

# Impact of visual appeals and brand ambassador in online food advertising on consumer purchase behaviour

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## Abstract

**Purpose** – The purpose of this article is to examine the independent and combined effects of celebrity image and visual appeals presented in online food advertising on consumer purchase behaviour.

**Design/methodology/approach** – A single-factorial, between-subjects experimental design was used to compare the effects of two ads with specific appeals and a control ad as part of a real-world advertising campaign on the Facebook profiles of residents of a large Brazilian metropolitan region. The data were analysed using analysis of variance (ANOVA) and post-hoc tests, covering a total observation period of 160 days and 785,705 impressions.

**Findings** – The results show an increase in purchase intention when consumers are exposed to social media ads consisting of associations of images with warm colours and close-ups (pornfood) and the presence of the brand ambassador. However, only strong visual appeals are relevant for increasing actual purchases. Excessive information can therefore increase consumer attention and interest but decrease purchases, suggesting the need to take into account the consumer's cognitive limits for absorbing exposed information.

**Originality/value** – This paper fulfils an identified need to investigate how the combined impact of visuals and brand ambassadors influences consumer decision-making.

**Peer review** – The peer review history for this article is available at: <https://publons.com/publon/10.1108/IJSE-03-2024-0208>

**Keywords** Advertising, Visual appeals, Consumer behaviour, Social media

**Paper type** Research paper

## Introduction

Advertising research has evolved to encompass a wide range of digital approaches and tools, such as social media, technological tools and AI (Huh *et al.*, 2023; Ford *et al.*, 2023). However, the definition of advertising remains as the action of promoting ideas, products and/or companies, even if it has no commercial purpose, which can be referred to as spontaneous media (Poels and Dewitte, 2019). As a means of communication, advertising should not only inform, but also use seductive language to arouse the interest of the target audience, create identification and emotions, and stimulate purchase intentions (Kujur and Singh, 2018a; Wu *et al.*, 2017a, b). To do this, advertising manipulates verbal and non-verbal language to help the recipient understand the sender's message (Carvalho *et al.*, 2014). In order to create allegorical language, advertising is imbued with codes and signs, which include combinatory variants capable of generating a repertoire and creating a link between symbols and words to promote identification with the recipient of the message (Wu *et al.*, 2017a, b).

Within the marketing approach, advertising is considered an important tool for stimulating purchase intentions by providing consumers with information about products and services. The dissemination of these advertisements includes traditional media such as television commercials and billboards, as well as online platforms such as social media and e-commerce websites (Wu *et al.*, 2017a, b). Online marketing platforms are particularly attractive for advertising due to their high transmission speed and low cost, considering the potential reach of the target audience. Online advertising platforms are measured by key performance indicators that are important for marketing professionals, including actions such as clicks,



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likes, comments, and shares by the recipient, which reflect their purchase intention (Kujur and Singh, 2018a; Wiese *et al.*, 2020).

In general, advertising aims to persuade consumers to purchase certain products/services. In the case of food advertising, the specific context of this research, this goal is related to conveying a message that goes beyond the physical and nutritional characteristics of the food. Neuroscience-based research aimed at understanding consumer behaviour during the purchase process has made significant progress in linking visual communication in advertising to individuals' neural responses when exposed to food-related stimuli (Plassmann *et al.*, 2012; Spence *et al.*, 2019).

The importance of studying advertising in online platforms lies in the possibility of improving marketing strategies, thereby maximising the reach of consumers who are truly represented in their consumption preferences. In the online context, previous studies have addressed the importance of specific advertising features on consumer behaviour, such as celebrity credibility (Kim and Jang, 2019), brand-related content (Kujur and Singh, 2018b), AI advertising (Ford *et al.*, 2023), and advertising creativity and media placement (Wu *et al.*, 2017a, b). Studies on food advertising strategies on social media have discussed the impact of persuasive elements on consumers (Horta *et al.*, 2018; Silva *et al.*, 2021). However, none of them have analysed actual online food consumer behaviour data.

Despite the importance of these aspects as attention attractors, the combined analysis of variables such as celebrity image (referred to as brand ambassador in this study) and the exaggerated use of visual appeals associated with the advertisement (referred to as pornfood in this study) has yielded few conclusive results. Even fewer studies have focused on actual data on online purchase behaviour. The impact of the research variables on consumer behaviour is theoretically grounded in the Elaboration Likelihood Model (Tang *et al.*, 2012; Teng *et al.*, 2014), which provides a conceptual basis for understanding the power of advertising to engage and persuade consumers. Understanding these relationships and their implications can shed light on consumer behaviour based on how they respond to different stimuli, thereby extending the consumer-brand connection.

