The Presence and Promotion of Foods and Beverages in the YouTube Channels of The World’s Most Influential Kid Ps: A Comparative Study Between the United States and Spain

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This study aims to determine the different types of foods and beverages that predominate in the channels of kid youtubers in Spain and the United States, which serve as a model for children’s nutritional habits. The study looked at a sample of 18 YouTube channels and 553 videos from a universe of 1551 videos. Four main conclusions have been drawn: there are significant differences depending on the origin of the channels, with a greater presence of oils, fats and meat in Spanish channels, and of cereals, chocolates, sugar and fruit in channels from the United States; in 60% of the videos, brands are being promoted (without appropriate identification), with statistically significant differences according to the country of origin; the main communication objective is a promotional objective, with differences according to country, being more educational/promotional in the United States and more focused on entertainment/promotion in Spain; and in 16% of cases, the children showed excessive or compulsive consumption—the videos do not appear to promote, in general, healthy nutritional habits.

Keywords: children, influencer, food and beverages, brand advertisers, social media.

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The marketing of unhealthy products in digital media targeting children is a reality (Tallie et al., 2019). Many organisations are giving warning and promoting policies on healthy diets for children, including the World Health Organization, the European Union and, in the United States, the Children’s Food & Beverage Advertising Initiative (CFBAI), the Federal Trade Commission (FTC) and the Food and Drug Administration (FDA).

The World Health Organization has been warning about this phenomenon since 2012 (WHO, 2012) through a number of different reports. Its “WHO European Regional Obesity Report” (WHO, 2022), the most recent one issued, focuses on overweight and obesity in children in Europe. It states that one in three school-aged children and one in four adolescents are living with overweight or obesity and highlights the promoting of food in digital media. This has been a long-standing concern at the WHO. In 2016 its report “Tackling food marketing to children in a digital world: trans-disciplinary perspectives” (WHO, 2016) called attention to the advertising of unhealthy food brands on social media and video-viewing platforms, and in 2018 its study “Monitoring and restricting digital marketing of unhealthy products to children and adolescents” (WHO, 2018) analysed digital marketing strategies in order to prevent the marketing of unhealthy foods aimed at children, as well as the action taken by European Region Member States with regard to this phenomenon. The European Union has developed an overall strategy on children’s rights, the EU strategy on the rights of the child (European Commission, 2021), in which it promotes a sufficient, healthy diet of fruit, vegetables and milk in schools in the EU, which it encourages Member States to foster in their respective countries. In the United States, the Children’s Food & Beverage Advertising Initiative (CFBAI, 2022) has been developed whereby participants, which are globally famous brands, commit to advertising —in both conventional and digital media— only products that meet CFBAI’s strict Uniform Nutrition Criteria in the advertising primarily directed to children.

Against that background, this paper focuses its attention on identifying which foods and beverages are being promoted, and how often, in the YouTube channels of kid vloggers aged under 13 years old in Spain and the United States during 2021. At the current time it is a nascent reality (Castelló-Martínez and Tur-Viñes, 2020a and 2020b; Veirman et al., 2019) which merits analysis, given the abundant literature on the subject of the promotion of food in content aimed at children (Coates et al., 2020; Coates et al., 2019a and 2019b; White, 2018, Boyland and Whalen, 2015; Folkvord et al., 2014).

The promoting of unhealthy food and beverages in digital media and, specifically, in video-sharing platforms such as YouTube where children are themselves content creators —thereby becoming influencers of the other children who view that content (Brown and Hayes, 2008, Ofcom, 2023)— deserves special attention. This phenomenon began in 2011 through channels such as EvanTubeHD and RyanToysReview, the latter of which in 2018 overtook the former upon becoming included on the Forbes list owing to revenues of 22 million dollars (Bergen, 2019). At the current time, kid vloggers Vlad and Niki, also ranked on the Forbes list, have 99 million subscribers (Social Blade,
2022), making them some of the best paid influencers on YouTube in 2021. This situation makes brands from the food sector keen to feature on these channels (Goldate, 1997; Hartmann, 2004; Marsh, 2016). YouTube is the preferred platform for children aged between 4 and 15 years old (Qustodio, 2020), as well as having the largest amount of entertainment content for this target audience (PWC and Superawesome, 2019).

Given the limited work carried out on this area, the comparative approach considered here regarding US and Spanish children who are content creators represents a step forward in the research in the area of food and health.

