaborators (2009), Adams et al. (2009), who found between 53% and 66% of ultra-processed advertisements. Based on the type of food according to the classification of the World Health Organization (2015), the food group of chocolates, precooked foods, and fast food were the most broadcasted, a fact in line with the excessive presence of less healthy foods.

The study demonstrates that persuasive techniques in the message are the great support to convince audiences. In line with previous research (Kim et al., 2016; Moore, 2004; Moon, 2010), it is found that healthier foods resort more to persuasive appeals to the central route –which appeals to information and argumentation–, while ultra-processed foods resort to the peripheral route, which alludes to emotions. Thus, ads for unprocessed foods are more limited in terms of persuasive strategies and appeal to their benefits, which will reduce a consumer's prior motivation to buy them. In contrast, ultra-processed foods use simple and direct messages, such as the novelty or quantity of the product. Thus, unprocessed foods not only need to be advertised more, but also better. Viewers already know that unprocessed foods are unprocessed, so these foods need to attract attention by using other, more appealing properties.

The use of different characters in the ads was also striking. Processed and ultra-processed foods used more female protagonists. However, male celebrities were more present than their female counterparts. It is noteworthy that all the cooking celebrities in the advertisements analyzed are men. On the other hand, the two female celebrities starring in the sample ads are actresses/anchorwomen and, moreover, categorized as attractive and slim. Thus, men are represented as experts in cooking without the need to be attractive, while female celebrities are not characterized by their expertise within the food field, but for having a more appealing presence. Along these lines, women were depicted as much more hypersexualized than men, especially among ultra-processed ads. Showing slim and attractive women to launch messages such as attractive women consume this product, if you consume it you will be like her, in addition to objectifying them, promotes an unrealistic product message that can affect the self-esteem and confidence of the female audience. Finally, audiovisual resources were also used to reinforce persuasive messages, especially in ultra-processed products.

One of the limitations of this analysis is the sample of networks chosen. Although it is composed of the two networks with the highest audience, it cannot be generalized to the entire television spectrum. In future research it would be necessary to extend it to other networks and include other dates, since the products advertised depend to a large extent on the season of the year or time of year.

In short, this study highlights the priority of broadcasting more advertisements of nutritionally healthy foods. In order to improve the range of foods represented in television ads, it is suggested that the role of regulatory bodies should be strengthened, limiting the promotion of unhealthier foods, and pursuing more fanciful or subjective messages that distort the real properties of the products. In this vein, the proposals of the HAVISA Plan (http://www.habitosdevidasaludables.com)

seem insufficient and poorly used, since the foods that should promote them the most (ultra-processed foods) are the ones that use them the least in their advertisements. Those that include their proposals do so in a minimal space in the image, practically imperceptible in the broadcast. It can be deduced from the analysis that the more paternalistic restrictions (more protective, in favor of the common good) by the government on food advertising should be reviewed, since they have not proved to be effective. These can be seen in the low levels of effectiveness of voluntary regulatory codes –such as the PAOS Code– in reducing the consumption of unhealthy products in children (González Díaz, 2013; Romero Fernández, 2016; Ponce & Ayala, 2019).

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