To fill this gap, the present study aims to examine the independent and combined effects of celebrity image and visual appeals presented in online food advertising on consumer purchase behaviour. To achieve this, a research study was conducted using a 2 x 2 factorial between-subjects experimental design, comparing the effects of two specific appeal advertisements with a control advertisement. To test the hypotheses, empirical data were collected from a real advertising campaign on the Facebook profiles of residents of a large Brazilian metropolitan region, with a total observation period of 160 days.

### Theoretical framework

In general, studies have shown that the amount of information presented in an advertisement can affect consumers' attention and cognitive processing. According to the information processing model (Lavie *et al.*, 2004; Lee *et al.*, 2008; Pittman and Haley, 2022), limited cognitive processing capacity may be compromised by information overload. Thus, consumers may pay less attention to, and be less likely to understand, advertisements with too much information. The positive combination of different textual and visual resources will act as a stimulus for the consumer's purchase intention (Wu *et al.*, 2017a, b), as the interpretation or act of decoding the message will directly influence the recipient's experience of the advertisement. However, this experience is highly dependent on socio-demographic aspects such as gender (Onuh and Okoro, 2022) and age (Taylor *et al.*, 2011).

According to Poels and Dewitte (2019), the purpose of the message is objectively achieved when the languages used convey the purpose of the advertisement and create an empathic context with the receiver. Advertising has the power to create consumption through narratives that generate signs and re-significations. The essence of consumption is cultural, as simple everyday acts such as eating, drinking, and dressing are full of meanings that create social

identification and a sense of belonging (Kim *et al.*, 2018; Weber and Maffezzoli, 2021). Advertisements can capture and express everything from local aspects, such as cultural plurality, to the process of creating a new consumer culture (Kim *et al.*, 2018). In turn, advertisements are created with the purpose of selling, going beyond an experience, and are designed to convey the desire to create lifestyles, ideologies, and emotions associated with the consumption of a product/service, making the recipient feel the desire to consume what is being advertised, making it an inspirational advertisement (Belch and Belch, 2013).

The effects of persuasive aspects present in food advertising are related to the involvement of the receiver in the message conveyed. In order to increase this involvement, companies need to understand not only the general interest drivers of consumers, but also the social aspects that they may associate with the visual appeal. The Elaboration Likelihood Model (ELM) can provide an initial conceptual basis for understanding the power of advertising to engage and persuade consumers. From ELM's perspective, companies seek to associate their brands with specific social codes in order to convey strategic messages to the market and, as a result, develop long-term relationships with consumers (Teng *et al.*, 2014).

According to ELM theory, individuals tend to carefully evaluate and qualify messages into two domains. If the elaboration likelihood associated with a campaign is relatively high, consumers tend to examine the message more accurately. Otherwise, in a case of relatively low elaboration likelihood, consumers tend to apply less effort to examine the message. Therefore, people are more likely to pay attention to persuasive messages and bring them to the central route of analysis when they are relatively involved. Conversely, people who are less engaged with the ad are more likely to make less cognitive effort to understand the messages conveyed (Tang *et al.*, 2012).

Depending on the characteristics of the product/service, advertisements must achieve a specific and timely objective, which may include informing, persuading and reminding, as well as generating an appeal: rational, emotional and moral, sometimes using the image of a brand ambassador to transfer relevance to the advertised product (Barlow *et al.*, 2018; Lindauer *et al.*, 2020). When choosing characters to compose advertisements, besides attracting attention due to their idealised lifestyle, such as being financially successful, extroverted, an Olympic champion, having luxurious habits, celebrities have the ability to shape and reinforce the consumer's understanding of the advertised product, which requires at least some common characteristics between the character and the product/brand (Torres *et al.*, 2019; Byun and Ahn, 2023; Pereira *et al.*, 2023).

The choice of an advertisement based on the image of a brand ambassador should be understood as an attempt to create involvement with consumers. This attempt can be twofold: to associate the brand image with a source of credibility, as an expert, or with a source of identification or connection, as a celebrity or successful professional. Therefore, the brand ambassador plays an important role when the ad does not manipulate technical information relevant to the purchase decision, or when this information is relatively irrelevant to the target audience (Wu *et al.*, 2017a, b).