The importance of this study lies in it addressing an issue relating to children’s health in which the media is of fundamental importance. Children shape their personalities and general habits (such as their eating habits) in large part through imitation, especially between peers (Duek, 2010; Zapata, 2006). It is therefore important to know which foods and beverages appear in the leading children’s YouTube channels (videos created by children and aimed at children) as their adulthood nutritional habits will be formed or reinforced through contact with these videos. Furthermore, understanding the contexts in which these foods appear (such as the home or venues for leisure) helps in understanding other possible reinforcements (integrating the food or beverage more or less naturally into the audiovisual storytelling). Additionally, identifying promotion of food and beverage brands means identifying the presence of advertising which should be particularly regulated and monitored (as is the case in the conventional media, as it concerns children and health), but which on YouTube may be occurring without appropriate monitoring.

PREVIOUS STUDIES

The literature shows a clear snapshot and evident concern about what is happening in the YouTube channels of kid vloggers. The research focused initially on traditional media such as television (Boyland and Whalen, 2015; Folkvord et al., 2014; Harris et al., 2013; Paynton Jarrett et al., 2013; Boyland and Halford, 2013; Cortmaker; 2013; Cair et al., 2009; Marshall et al., 2007; Olivares et al., 2003, among others) and has gone on to centre on digital media.

Research into how health is advertised on the YouTube channels of kid vloggers is a recent phenomenon, beginning a decade ago. Studies focusing on children who are content creators and on food advertising have examined the advertising appearing in the YouTube channels of kid vloggers (kid youtubers). This is the case of the work by Bend et al. (2022) who undertook a reception study to find out expert opinions about the persuasion techniques used by brands to market food on social media among children. Among their conclusions they found that, although global organisations are attempting to identify these techniques, the continued use of such mechanisms on social media remains a significant challenge. Packer et al. (2022) analysed the research carried out between 2009 and 2021 on influencers who market food high in fat, salt and sugar (HFSS) to children. In their paper, they concluded that children consume more foodstuffs...
of this type than healthy foods due to that influence. The work by Tur-Viñes et al. (2022) identified the presence of unhealthy products in the videos created by kid youtubers based on a sample of 293 videos containing foods and/or food brands during one month in 2021. Among their findings, they found once again that unhealthy products were present to a greater extent than healthy products. They underlined the urgency of adopting ethical and legal standards to regulate child-targeted content. Another study by Castelló-Martínez and Tur-Viñes (2021) compared 13 food brands on the Internet and 15 YouTube channels of Spanish kid vloggers in 2019; among their most significant findings was the presence of marketing for ultra-processed products in the challenges on the Spanish kid youtuber channels. In earlier papers, Castelló-Martínez and Tur-Viñes (2020a and 2020b) compared the presence of food brands on TV networks with videos created by child youtubers (influencers) and warned of the lack of advertising warnings in the child-targeted content. Coates et al. (2020a) noted the presence of advertising for foods high in fat, salt and sugar and warned of the danger for children. Other researchers such as Tan et al. (2018) analysed the advertising for food and beverages appearing before or during the viewing of videos from kid youtubers. The main conclusions drawn were that advertisements for unhealthy food predominate in child-targeted adverts and that appropriate regulation is necessary for these digital platforms.

Another line of research around this topic has been interested in the type of food-related products appearing in the YouTube channels of kid vloggers. Folkvord et al. (2021) performed a narrative review highlighting the positive effect among children of food promotions and have proposed that a promotional strategy be undertaken to increase the appeal of fruit and vegetables. Martínez-Pastor et al. (2021) identified the food products on the YouTube channels of kid vloggers through a comparative study of Spain, the United States and the United Kingdom, to discover whether they fostered a healthy diet. Their sample consisted of 450 videos (6,750 minutes) from between 2016 and 2019. Their key findings were that the foodstuffs appearing most frequently (71%) were unhealthy, as opposed to healthy products. The country for which the presence of unhealthy foods was greatest was the US, followed by the UK and Spain. Araújo et al. (2017) sought to discover whether there were patterns in the content created for the YouTube channels of kid vloggers and identify the elements which could increase their attraction for users. They classified products into categories by type of product —amongst them foodstuffs, which were the products most present in the videos. In fact, one of the lines of research they proposed was that of promoting educational and healthy-eating videos among children to prevent the risk of child obesity.

