Child Social Media Influencers and Unhealthy Food Product Placement

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OBJECTIVES: We aimed to determine the frequency with which kid influencers promote branded and unbranded food and drinks during their YouTube videos and assess the nutritional quality of food and drinks shown.

METHODS: Researchers used Socialbakers data to identify the 5 most-watched kid influencers (ages 3 to 14 years) on YouTube in 2019. We searched for 50 of their most-watched videos and 50 of their videos that featured food and/or drinks on the thumbnail image of the video. We coded whether kid influencers consumed or played with food or toys, quantified the number of minutes food and/or drinks appeared, and recorded names of branded food and/or drinks. We assessed the nutritional quality of foods using the Nutrient Profile Model and identified the number of drinks with added sugar.

RESULTS: A sample of 418 YouTube videos met the search criteria, and 179 of those videos featured food and/or drinks. Food and/or drinks were featured in those videos 291 times. Kid influencers’ YouTube videos were collectively viewed over 1 billion times, and videos featuring food and/or drinks were viewed 1 billion times. Most food and/or drinks were unhealthy branded items (n = 263; 90.34%; eg, McDonald’s), followed by unhealthy unbranded items (n = 12; 4.1%; eg, hot dogs), healthy unbranded items (n = 9; 3.1%; eg, fruit), and healthy branded items (n = 7; 2.4%; eg, Yoplait yogurt).

CONCLUSIONS: Kid influencers generate millions of impressions for unhealthy food and drink brands through product placement. The Federal Trade Commission should strengthen regulations regarding product placement on YouTube videos featuring young children.

WHAT’S KNOWN ON THIS SUBJECT: Exposure to food advertising is associated with poor diet, and food companies have increased online advertising in response to growing social media use. Young children have limited cognitive abilities to recognize advertising, which may be exacerbated by branded influencer posts.

WHAT THIS STUDY ADDS: This study is the first to document the array of unhealthy branded products promoted through YouTube kid influencers. Most food advertising research has focused on television commercials or online advertisements produced by companies. This new frontier has been largely unstudied.


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Poor dietary habits during childhood place youth at an increased risk for obesity and diet-related health conditions later in life, including cardiovascular disease and type 2 diabetes. One environmental contributor to children’s diet is exposure to food advertising. Food and beverage companies spend $1.8 billion annually on youth-targeted marketing, which is concerning given laboratory studies have revealed that children who are exposed to food advertisements consume more calories than children who are exposed to nonfood advertisements.

Although television advertising is a major source of food marketing, companies have dramatically increased online advertising in response to consumers’ growing social media use. One of the most popular social media sites accessed by adults and youth is YouTube, a video-sharing platform that allows users to post self-generated videos on their personal channels as well as view, “like,” comment on, and share videos posted by others. YouTube also provides a significant amount of content that is viewed by children. More than 80% of parents with a child <12 years of age allow their child to watch YouTube, and 35% of parents report that their child watches YouTube “regularly.”

Children as young as age 2 to 8 years spend nearly an hour a day using mobile devices, and 75% of those children use their devices to watch videos on social media platforms like YouTube. Given that sites like YouTube have created a new advertising frontier with the ability to reach large numbers of children and caregivers, it is critical to examine the extent to which these social media sites promote unhealthy food and beverage products that could shape children and parents’ dietary decisions.

One novel social media advertising tool involves hiring “influencers,” online celebrities with large social media fan bases who shape fans’ opinions by subtly or overtly endorsing products in their videos. In contrast to mainstream celebrities (eg, LeBron James) who generate fame from traditional means (such as professional sports or Hollywood movies), influencers are “everyday people” whose primary tool for building fame involves creating entertaining or engaging YouTube videos or social media posts that help them attract large numbers of social media followers. Kid influencers are children whose parents film videos of the child playing with toys or engaging in family-friendly activities (Fig 1). The parents then post those videos on YouTube for other children and parents to watch for entertainment. Burgeoning evidence suggests that consumers increasingly perceive influencers as more relatable and trustworthy than mainstream celebrities. Recognizing the booming popularity of influencers, companies are increasingly hiring these persuasive spokespersons to promote their products. Hiring kid influencers has the added potential of reaching younger audiences either directly or via their parents. The highest-paid YouTube influencer in 2018 and 2019, for example, was an 8-year-old who earned $26 million from advertisements that appeared before the video and sponsored posts (ie, product placements that appear during the video). The extent to which companies use kid influencers to market food and beverage products is unknown.