Based on these considerations, we propose the following hypotheses to assess the impact of brand ambassadors on consumer purchase intention in food advertising.

- H1. Advertising based on the image of the brand ambassador has a positive effect on consumers' purchase intention.
- H2. Advertising based on the image of the brand ambassador has a positive effect on the actual purchase of the product.

In the context of measuring the impact of different online advertisements or advertising campaigns on consumer behaviour, tracking resources such as Google Analytics have been developed to understand how different variables of an advertisement can influence the consumer's intention to consume the message (Wiese *et al.*, 2020). Among the characteristics that can influence the consumer's purchase intention, it is necessary to highlight some

traditional variables present in marketing studies, such as the use of colours, images, and videos in the advertisement (Wu *et al.*, 2017a, b) and, in addition to these, the amount, form, and arrangement of textual information (Kim and Jang, 2019).

Regarding the universe of food, several studies have been conducted to understand how food advertisements influence consumer behaviour (Sama, 2019). According to Kusumasondjaja and Tjiptono (2019), food advertisements generally use attractive and appetising images of the products, which stimulate the desire to consume them. In addition, many advertisements associate food consumption with positive experiences such as joy, satisfaction and happiness.

Based on cognitive neuroscience studies, the visual appeal of food, when exposed through different marketing channels, including advertising, triggers a relationship of energetic dimensioning of the food in the brain, which then stimulates a focus on the image of higher density present in the advertisement (Vassallo *et al.*, 2018; Bragg *et al.*, 2019; Kusumasondjaja and Tjiptono, 2019; Lutfeali *et al.*, 2020; Calvo-Porrall *et al.*, 2021; Silva *et al.*, 2022; Gil-Quintana *et al.*, 2021; Pelau *et al.*, 2022; Packer *et al.*, 2022). In addition to this aspect, visual appeal is related to a process of mental simulation, where the consumer's brain simulates the act of consuming the food at a mental level, activating the sensory properties of desire (Speed *et al.*, 2023).

Another important aspect of food advertising is the way it is presented, known as the layout. According to Oakes *et al.* (2019), the layout can significantly influence the consumer's perception of the product. For example, an advertisement that highlights the quality of the ingredients may convey a message of higher value and product quality. In addition, studies have investigated the relationship between food advertising and the sensations it conveys (Koubaa and Eleuch, 2020; Roose and Mulier, 2020). Advertisements that use warm colours, such as red and yellow, and present close-up images, known as pornfood, tend to convey a sense of desire and appetite to consumers (Harris and Coulthard, 2016; Chan *et al.*, 2023).

In order to test the impact of the pornfood-based campaign on consumers' purchase intention in food advertising, we propose the following hypotheses.

- H3. Advertising based on pornfood has a positive effect on consumers' purchase intention.
- H4. Advertising based on pornfood has a positive effect on the actual purchase of the product.

In addition, we propose the following hypotheses to analyse the combined effect of appeals based on brand ambassadorship and pornfood.

- H5. The combined use of ambassador-based and pornfood-based advertisements has a significantly greater effect on consumer's purchase intention than the other advertisements.
- H6. The combined use of ambassador-based and pornfood-based advertisements has a significantly greater effect on actual product purchase than the other advertisements.

## Methodology

With the aim of examining the independent and combined effects of celebrity image and visual appeals presented in online food advertising on consumer purchase behaviour, the present study used a single-factor, between-subjects experimental design, comparing the effects of two specific appeal advertisements with a control advertisement. To test the hypotheses, empirical data were collected from a real advertising campaign on the Facebook profile with residents of a large Brazilian metropolitan region. The fast-food company that developed the campaign has been established in the local market for more than 15 years and has focused on digital

marketing, particularly to increase delivery sales. The company provided data from the marketing campaign, which ran from 5 March to 12 August 2021, for a total of 160 days of observation.

In terms of reach, the campaign generated a total of 785,705 impressions across four ads. This number represents the total number of times the ad was shown to consumers during the campaign period. Of the impressions, 54% were female (409,700) with an average age of 25–34. The age of the audience ranged from 18 to over 65. The data analysed in the study was collected from the actual decisions (ad clicks and purchases) made by consumers when exposed to the four advertisements used in the experimental and control groups. A total of 1,884 ad clicks and 266 purchases were recorded during the company’s advertising campaign, representing the number of participants included in the study sample.