Other papers have focused on children’s perceptions when they view advertising messages for unhealthy foods. Coates et al. (2020) studied how youtuber food advertising content affects children (10 and 11 years old). Among their findings, they highlighted that children understood that it was advertising content and that this did not bother them and even triggered a positive attitude towards such content. The same group of researchers, Coates et al. (2019b), studied the impact of influencers eating unhealthy foods and how this was reproduced
by the children who viewed them; however, watching healthy foods did not encourage their intake. They called the attention of the public administration, video-sharing platforms and influencers to the need for measures regarding kids’ channels. Following the same line of research, studies such as those by Baldwin, Freeman and Kelly (2018) and Smit et al. (2019) arrived at very similar results when looking into the frequency of consumption of youtuber content and exposure to unhealthy beverages and sandwiches. In the latter case, through a survey of 453 children aged from 8 to 12 years old, it was observed that there was an increase in intake of these products owing to the influence of the youtubers. The empathy shown for the influencers is such that Baldwin, Freeman and Kelly (2018) stated in their work that Australian children aged from 10 to 16 years old increased their intake of unhealthy foods and beverages after viewing youtuber video content in which this type of foodstuffs is consumed. Qutteina et al. (2019) identified the advertising of unhealthy foods that children (12 to 18 years old) found on social media. Over one week the children took screenshots of promotional food messages on their mobile phones; a total of 611 images of foods were taken. In many of these, the consumption of the foods was associated with social activities such as eating and having fun with friends. Attention must therefore be paid to this platform as a matter of urgency to safeguard children from content that is unsuitable for a healthy diet.

Interest has also been taken in the responsibility of parents as co-creators and producers of the YouTube channels of kid vloggers in studies such as those by Martínez-Pastor and Serrano (2022), Martínez-Pastor (2019) and Martínez-Pastor et al. (2017) who identified the different players participating in the advertising ecosystem of the YouTube channels of kid vloggers and the obligations and responsibilities specifically of the children’s parents, who encourage these channels.

It is therefore necessary to continue research into this area to both call attention to and control this type of child-targeted content, as is the case of this study which makes a comparison, with regard to the food and beverages appearing, between English language content and Spanish language content from the most influential kid vlogger content creators.

OBJECTIVES

We began with the hypothesis that there is a bias in the frequency with which the different types of food and beverages appear on YouTube (more sugary and fatty foods as compared to fish, fruit and vegetables). That is, certain types of foods (sugary, fatty and processed food, sugary beverages) are promoted more frequently than others (such as fruit and vegetables).

Based on this, the aim is to observe potential differences between Spanish channels and those from the United States, due to possible cultural biases.

To test this hypothesis, our objectives were to:
1. Identify the types of food and beverages that appear on the YouTube channels of kid vloggers and analyse their frequency, as well as the style of consumption and lifestyle shown.
2. Identify the presence of the promoting of food and beverages and their brands in the YouTube channels analysed and the communication objectives linked to them.
3. Identify the location and context of the videos of food and beverages that appear on the YouTube channels of kid vloggers.
4. Detect possible differences between the results obtained in the context of Spain and of the United States.

METHODLOGY, DATA CODING AND STATISTICAL ANALYSIS

Methodology

The authors took into account videos uploaded by child vloggers under 13 years old to their YouTube accounts. YouTube was the medium chosen for the study owing to its track record of over 20 years, which makes it possible to gather a sufficiently representative temporal sample consisting of consolidated kid YouTube vloggers. Several inclusion criteria were considered regarding channel selection:

1. The videos must be labelled as “made for kids” which is a category that content creators must declare to YouTube. A video is considered “made for kids” if children are the primary audience. This inclusion criterion is therefore essential for the study, as it clearly determines that the selected channels are for children.
2. Using video-sharing platforms, such as YouTube, continues to be a generalised practice among children. In fact, 96% are consumers of such platforms and 83% of children aged between 3 and 17 years old use YouTube to watch videos (Ofcom Report, 2023). According to the 2023 Ofcom Report, of the video-sharing platforms, YouTube is the most used among children aged 3-17 years old (88%), followed by WhatsApp (55%), TikTok (53%), Snapchat (46%), Instagram (41%) and Facebook (34%). This is why the YouTube platform was selected for this study. In addition, the monetising by this platform.
3. The main source of income for YouTube is advertising, through its proprietary formats which appear next to the videos or while these are playing (Google, 2023a). In turn, the creators who are part of the YouTube Partner Programme (YPP) receive income from YouTube advertising when they achieve 1,000 subscribers and 4,000 hours of valid public watch hours in the past 12 months, or if they have more than 1,000 subscribers and 10 million valid public Shorts views in the past 90 days (Google, 2023b). Content creators also generate income through the brands that appear in their videos either
in the thumbnails or title, or in any other format during the viewing of the video, that are unrelated to advertising standards of YouTube.