Psychological theories and experimental research studies suggest that kid influencers’ may influence YouTube viewers in multiple ways. First, product placements build brand awareness and shape product preferences among children. Such susceptibility to advertising may lead to increased “pester power,” in which children beg parents for specific products or brands. In fact, pester power results in $190 billion in sales each year. Second, children ages ≤8 years have limited cognitive abilities to recognize advertising. Many children <8 years old cannot distinguish between commercials and cartoons. Such susceptibility to advertising may be exacerbated by
influencers because their branded posts are subtly interspersed with their unbranded posts, making it more difficult for children or their caregivers to discern persuasive intent. Finally, social norms theory may inform how kid influencers shape parents’ behaviors. Social norms theory suggests that parents may see that a video has millions of views and thousands of “likes,” which may indicate that it is socially acceptable to allow children to watch the videos. In addition, influencers may generate feelings of trust with viewers because they are both celebrities and “everyday people,” which may influence parents’ decisions to purchase endorsed products.

Few studies have examined the combined effects of social media influencers and food advertisements. In one study involving adults, the authors found that purchase intentions were higher for products promoted by an influencer compared with a celebrity. In an experimental study in children (ages 9–11 years), researchers found that children who saw a YouTube influencer holding unhealthy foods consumed more calories than children who saw a YouTube influencer holding nonfood products. In another laboratory study, researchers randomly assigned 132 adolescents ages 13 to 16 years to view a social media influencer who promoted unhealthy food, vegetables, or a nonfood item and found that adolescents exposed to the healthy food posts did not consume more vegetables.

Although companies’ use of kid influencers is growing rapidly, no study has examined the extent to which kid influencers include food and beverage product placements in their YouTube videos. To address this gap in the literature, we aimed to (1) determine the number of videos, views, channel subscribers, and likes associated with the 5 most-watched kid influencer channels on YouTube; (2) quantify the frequency of product placements for branded and unbranded food and/or drinks in those kid influencers’ YouTube videos; (3) determine the amount of time food and/or drinks appear during the videos; and (4) assess the nutritional quality of the food and drinks.

METHODS

Researchers identified kid influencer channels on YouTube in July 2019 through the YouTube statistics tool maintained by Socialbakers, a social media analytics program that has been used in other public health research. Socialbakers staff review the most-viewed channels on YouTube and manually sort them into categories on the basis of key words and video content. In Fig 2 and Supplemental Table 3, we describe the search process and inclusion and exclusion criteria, which yielded a final sample of 5 channels (Table 1).

Determining the Number of Videos, Views, Subscribers, and Likes Associated With the Channels

We then visited the YouTube home page for each channel in our sample and recorded the following descriptive data: (1) the number of videos the channel posted to YouTube, (2) number of views generated across all videos posted by the channel, and (3) number of people who subscribe to the channel (Table 1). To select the sample of videos to examine for product placement, we identified 50 videos with the most views and the most recent 50 videos that featured food or drink products or logos in the video thumbnail (ie, the still image that appears alongside the video’s title). The thumbnail is critical for increasing viewership because it is designed to attract viewers by showcasing the video’s appealing content (Fig 1). Anyone who creates YouTube videos controls which thumbnail appears by selecting an image they want to use as the thumbnail. We then recorded each video’s publication date and the number of views and likes (Table 1). We also identified the age of children shown in the videos by searching for other videos on their channel in which their date of birth is reported.