For the analysis of the research hypotheses, the collected data were reorganised into sub-samples in order to isolate the variables corresponding to each conceptual relationship. Thus, to test hypotheses H1, H2, H3, and H4, the sample was divided into three groups, namely: 1) Brand Ambassador ( $n = 80$  days); 2) Pornfood ( $n = 133$  days); 3) Control ( $n = 106$  days). To test hypothesis H5, a fourth advertisement was analysed, representing the combination of appeals from the experimental advertisements analysed in the previous hypotheses ( $n = 27$ ). The 2 x 2 factorial experimental design is shown in Figure 1 below.

Due to the realistic nature of the experimental design, some individual socio-demographic details of the participants were not collected, thus maintaining the anonymity of their information. The dependent variables of the study, i.e. clicks on ads and website purchases, were measured to determine the participants’ purchase intention and actual purchase behaviour. Each participant was randomly exposed to a specific advertisement on their Facebook profile. The information presented was displayed together with the promotional images of a fast-food company. The information of the four study groups is presented in Table 1.

To examine the empirical data and test the research hypotheses, a series of analyses of variance (one-way ANOVA) were conducted. DMS post-hoc tests were subsequently employed to observe variance differences between the multiple experimental and control groups. To test hypotheses H1 and H2, the mean differences in purchase intention (clicks on ads) and purchase behaviour (website purchases) between experimental group I and control group were compared. Similarly, hypotheses H3 and H4 were tested by analysing the mean differences between experimental group II and control group. Finally, hypotheses H5 and H6

Brand Ambassador	<p><b>Group I</b> Brand Ambassador (<math>n = 80</math>)</p>	<p><b>Group III</b> Brand Ambassador + Visual Appealing (<math>n = 27</math>)</p>
	<p><b>Control Group</b> Brand Ambassador (<math>n = 106</math>)</p>	<p><b>Group II</b> Visual Appealing (<math>n = 80</math>)</p>
		Visual Appealing →

Source(s): Authors’ own work

Figure 1. Experimental design

**Table 1.** Summary statistics for the ads

Groups	Impressions		Clicks on ads		Website purchases	
	Mean	Sum	Mean	Sum	Mean	Sum
Ambassador	1216.0	97,282	2.5	197	0.9	73
Pornfood	3754.5	499,351	5.5	729	1.1	147
Ambassador + Pornfood	5053.1	136,433	33.7	911	0.6	17
Control	496.6	52,639	0.4	47	0.3	29

**Source(s):** Authors' own work

were tested by comparing experimental group III with the other groups. The data were analysed using SPSS (Statistical Package for the Social Sciences) v. 26. As the data were extracted directly from users' interaction with the ads during the campaign period, no missing values were identified. Analyses to identify anomalous data were performed according to the procedures suggested by [Hair et al. \(2013\)](#).

## Results

The four categories of ads were run on the Facebook platform as part of a real advertising campaign, collecting reliable data from the consumer market. Each ad was run in isolation, with specific start and end dates. This procedure made it possible to analyse the independent effects of the advertisements on the dependent variables. For the analysis of hypotheses [H1](#), [H2](#), [H3](#) and [H4](#), only the first three groups were analysed and their detailed information is presented in [Table 2](#) below.

After identifying the main descriptive information of the experimental and control groups on the dependent variables, an analysis of variance (one way ANOVA) was carried out to test the research hypotheses. First, the variable clicks on ads, used as a proxy for purchase intention, was analysed. Preliminary analysis showed a difference in variance between the use of an ambassador or pornfood strategy (mean of experimental groups I and II = 4.3474), and the control group ( $M = 0.4434$ ) ( $F(1,317) = 50.808$ ;  $p = 0.000$ ), indicating a positive and significantly greater effect of the specific appeal ads compared to the control ad. This initial analysis is consistent with the findings of [Wu et al. \(2017a, b\)](#) and [Kim and Jang \(2019\)](#), highlighting that the visibility of specific aspects in ads, including the use of colours, images and videos, as well as the amount and layout of textual information, influence consumers' purchase intention.