4. The channels must feature children who are aged under 13 years old. This age is that which Children’s Online Privacy Protection Act (COPPA) takes as its limit (“The Rule was designed to protect children under age 13”, FTC) and coincides with or is close to certain rights which children acquire in some countries. In the case of Spain, the limit for certain considerations is that of “los doce años cumplidos” [“the age of twelve years”] (Ley Orgánica de Protección Jurídica del Menor [Legal Protection of Children and Young People Organic Act]).

5. The channels are channels with the widest potential outreach owing to the language used (excluding Chinese): Spanish (493 million native speakers in 2021, second only to Mandarin Chinese) and English (379 million native speakers, third by number of native speakers) (Instituto Cervantes, 2021; Fernández, 2022).

The sample population was divided into two groups, in accordance with the YouTube channel’s country:

- Group 1: YouTube channels from Spain
- Group 2: YouTube channels from the United States

A random sample of kid vlogger YouTube channels was selected in order to measure the main characteristics and determine whether they promoted food, beverages and healthy habits. At least five channels were selected from each group by following the recommended techniques for sample selection when designing experiments. The final sample included 18 YouTube channels, which are described in Table 1. Therefore, the real universe consisted of 1,551 videos. The identification of the videos was carried out using a combined system: through an API and through manual review. For each of the YouTube channels selected, an analysis was carried out of all the videos broadcast over the reference period, resulting in a final sample of 553 videos. Additionally, during the period from 1 July 2021 to 30 September 2021, data were collected about the most representative metrics of said channels (number of visits, likes, etc.).

The study was not seeking to be exhaustive in covering all the kid vloggers’ YouTube channel content viewed by children (this would require automated tools to analyse such a large volume of video content). Data were collected in a spreadsheet (.xlxs) for further analysis by means of IBM SPSS (version 18 for Windows, SPSS Inc., Chicago, United States) and R programming language.

This study did not involve human subjects and therefore ethical approval was not required (Table 1).
Table 1. YouTube channels selected and sample size of considered videos

<table>
<thead>
<tr>
<th>Group</th>
<th>YouTube channel name</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Los juguetes de Arantxa</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>Mikel Tube</td>
<td>69</td>
</tr>
<tr>
<td>Group 1: YouTube channels from Spain</td>
<td>The Crazy Haacks</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Karina y Marina</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Las Aventuras de Dani y Evan</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Jugando con Aby</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Las Ratitas</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Hermanos Tremending</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>TeamNico</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Come Play With Me</td>
<td>13</td>
</tr>
<tr>
<td>Group 2: YouTube channels from the USA</td>
<td>D Billions</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Diana Bebe</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Heidi y Zidane ESP</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Kids Diana Show</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Like Nastya</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Like Nastya ESP</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Ryan’s world</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Vlad and Niki</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: Own elaboration.

**Data Coding**

The following characteristics of the videos were taken into consideration for the analysis:

- theme of the YouTube channel;
- types of food shown in the video;
- elements that can suggest (clearly) a commercial relationship with the channel; (evident and repeated presence of a brand in close-ups or as part of the setting, etc.);
- length of the video;
- position of the advertiser (primary, secondary, etc.);
- participants (family, boy, girl, etc);
- location (home, outside, etc);
- type (scripted, challenge, etc);
- context (the situation in which the video was recorded);
- role and channel impact (views, likes / dislikes).

All the foodstuffs viewed in the videos were coded. Food and beverages were categorised into 10 mutually exclusive different groups, according to the hierarchical system of food categories of the Spanish Food Composition Database (BEDCA, 2020).

The categorisation of the variables “Type of food” and “Type of beverage” warrants particular attention. The conventional classification of foodstuffs is
based on questions about their botanical origin, the type of animal and their nutrients (Monteiro et al., 2018). A basic classification is one based on nutrients (protein, carbohydrate, fat, vitamins, minerals and water). However, from a health perspective this is very confusing.