Quantifying the Frequency of Food and/or Drink Product Placements

We created a content analysis codebook to identify (1) the presence of foods and/or drinks, food or drink brand logo, or food or drink toy; (2) whether a child consumed or played with the food or drink item; and (3) how many minutes food and/or drinks appeared. We measured product placements in minutes instead of seconds to convey the deep integration of products in the videos (ie, television commercials usually range from 15 to 60 seconds, but influencer videos can showcase products for many minutes).

To complete codebook questions (Supplemental Information), 2 researchers began watching each video and paused it whenever a food and/or drink item appeared. When a food and/or drink appeared, we assigned 1 subcategory: the child consumed the item (Fig 3), the child played with the item (Fig 4), the logo appeared (eg, Starbucks cup appeared but was not consumed), or the child or caregiver prepared food (eg, baking cookies with M&M’s). If the child prepared and ate those cookies, we coded it under the “consumption” subcategory because research reveals exposure to food advertisements leads to increased consumption among children. To
To assess interrater reliability, we followed the recommendations of Lombard et al.11 (i.e., 2 researchers coded 10% of the data, calculated interrater reliability to determine which codebook items met the accepted threshold of ≥0.7 for Krippendorff’s α, divided the remaining 90% of the data, and coded those data).

### Determining the Amount of Time Food and/or Drinks Appeared During the Videos

We then used 3 steps to estimate the number of impressions generated by videos that featured food and/or drinks. First, we recorded the number of minutes the food and/or drinks appeared during each video. Then, we multiplied that number by the number of views for that video (e.g., food was shown in a video for 1 minute and that video had 100 views, we calculated it as 100 impressions). Finally, we summed the total number of minutes for all videos.

### Assessing the Nutritional Quality of Food and Drink Products

We categorized foods as unhealthy if they received a score >4 on the Nutrient Profile Model, a validated nutrition scoring tool.32 We categorized drinks as unhealthy if they contained >25 g of added sugar on the basis of recommendations by the American Academy of Pediatrics on sugary drink intake among children.33 We conducted all analyses using R (version 3.5).

### RESULTS

Kid influencer channels in the sample collectively generated 48.2 billion views and 38.6 million subscribers through 10,058 videos posted on YouTube, as of July 2019 (Table 1). Each channel featured 1 family with 2 or 3 children, and video topics included toy reviews (i.e., playing with a toy while describing its features), playtime, or other family-friendly activities. Each channel included videos of birthday parties or the birth of the kid influencers, which enabled us to calculate their age. The average age of the 9 kid influencers was 7.3 years, as of July 2019. The children who starred in the videos ranged in age from 3 to 14 years.
Our search criteria yielded 418 videos because 3 channels had <50 videos featuring food and/or drinks in the thumbnail. One variable from our codebook did not meet acceptable interrater reliability and was excluded. That variable attempted to identify instances when a kid influencer was overtly promoting the brand (eg, listing attributes) versus subtly promoting the brand in the story line. A total of 179 (42.8%) videos featured food and/or drinks, and food and/or drinks appeared 291 times during those 179 videos (Table 2). The 179 videos that featured food and/or drinks were viewed >1 billion times and generated 2.6 million likes on YouTube. Food and/or drink product placements in those kid influencer videos generated ~16.5 million impressions for items that were mostly unhealthy branded products.

The majority of food and/or drinks promoted were unhealthy branded items \((n = 263; 90.3\%); \text{eg, McDonald's,}\) followed by unhealthy unbranded items \((n = 12; 4.1\%); \text{eg, hot dogs,}\) healthy unbranded items \((n = 9; 3.1\%); \text{eg, fruit,}\) and healthy