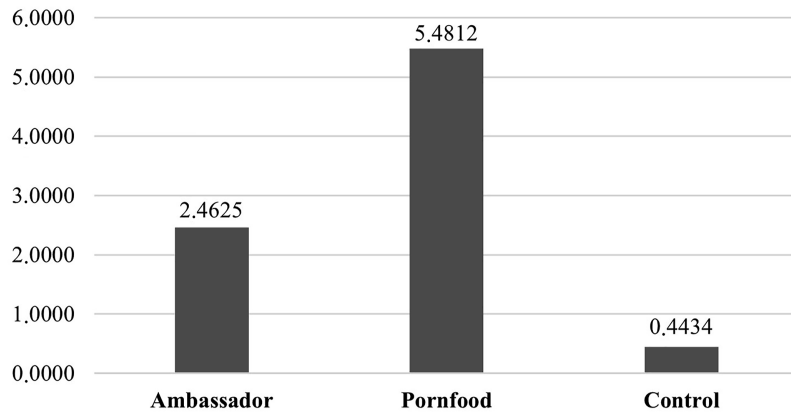
Further examination of the three ads, using a DMS post-hoc test, revealed significant differences between the groups. Although no significant difference between the advertisement based on the image of the brand ambassador and the control advertisement (Sig. = 0.205), there was a significant difference between the advertisement based on pornfood and the control advertisement (Sig. = 0.000). The analyses support the conceptual relationship presented in hypothesis [H3](#). However, they refute the relationship proposed in hypothesis [H1](#). In addition, the results show a significant mean difference between the use of ads based on pornfood and the image of the brand ambassador (Sig. = 0.047). The number of clicks on ads based on pornfood was higher, which is a more appropriate strategy to increase purchase intention compared to using a brand ambassador. This result reinforces the claims made by [Harris and Coulthard \(2016\)](#) and [Chan et al. \(2023\)](#), who highlight the positive effect of using warm colours and close-up images (pornfood) in food advertising, as they tend to convey a sense of closeness and appetite to the consumer. [Figure 2](#) presents the means obtained by each group.

The analysis of actual purchases (website purchases) was then carried out using the dependent variable website purchases. First, the result of the ANOVA test ( $F(1,317) = 18.274$ ;  $p = 0.000$ ) showed a significant variance difference between the use of an ambassador or

**Table 2.** Descriptive statistics of experimental and control groups

Dependent variable	Category	N (days)	Average	Deviation error	Error	Confidence interval 95%		Minimum	Maximum
						LI <sup>1</sup>	LS <sup>2</sup>		
Purchase intention (clicks on ads)	Ambassador	80	2.4625	3.55764	0.39776	1.6708	3.2542	0.00	16.00
	Pornfood	133	5.4812	6.27719	0.54430	4.4045	6.5579	0.00	32.00
	Control	106	0.4434	0.84041	0.08163	0.2815	0.6052	0.00	3.00
	Total	319	3.0502	4.95552	0.27746	2.5043	3.5960	0.00	32.00
Actual purchase (website purchases)	Ambassador	80	0.9125	1.67024	0.18674	0.5408	1.2842	0.00	8.00
	Pornfood	133	1.1053	1.83098	0.15877	0.7912	1.4193	0.00	13.00
	Control	106	0.2736	0.64043	0.06220	0.1502	0.3969	0.00	3.00
	Total	319	0.7806	1.53434	0.08591	0.6115	0.9496	0.00	13.00

**Note(s):** <sup>1</sup>Inferior limit; <sup>2</sup>Upper limit  
**Source(s):** Authors' own work



Source(s): Authors' own work

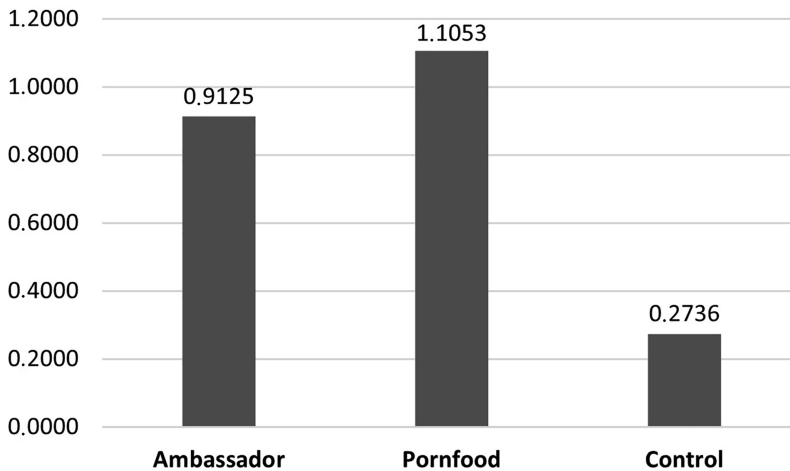
Figure 2. Average purchase intention (ad clicks) across groups

pornfood strategy (mean of experimental groups I and II = 1.0329) and the control group ( $M = 0.2736$ ). Similar to the previous analysis, there is a positive effect of the use of specific appeals on the consumer's actual purchase behaviour.