Nowadays it is possible to find classifications by food group based on frequency of consumption owing to their health-related profile (such as fruit, vegetables, cereals, potatoes and legumes and olive oil; dairy products; eggs, pulses, fish and seafood, nuts and white meats; red meats, sausages, spreadable fats, sugar, salt, sweets and pastries) as suggested by the Sociedad Española de Nutrición Comunitaria. Other classifications may be based on a compendium of nutritional values (amounts: energy, vitamins, cholesterol, sodium, carbohydrates, etc.), which seek to make consumers aware of the values contained by a product in comparison with certain reference (healthy) values, as is the case of the European Food Safety Authority, EFSA (n.d.). The Spanish Food Composition Database, BEDCA, uses 13 categories (although its objective is to describe the composition of nutrients) (BEDCA, n.d.). Additionally, the NOVA system classifies products according to their industrial processes (Monteiro et al., 2018).

For the present study, the videos were initially viewed to determine a form of classification that rendered the handled material usable and was coherent with the objectives set (describing the foods that appeared in order to enable debate at a later stage about the potential impact on healthy dietary habits in children).

In this study, an intermediate position was chosen after having viewed the videos. Thus foods such as olives and avocados (“fruit” under BEDCA) were categorised as “vegetables” owing to consumption habits (they are not usually consumed as dessert, which is however the case with fruit). Details such as the flavour of a product (“chocolate ice cream” would be classified as “ice cream”) or its specific format (“ice cream in a cone” and “ice cream in a tub” were classified as “ice cream”) were also excluded. However, the NOVA classification was taken into account in generic terms to differentiate between home-made products (home-made cake) and manufactured products (industrially-made cake), and to differentiate between certain generic categories (“potato crisps” compared to “crisps-snack”, which were classified as a “snack”). The finished products were taken into account, such as a “hamburger” instead of indicating the appearance of all its ingredients, which would have meant breaking it down into “vegetables” (tomato and lettuce), “meat”, “dairy” (cheese) and “cereals” (bread). This is a criterion shared with the European Food Safety Authority, which identifies items such as a sandwich, lasagne and pizza as an “Aggregated/complex composite” (EFSA, 2011, p. 26).

Furthermore, in order to determine whether the promotion of products was present, criteria were followed such as the appearance of a brand in the title and/or in the video thumbnail and the presence of brands in a prominent or secondary position in the video, as occurred in other studies (FFC, 2019; Martínez, 2019; Folkvord, Bevelander, Rozendaal, Hermans, 2019; IAB, 2018; Martinez-Pastor et al., 2017).
STATISTICAL ANALYSIS

To assess inter-rater coding reliability, a random 10% (n = 55) subset of videos was coded by an additional researcher and compared for consistency. Food and beverage categories were compared using Chi-squared tests. Average differences were compared by means of T-Test and ANOVA tables. Binary logistic regression analysis was used to find the predictive variables of the forecast country of the videos, considering as explanatory variables those associated with the advertised product (quantification and classification), type of appearance and advertising format, context and profile of participants. To forecast the membership group, the conditional variable inclusion method was considered with entrance probability of 0.05 and exclusion probability of 0.1.

Statistical significance was set at p < 0.05 and the exact values to p < 0.001 reported.

With the aim of finding possible predictive variables of the YouTube channel country, a binary logistic regression model was used, taking into account as possible explanatory variables those associated with the advertised product (quantification and classification), type of appearance (brand/product in the broadcast video), type of advertisement format, context and participant profile. To forecast the group, the conditional variable inclusion method (with an entrance probability of 0.05 and exclusion value of 0.1) was used.

The variables selected by the model were: number of videos by channel, type, gender and main communicative objective.

The omnibus test (χ²(10)= 200.87, p-value≈0) rejects the hypothesis of larger variance explained by the data set with regard to the non-explained variance and, therefore, corroborates the adequacy of the model.

The -2Log likelihood statistic was less in the model considering the selected explanatory variables (-2Log = 539.4) with regard to a model without variables (-2Log=740.28) and, therefore, reinforced the adequacy of the logistic model.

The Cox and Snell R² was 0.314 and the Nagelkerke R² = 0.418, exhibiting good model fitness although it could be improved.

The model is capable of classifying 74.9% of the data correctly.

Table 4 presents the variable coefficients that satisfy the inclusion criteria. There is a contribution drop in the model for the categories of the variable “Type” with regard to the first category “Experience” (activities taking place outside the home, such as going to the cinema, going shopping or any other activities).

The same phenomenon can be observed with regard to gender, where the different categories contribute to the model in a negative way as regards the category “Male”, except in the case “Gender: Both”.