<table>
<thead>
<tr>
<th>Summary Data for the 5 Kid Influencer Channels As Of July 2019</th>
<th>N</th>
<th>% of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. views for the 5 kid influencer channels</td>
<td>48,155,576,233</td>
<td>100 (reference)</td>
</tr>
<tr>
<td>No. subscribers for the 5 kid influencer channels</td>
<td>38,643,321</td>
<td>—</td>
</tr>
<tr>
<td>No. videos posted by the 5 kid influencer channels</td>
<td>10,058</td>
<td>—</td>
</tr>
<tr>
<td>No. views for the Ryan's World channel(^a)</td>
<td>30,876,473,589</td>
<td>64.1</td>
</tr>
<tr>
<td>No. views for the Sandaroo Kids channel</td>
<td>7,124,249,920</td>
<td>14.8</td>
</tr>
<tr>
<td>No. views for the TheEngineeringFamily channel</td>
<td>4,478,806,127</td>
<td>9.3</td>
</tr>
<tr>
<td>No. views for the Daily Bumps channel</td>
<td>3,439,380,539</td>
<td>7.1</td>
</tr>
<tr>
<td>No. views for The Tube Family channel</td>
<td>2,236,816,248</td>
<td>4.6</td>
</tr>
</tbody>
</table>

\(^a\) Formerly Ryan ToysReview.
branded items (n = 7; 2.4%; eg, Yoplait yogurt) (Supplemental Table 4). Branded food and/or drink toys appeared 107 times across the 179 videos that featured food and/or drinks (Table 2), including instances in which toys appeared in the thumbnail (Fig 1), and, in 95 (53.1%) of those videos, a child consuming food and/or drinks (n = 156 instances of consumption) was shown. In contrast, in 49 (27.4%) of those videos, a child playing with a food and/or drink toy (n = 55 instances) was featured. In 35 (19.6%) of the videos, a food and/or drink logo (Fig 1) or someone cooking food and/or drinks was shown. The most frequently featured brands were McDonald’s (n = 81), Hershey’s (n = 16), Kinder (n = 13), M&M’s (n = 12), Skittles (n = 11), Oreo (n = 9), Coca-Cola (n = 8), Kellogg’s Froot Loops (n = 8), Dairy Queen (n = 6), Pop Tarts (n = 5), Reese’s (n = 5), Taco Bell (n = 5), and Starbucks (n = 5), all of which promoted only unhealthy branded items (Supplemental Table 4).

DISCUSSION
In this study, we quantified the frequency with which a sample of videos from popular kid influencers on YouTube promote food and drink products and determined the nutritional quality of the foods and drinks being promoted. Our results indicated that >40% of kid influencer videos in our sample featured food and/or drinks, generating >16 million impressions for these food and drinks. This amount of product placement is particularly concerning because nearly 90% of the food and drinks shown in this sample promoted unhealthy branded products like McDonald’s. In fact, McDonald’s accounted for the highest number (30.0%) of the branded product placements.

Kid influencers provide marketers with targeted access to parents and children. Influencer endorsements can generate millions of views, and industry data suggest these endorsements can increase sales by up to 28% for the endorsed product.34 Estimates suggest that companies will spend >$15 billion over the next few years on influencer-based marketing.35 These estimates, coupled with the current findings,
demonstrate an urgent need to reduce unhealthy food and drink product placement in videos featuring and targeting young children.

As online media use increases among young children, kid influencers carry the potential to increase children’s exposure to unhealthy food promotions that may increase poor dietary behaviors. Recognizing the power of media and influencers, the Federal Trade Commission (FTC) issued guidelines regarding social media influencers’ responsibility to disclose endorsements. Such written or oral disclosures, however, may easily be disregarded or not understood by children, as identified in a 2019 complaint filed with the FTC against one of the channels in our sample. The food industry’s self-regulatory efforts (ie, the Children’s Food and Beverage Advertising Initiative) also aim to mitigate the harmful effects of child-targeted advertisements, but studies have revealed that industry self-regulation is not reducing child-targeted marketing of unhealthy food on television, and their guidelines do not mention the role of kid influencers in promoting unhealthy products. Many kid influencer tactics (eg, ability to generate feelings of trust, blurring content with advertising, and use of host-selling [when the main "character" delivers the commercial content]) may qualify as unfair and deceptive acts and practices directed at children under federal and state consumer protection laws. The FTC and state attorneys general enforce the FTC Act and state consumer protection acts, respectively. Yet the FTC’s enforcement on YouTube is not consistent with other media. For example, host-selling is prohibited on television but not on YouTube. In fact, the new YouTube Kids app has been characterized as “host-selling and character marketing on steroids.” As kid influencers become more ubiquitous, federal and state actions to protect children under existing authorities are necessary. Simultaneously, new regulations and enforcement mechanisms may be necessary to protect children from these evolving marketing strategies. These protections are critical, given educating parents about deceptive marketing practices may not be effective in reducing their