When analysing the effect of each ad individually, significant mean differences were observed compared to the control group, confirming the hypothesised conceptual relationships. Based on the findings, there is a significant difference between the advertisement using the ambassador's image and the control advertisement (Sig. = 0.016), as well as between the advertisement using pornfood and the control advertisement (Sig. = 0.000). The results confirm hypotheses H2 and H4, indicating the impact of the use of advertising strategies on actual consumer behaviour. The difference between the advertisements based on the image of the ambassador and pornfood showed no difference (Sig. = 0.444). This last finding supports previous claims by Lavie *et al.* (2004) and sheds light on the control of the amount of information present in an advertisement, as an excessive amount of information can affect the consumer's attention and cognitive processing, leading to information overload. Thus, advertisements with information overload may result in lower consumer attention and understanding of the content, indicating that the consumer may not absorb everything presented in the advertisement. Figure 3 provides a detailed overview of the means achieved by each advertisement.

Next, the conceptual relationships present in hypotheses H5 and H6, which consider the combined use of visual appeals, were analysed (Table 3). Based on the findings, it can be observed that there is a significant difference between the ads using the combined strategy of brand ambassador image + pornfood, which has a significantly greater effect on consumer purchase intention when compared to the other ads. This analysis emphasises the greater impact of using this strategy when associated with the control group, as evidenced by the higher mean ( $M = 33.2973$ ; Sig. = 0.000) associated with this analysis. The analysed data allow us to verify the theoretical relationships, confirming the influence of the amount and format of textual and visual information on intensifying consumers' purchase intention (Lavie *et al.*, 2004; Wu *et al.*, 2017a, b; Oakes *et al.*, 2019; Kim and Jang, 2019).

However, the increase in consumers' purchase intention does not necessarily translate into actual consumption. The website purchase results show this discrepancy. Although the combined use of ambassadors and pornfood images may increase consumers' interest in clicking on ads, this strategy is not effective in converting intention into consumption. Experimental group IV (ambassador + pornfood) shows no significant difference between the other experimental groups and the control group, rejecting hypothesis H6. A visual representation of the performance of each ad is shown in the Figure 4.



Source(s): Authors' own work

Figure 3. Average website purchases across groups

### Discussion of results

The results of this study offer several promising implications for both digital marketing practice and the advancement of consumer behaviour theory, particularly in the context of online food advertising. First, the results highlight the importance of the strategic use of visual appeals in advertising campaigns to generate purchase intention and, in some cases, actual purchase behaviour. Although food appeals (vivid food images, close-ups, and warm colours) showed a significant positive effect on purchase intention, it was also observed that combining these appeals with the image of a brand ambassador did not lead to a proportional increase in actual purchases, providing some important lessons for advertising practice (Barlow *et al.*, 2018; Bragg *et al.*, 2019). These findings have direct implications for brands operating in the food sector, especially on digital platforms such as Facebook, where visual appeal plays a key role in attracting attention (Kujur and Singh, 2018b; Horta *et al.*, 2018). For marketers, this means that ads that focus on well-crafted sensory imagery can be an effective strategy for increasing brand awareness and engagement.

The combination of visual appeals (pornfood) and the image of a brand ambassador, which generated a significant increase in purchase intention, did not translate proportionately into actual purchases. This phenomenon suggests that although consumers may feel attracted and engaged by campaigns, overstimulation or information overload can make it difficult to convert intention into action, as proposed by the Elaboration Likelihood Model (ELM) theory. For practitioners, this means that an advertising strategy should avoid overloading the consumer with too many stimuli at the same time (Packer *et al.*, 2022; Sama, 2019). Instead, campaigns that combine more direct and clear appeals may be more effective in converting intention into purchase behaviour. For example, a campaign may begin with more elaborate and creative appeals to attract attention, while the conversion phase may require more direct communication with less information but a strong focus on the benefits of the product. This suggests that advertisers need to consider the consumer journey and how their campaigns can evolve over time to not only generate interest but also facilitate the purchase decision.