Video length is a prominent element in the model, with a positive contribution. Therefore, videos associated with channels containing longer videos will be ascribed to Group 2 (Table 2).
### RESULTS

**Food and Beverages**

O1. Identify the types of food and beverages that appear on the YouTube channels of kid vloggers and analyse their frequency, as well as style of consumption and lifestyle shown.

Table 3 shows the percentages for the food categories found in the selected sample by main categories; Table 4 shows the data for beverages. The predominant products are chocolates and sugary products, followed by oils/fats and meat (for the case of the Spanish channels) and cereals and fruits (for the case of channels from the United States). However, from a statistical perspective, significant differences ($\chi^2(11)=815.28$, p-value $< 2.2e-16$) are found in the presence of meat, fats and oils being larger in Group 1 (channels from Spain) and the presence of cereals, chocolates and sugars, and fruits being larger in Group 2 (channels from the United States). The average number of foods presented in the videos was $3.58\pm2.65$, without presenting significant differences by group ($T(551)=-0.2$, p-value=$0.841$). The average number of beverages was $0.67\pm0.95$, without presenting significant differences by group ($T(551)=0.54$, p-value=$0.589$).
Furthermore, if we take into account consumption style, in 15.9% (87 of 545 cases) the participants ate or drank compulsively or excessively and in 2.5% (14 of 545 cases) a sedentary lifestyle was promoted. However, in 11.2% (61 of 545 cases) a varied and balanced healthy diet was presented and in 2.5% (14 of 545 cases) sporting and exercise habits were shown. No significant differences were found between groups ($\chi^2(4)=2.968$, p-value=0.563).

Table 3. Food frequency by category by group and total

<table>
<thead>
<tr>
<th>Main Category</th>
<th>Group 1 (Spanish channels)</th>
<th>Group 2 (United States channels)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td>Milk and derivatives</td>
<td>110</td>
<td>7.7%</td>
<td>37</td>
</tr>
<tr>
<td>Eggs and derivates</td>
<td>6</td>
<td>0.4%</td>
<td>0</td>
</tr>
<tr>
<td>Meat</td>
<td>195</td>
<td>13.6%</td>
<td>62</td>
</tr>
<tr>
<td>Fish</td>
<td>23</td>
<td>1.6%</td>
<td>12</td>
</tr>
<tr>
<td>Fats and oils</td>
<td>236</td>
<td>16.4%</td>
<td>50</td>
</tr>
<tr>
<td>Cereals</td>
<td>184</td>
<td>12.8%</td>
<td>77</td>
</tr>
<tr>
<td>Legumes and nuts</td>
<td>15</td>
<td>1.0%</td>
<td>4</td>
</tr>
<tr>
<td>Chocolates and sugars</td>
<td>431</td>
<td>30.0%</td>
<td>191</td>
</tr>
<tr>
<td>Vegetables</td>
<td>98</td>
<td>6.8%</td>
<td>43</td>
</tr>
<tr>
<td>Fruits</td>
<td>100</td>
<td>7.0%</td>
<td>63</td>
</tr>
<tr>
<td>Miscellaneous (processed)</td>
<td>2430</td>
<td>2.1%</td>
<td>7</td>
</tr>
<tr>
<td>Non classified</td>
<td>8</td>
<td>0.6%</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1436</td>
<td>551</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration.

Table 4. Beverage frequency by category and total

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>Dairy, smoothy</td>
<td>68</td>
<td>18.3%</td>
</tr>
<tr>
<td>Non-Dairy</td>
<td>Water</td>
<td>93</td>
<td>25.1%</td>
</tr>
<tr>
<td></td>
<td>Coffee / tea</td>
<td>14</td>
<td>3.8%</td>
</tr>
<tr>
<td></td>
<td>Beer, champagne, wine</td>
<td>9</td>
<td>2.4%</td>
</tr>
<tr>
<td></td>
<td>Soda, sweet drinks</td>
<td>120</td>
<td>32.3%</td>
</tr>
<tr>
<td></td>
<td>Juice</td>
<td>67</td>
<td>18.1%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>371</td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration.
In order to find possible relationships between the categories of food and beverages and the country of the YouTube channel, a multiple comparison test was performed. The sample was divided in the following way, depending on the beverage category: Dairy, Non-Dairy. Videos containing no beverages were omitted (Table 4).