### Table 2

<table>
<thead>
<tr>
<th>Data Categories</th>
<th>N</th>
<th>% of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary data for videos sampled from the 5 kid influencer channels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total No. videos</td>
<td>418</td>
<td>100 (reference)</td>
</tr>
<tr>
<td>No. videos showing food and/or drinks</td>
<td>179</td>
<td>42.8</td>
</tr>
<tr>
<td>No. videos showing food and/or drink brand on thumbnail</td>
<td>123</td>
<td>29.4</td>
</tr>
<tr>
<td>Total No. likes on videos</td>
<td>17,888,398</td>
<td>100 (reference)</td>
</tr>
<tr>
<td>No. likes on videos showing food and/or drinks</td>
<td>2,572,189</td>
<td>14.4</td>
</tr>
<tr>
<td>Total No. views for videos showing food and/or drinks</td>
<td>10,624,424,656</td>
<td>—</td>
</tr>
<tr>
<td>Summary data for food and/or beverage brand appearances during 179 videos that featured food and/or drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total No. instances showing food and/or drinks</td>
<td>291</td>
<td>100 (reference)</td>
</tr>
<tr>
<td>No. instances showing branded food and/or drinks</td>
<td>270</td>
<td>92.7</td>
</tr>
<tr>
<td>No. instances showing unbranded food and/or drinks</td>
<td>21</td>
<td>7.2</td>
</tr>
<tr>
<td>Total No. unique food and/or drink brands that were shown</td>
<td>63</td>
<td>—</td>
</tr>
<tr>
<td>Impressions generated by food and/or drink appearances in the 179 videos in which food/drinks were shown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. videos showing food and/or drinks &gt;=1 min</td>
<td>132</td>
<td>73.7^a</td>
</tr>
<tr>
<td>No. videos showing food and/or drinks &lt;1 min</td>
<td>24</td>
<td>13.4^a</td>
</tr>
<tr>
<td>No. videos in which food and/or drinks flashed on the screen</td>
<td>23</td>
<td>12.8^a</td>
</tr>
<tr>
<td>Total estimated No. impressions for food and/or drinks</td>
<td>18,584,118</td>
<td>—</td>
</tr>
<tr>
<td>Nutritional quality of 291 food and/or drinks shown during the 179 videos that featured food and/or drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. instances unhealthy branded items</td>
<td>263</td>
<td>90.3^d</td>
</tr>
<tr>
<td>No. instances in which branded toys appeared</td>
<td>107</td>
<td>40.6</td>
</tr>
<tr>
<td>No. instances in which branded food and/or drinks appeared</td>
<td>156</td>
<td>59.5</td>
</tr>
<tr>
<td>No. instances of unhealthy unbranded items</td>
<td>12</td>
<td>4.1^d</td>
</tr>
<tr>
<td>No. instances of healthy unbranded items</td>
<td>9</td>
<td>3.1^d</td>
</tr>
<tr>
<td>No. instances of healthy branded items</td>
<td>7</td>
<td>2.4^d</td>
</tr>
<tr>
<td>Summary data for how food and/or drinks were presented during the 179 videos that featured food and/or drinks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. videos in which a child consumed the food and/or drink (eg, M&amp;Ms)</td>
<td>95</td>
<td>53.1^b</td>
</tr>
<tr>
<td>No. videos in which child played with food and/or drink (eg, plastic toys)</td>
<td>49</td>
<td>27.4^b</td>
</tr>
<tr>
<td>No. videos that showed the logo or someone preparing food</td>
<td>35</td>
<td>19.6^b</td>
</tr>
</tbody>
</table>