Another key point from the results is the need to segment audiences more accurately and strategically. The results showed that ads with combined appeals were particularly effective in attracting attention, but did not always generate the desired conversion. This suggests that audience segmentation can be critical to optimising advertising campaigns. For example,

**Table 3.** Post-hoc test of purchase intention and actual purchase between samples

Dependent variable	Group I	Group J	Mean difference (I–J)	Error	Sig.	Confidence interval 95%	
						LI <sup>1</sup>	LS <sup>2</sup>
Purchase intention	Ambassador + Pornfood	Ambassador	31.2782**	1.56653	0.000	27.1211	35.4353
		Pornfood	28.2595**	1.48569	0.000	24.3170	32.2021
		Control	33.2973**	1.51728	0.000	29.2709	37.3237
Actual purchase	Ambassador + Pornfood	Ambassador	–0.28287	0.39611	0.476	–1.0613	0.4956
		Pornfood	–0.47563	0.37567	0.206	–1.2139	0.2627
		Control	0.35604	0.38366	0.354	–0.3979	1.1100

**Note(s):** <sup>1</sup>Inferior limit; <sup>2</sup>Upper limit. \*\*Significant at the 0.01 level  
**Source(s):** Authors' own work

Purchase Intention (Clicks on Ads)			Pornfood	0.000
		Ambassador	0.047	0.000
	Control Group	0.205	0.000	0.000
Actual Purchase (Website Purchases)			Ambassador	0.444
		Ambassador + Pornfood	0.476	0.206
	Control Group	0.354	0.016	0.000

--- Not significant at the 0.05 level.

— Significant at the 0.05 level.

Source(s): Authors' own work

Figure 4. Purchase intention and actual purchase in experimental groups

while a young audience may respond more positively to campaigns using images of celebrities, an older audience may prefer a more direct approach that emphasises the image of the product. From the findings, a dual strategy approach can be highly advantageous for marketing campaigns (Tang *et al.*, 2012).

## Conclusions

In line with the ELM theory, the results of the study indicate that it is necessary to consider the consumer's cognitive limits for absorbing exposed information. In general, the use of advertising appeals with figurative elements (e.g. text, images, celebrity image) arouses positive consumer interest (Harris and Coulthard, 2016; Chan *et al.*, 2023; Calvo-Porrall *et al.*, 2021). The combined use of these elements even has the capacity to reinforce this intention, thus generating greater attention and purchase intention. However, the same combination of elements that may lead the consumer to a high elaboration likelihood may not be effective in getting them to make a purchase decision. On the contrary, the combination of elements may lead the consumer's decision process to a low elaboration likelihood. Apparently, more assertive campaigns are more effective in these cases, prioritising the use of a clear strategy and a moderate amount of information.

Literature shows that consumers need to be continuously exposed to advertising campaigns in order to change their behaviour or increase their purchase intention. The data from this study shows that this exposure can be more effective if a dual strategy is used. While an initial strategy of exposure to a greater volume of information using a combination of figurative elements is important to increase the consumer's purchase intention, the continuation of the campaign can use a more assertive strategy. To this end, a more consumer-oriented campaign may be more effective. These findings can be absorbed by other disciplines, providing theoretical and empirical advances in areas such as transformative consumer research and public policing. Changing behaviours that are harmful to society, such as excessive alcohol consumption, smoking, non-defensive driving, etc., can be approached from this perspective.

The results provide a basis for reflection on the effectiveness of advertisements used in food marketing and reinforce the need to combine market research with visual appeals that convey the right information at the right time, according to the audience's needs, respecting cognitive limits and taking into account the consumer's behavioural patterns. By confirming the

theoretical hypotheses raised, this research has advanced knowledge in this area by investigating the combined effects of different categories of visual appeal on consumer behaviour when exposed to online advertisements aimed at stimulating food consumption.

However, it is important to note some limitations of the research. Due to the nature of the study as a realistic survey displayed on Facebook, it was not possible to contact respondents directly to collect descriptive and socio-demographic information. Future research could seek to collect this information in order to use socio-demographic variables as moderators of the relationships analysed in the study. Similarly, qualitative information could be collected to enable discourse analysis of the consumers' sensations, emotions and desires when exposed to different categories of visual appeals. It is also recommended that the study be extended to include respondents from other geographical regions and countries.

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