Figure 2 gives the bar chart by food and beverage category and by group. Significant differences were found between groups ($\chi^2(10)=1016.3$, p-value < 2.2e-16) where the percentage of videos of food in the category of eggs and derivates and vegetables were larger in Group 2 (Unites States channels), as opposed to the large percentage of foods in the meat and fats and oils categories in Group 1 (Spanish channels).

Figure 1. Bar chart by food and beverage category and group
Advertising of Food and Beverages

O2. Identify the presence of the promoting of food and beverages and their brands in the YouTube channels analysed and the communication objectives linked to them.

A total of 335 different brand advertisers were viewed in the 553 videos in the two languages under study, which represents 60% of the total videos analysed. The main ways in which the brands appear are the following:

- Appearance in the title and/or in the thumbnail
- Appearance in a prominent position
- Appearance in a secondary position in the video

In 36.1% of the videos the brand occupied a prominent position (200 of the 553 videos) and in 20% a secondary position (111 of the 553 videos) while in the rest of the cases containing brands, the position where they appeared was not significant.

In 86.4% of the videos in the sample, the brand or the product was presented in just the title or both in the title and thumbnail. There was a significant difference between groups ($\chi^2(3)=7.68$, p-value≈0.05), with Group 1 (Spanish channels) having a larger percentage of videos where the product was presented simultaneously in the title and thumbnail or just in the title than Group 2 (Unites States channels) (Figure 2).

Figure 2. Bar chart for the appearance of the brand or product in the title and/or thumbnail

Regarding the main communicative objective, an analysis of the videos in the sample revealed that in 20.3% of the videos (111 of 546 cases) the aim was
education, in 47.8% (261 of 546 cases) it was entertainment and in 31.8% (174 of 546 cases) the aim was promotional. There was a significant difference between groups ($\chi^2(3)=8.605$, p-value=0.035), where the percentage of videos in which the main target was education or promotion was larger in Group 2 (Unites States channels) and where the percentage of videos in which the main target was entertainment or promotion was larger in Group 1 (Spanish channels). Similar results were found for the secondary communication objective, where 4.1% (22 of 530 cases) aimed to educate, 75.3% (399 of 530 cases) aimed to entertain and 20.5% (109 of 530 cases) had a promotional purpose. No significant differences were found between groups ($\chi^2(3)=4.31$, p-value=0.23).

**Location and Context**

O3. Identify the location and context of the videos of food and beverages that appear on the YouTube channels of kid vloggers.

The settings bolster the promotion of healthy life habits. The environment in which the children are interacting influences the positive/negative impact of the information received by their audience. In 25.2% of the cases (137 of 543 cases), filming was located in the home, in 58% (315 of 543) in a replica of their home, in 6.4% (35 of 543 cases) in an outside or external establishment and in 10.3% (59 of 543 cases) outdoors (see figure 3). No differences were found by group ($\chi^2(4)=1.39$, p-value=0.845).

Significant differences were found with regard to the context ($\chi^2(2)=23.2$, p-value=0) with there being larger percentages in Group 2 (Unites States channels) of a family-based context. In 14.2% (78 of 546 cases) the type of video presented an experience, in 0.1% (1 of 546 cases) with the home as the setting, in 37.3% (204 of 546 cases), it involved a challenge and in 48.1% (263 of 546 cases), it was scripted. Significant differences were found by groups ($\chi^2(4)=33.4$, p-value=0), with Group 1 (Spanish channels) having a larger percentage of videos where experiences or challenges were shown.

**Figure 3. Bar chart of filming location and context by YouTube channel country**

Source: Own elaboration.
DISCUSSION

The presence of food brands in the videos by kid vloggers who create content is a reality, as stated in the research by Bend et al. (2022), Packer et al. (2022), Tur-Viñes et al. (2022), and Castelló-Martínez and Tur-Viñes (2021). Among the results obtained, the findings of the researchers Castelló-Martínez and Tur-Viñes (2020a and 2020b) must be highlighted, in which they indicated the need to call attention clearly through text or an audio effect to the advertising content targeting children, as included by Michaelse et al. (2020) in their report “Impact of Thin-Ideals in Influencer Posts Promoting Healthy vs. Unhealthy Foods on Tweens’ Healthy Food Choice Behavior” (EU) and as explained by the European Advertising Standards Alliance (EASA) in its document Best practice recommendation on influencer marketing (2018), in which it states, “All influencer marketing communications should therefore be designed and presented in such a way that that the audience immediately identifies them as such. This identification can be done by various means (as discussed in the following section) as long as the public is made aware of the existing engagement or agreement between the advisers and the influencer each time the commercial message is being shared” (2018, p. 12). Furthermore AUTOCONTROL, the independent advertising self-regulatory organisation in Spain, prepared a code of conduct to govern the use of influencers in advertising (2020) in which it also insisted on the principle of identifying advertising (“Principio de identificación de la publicidad”) in the digital environment. In the USA, the Federal Trade Commission (FTC) has developed a guide entitled “A guide for business and parents and small entity compliance guide” by way of clarification of the Children’s Online Privacy Protection Rule (COPPA). This indicates that the need to clearly indicate when content is promoted by brands is a constant concern, and in the food sector it is even more worrying given that these products may not be healthy for children.