1 Family maintains each channel. —, not applicable.
2 Calculated by using 179 videos as reference.
3 The number of minutes the food and/or drink was shown, multiplied by the number of views for that video.
4 Calculated by using 241 instances as reference.
5 Branded and unbranded food and drinks featured in the videos are included in Supplemental Table 4.
6 Calculated by using 179 videos as reference.
7 Calculated by using 241 instances as reference.
influence on children and adolescents. Researchers have tested media literacy interventions, including educational efforts in schools to teach children critical viewing skills and skepticism about food advertising. However, those interventions do not consider marketing effects that occur without conscious perception of the marketing itself. Research also reveals that such interventions only achieve minor increases in older children’s (age ≥8 years) self-reported skepticism of advertisements and only if they remember to access the information, but these interventions have little to no effect on younger children’s preferences for those advertised foods, reinforcing the critical need for policy solutions.

In future studies, researchers should examine the extent to which children and adolescents can identify when kid influencers engage in product placement, which would inform the extent to which the FTC should strengthen their response to kid influencers’ endorsements. More research is needed to understand whether influencers’ endorsements of food and/or drinks causes increased caloric intake among youth. In one study, researchers found that adolescents ate more when exposed to the influencer promoting food versus nonfood items, but the study lacked a control group that featured food without the influencer.

Given the enormous reach of kid influencers’ videos on YouTube, pediatricians can play a critical role in encouraging parents to limit children’s screen time on YouTube, even on channels that characterize themselves as “child friendly” or educational. Pediatricians can also inform parents about the presence of “marketing disguised as entertainment” on YouTube and YouTube Kids. Finally, the American Academy of Pediatrics published a report that describes the subtle and interactive features of social media-based advertising, including undisclosed marketing of toys in YouTube influencer videos, and future American Academy of Pediatrics publications may benefit from describing the unique role of kid influencers in promoting unhealthy food and beverages.

This study has some limitations. First, the sample included a subset (n = 418) of the 10,058 videos posted on these channels, so our results underestimate the amount of product placement generated by these kid influencers. Although we instructed coders to pause the video when food and/or beverages appeared, they may have missed some appearances. In future studies, researchers should segment videos to better organize the coding process. We also calculated the number of minutes food and beverages appeared in videos, but, in future studies, researchers could be more precise by calculating the number of seconds products appeared. Although our data suggest that McDonald’s accounts for the most product placement, it is possible that our search methods missed other brands. Second, data on how much families were paid for these products placements are not publicly available. One family in our sample, however, has reportedly earned $26 million from their YouTube channel, including at least $1 million for paid sponsorship videos. Finally, we did not examine how these product placements may affect dietary choices, which is an area of future research. Our study has several strengths, including being the first to analyze a sample of videos to determine the frequency of food and/or drink product placements, the inclusion of the most-watched channels that target children, and the use of objective nutrition scoring tools.

CONCLUSIONS
This study is the first to document the wide array of unhealthy food and beverage brands that are promoted through user-generated YouTube videos featuring kid influencers. Most food advertising research has been focused on television commercials or online advertisements produced by companies. This new advertising frontier, however, has been largely unstudied and underregulated. Our findings suggest the need for future experimental studies to examine the extent to which viewing these types of videos increases consumption of unhealthy foods and assess whether kid influencers’ endorsements increase the preferences for the product among toddlers, young children, and parents. The FTC should enact regulations that more adequately address unhealthy food and beverage brands promoted by kid influencers.

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ABBREVIATION
FTC: Federal Trade Commission
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REFERENCES


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