Regarding the identification of food and beverage products it has been observed that there has been a significant increase in the influence exerted by nutrition models through audiovisual media, with YouTube being the platform most involved in the reception of information by children. A record was taken of the number and type of foods and beverages presented in the videos in order to study the different types of stimuli induced by the messages contained in such videos. A total of 1,974 different types of food and 371 types of beverages were observed in the 553 videos in the sample. The foods were categorised into 10 different groups according to the hierarchical classification system of the Spanish Food Composition Database (BEDCA).

These results concur with previous studies, including the work by Packer et al. (2022), Martínez-Pastor et al. (2021), Coates et al. (2019) and Qutteina et al. (2019), among others, in which all coincide in observing a greater presence of unhealthy products than of healthy products. This shows an important fact in video sharing platforms and in social media regarding which the authorities should take serious measures; one solution could be that proposed by Folkvord et al. (2021) of using the strategies employed by brands but to promote consumption of fruit and vegetables among children and to counterbalance “unhealthy” products.
As regards the location of the videos, most of the videos are recorded in the home. This could be because a family setting and the home represent a common space in much media content such as fictional series, cooking programmes and films. In the case of YouTube, the representation of the family and home is constructed as a consumption unit (Lee and Beatty, 2002). These videos, as well as advertising and the media, reflect patterns of food consumption (Díaz-Méndez and González-Álvarez, 2013) and through their persuasive messages attempt to teach families to consume and their eating habits (Rodrigo Martin and Rodrigo Martín, 2016).

CONCLUSIONS

The products which are most present are those which most diets recommend consuming little of or in moderation (sugars and chocolates), although there are statistically significant differences depending on the origin of the channels. In this respect, the results obtained do not seem to demonstrate the expected stereotype, as in the United States the presence of fruits is particularly noteworthy. The original hypothesis therefore is borne out only partially, as although in general sugary products are predominant (followed by oils and fats, cereals and meat), fruits are in third place in the case of the United States.

In the professional YouTube channels produced by children, there is a notable presence of food and beverages (1551 videos detected in 18 channels) and more than half of these (60%) include the presence of brands. It cannot be stated that in every case a brand’s presence is intentional by the brand or that (on the contrary) it is the channel which is using the brand as a lure to attract viewers, taking advantage of the fame of the trademark, but it is true that in a high percentage of cases (36%) the brand is significantly highlighted. However, these appearances are not accompanied by a warning label identifying their promotional nature (such as “Promotional content” or “Advertising”), which means they fail to comply with the legislation and the sector’s self-regulation codes.

There does not seem to be an awareness about the responsibility that kid youtubers have due to them showing certain content on their channels, since excessive or compulsive consumption (16%) or a sedentary life (2.5%) should not be present under any circumstances.

In this respect, the videos in which food and beverages are present do not serve, in general, to create healthy nutritional habits (insofar as they can be broadly considered to be healthy, taking into account the innumerable points of view in this regard as mentioned in the introduction and the methodology). This is due not only to the large proportion of sugars/chocolates and oils/fats, but to the fact that only a very small percentage of the food is presented in a sport- or exercise-related context (2.5%).

It can be concluded that the origin of the channel implies some differences (significant differences from a statistical perspective), both in presence of certain types of food and in the communication objectives or the context in which the
product appears. This could suggest that there are cultural differences linked to the production of the video and this could open future lines of research in this regard or for other topics related to kid youtubers.

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References


Base de Datos Española de Composición de Alimentos (BEDCA). https://www.bedca.net/


Díaz-Méndez, Cecilia and González-Álvarez, María (2013). La problematización de la


