



PRESENCE OF HUMOR IN TRAFFIC AND ROAD SAFETY ADVERTISING: PREVALENCE AND PERCEIVED EFFECTIVENESS

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ABSTRACT

Introduction: Humor is a communication strategy that is usually used in commercial advertising, but also in social or public health advertisements, due to its ability to capture attention and connect emotionally with the audience. In Spain, traffic and road safety advertisements have used humor several times to convey messages about appropriate behavior and attitudes on the road. **Methodology:** This study analyzes the campaigns issued by the The Directorate-General for Traffic (DGT, in Spanish) since 1960 to identify the prevalence of the use of humor in their spots. In addition, a questionnaire was applied to a

sample of 403 people to analyze the degree of recall and perception of effectiveness of this communication strategy. **Results:** Only 13 campaigns met the established inclusion criteria, which represents 11.1% of the total. Participants in the study perceive humor as a technique whose effectiveness is comparatively negligible in relation to strategies that are characterized by impact and realism, and also have a low recall of campaigns of this type. **Discussion:** This low recall and perception of effectiveness may be related to the fact that, over the years, metaphors, irony or exaggeration have been used, with a friendly tone that has not sufficiently permeated the audience, while those ads that employed more complex humor may have hindered the understanding of the message. **Conclusions:** Systematic evaluation of campaigns is recommended to analyze the effectiveness of the strategies being used.

Keywords: humor, public health campaigns, traffic and road safety, social marketing, Spain.

1. INTRODUCTION

Since the 20th century, audiovisual campaigns in the form of advertisements have been developed to raise public awareness of a wide range of social and health issues (Stephen, 2016; Evans et al., 2021). They use marketing communication techniques to transmit ideas and healthy behaviors that are beneficial to citizens, rather than to sell products or services, as occurs in commercial advertising (Luca & Suggs, 2013; Tomba et al., 2020). This type of advertisement is classified as social marketing and has been used throughout the world for campaigns aimed at environmental sustainability and recycling, disease prevention, promotion of sports activities, as well as other healthy behaviors, and other social issues such as gender violence, racism, or bullying, among many others (Almestahiri et al., 2017; Allara et al., 2015; Hull et al., 2017; Ellsberg et al., 2014). A theme that presents a high incidence in international social campaigns for decades is traffic, road safety, mobility and transportation, being the subject of the present study (Freeman et al., 2015).

1.1. The suitability of humor as a persuasive resource in advertising

The use of humor in commercial advertising is quite common (Raisiene et al., 2021). Generally, this type of advertisements are received by viewers as attractive and funny content (Liao et al., 2022). But is there an effect on the consumer with respect to the advertised product and/or brand beyond the pleasant feeling of the immediate gag? There are different opinions on this matter.

The scientific literature supports that humor attracts and captures the viewer's attention and can be an effective strategy to direct consumers' attention to the advertised product or service (Sabri, 2012). Therefore, humor is expected to provide a better recall of the information provided in the spots that employ this communicative strategy (Limbu et al., 2012). However, there are studies that point out that humor can also act as a distractor from the central element of the ad, triggering recall of the joke, but not of the advertised product (Eisend, 2022). Moreover, by focusing attention on the humor, the viewer reduces his or her ability to process and understand the main message, especially if they are shaped as two separate entities (Kellaris & Cline, 2007; van Kuilenburg et al., 2011). Although, precisely for this reason, it is possible to

interpret this phenomenon in a manner that is conducive to the facilitation of product recalls if the joke is used as a fundamental element for the complete understanding of the advertisement's message (Cornelis et al., 2014). By presenting the product necessarily coupled with the humorous appeal, the complete message will be more likely to be grasped and internalized by the viewer.

Chattopadhyay and Basu (1990) pointed out that humorous ads were more persuasive in people with a positive prior evaluation of the product or service, and, on the contrary, before audiences that evaluated it negatively, non-humorous *spots* would work better. Therefore, it should be noted that the characteristics of the advertised item and of the users are variables that can alter the effectiveness of the ad.

1.2. Humor and social marketing

At this point, can humor be effective in social marketing campaigns? A first disruptive point arises in social perception. While a large part of the population considers humor to be useful and effective for product promotion (Warren et al., 2018), they do not express the same conformity to its use in ads that convey and raise awareness about the prevention of risky behaviors. In fact, there are viewers who even categorize humorous appeals as an inappropriate or tasteless resource in traffic and road safety or fire prevention advertisements, among others (Koch et al., 2023).

The truth is that evidence shows that campaigns that use humor are more persuasive and effective than those that do not use it in some public health issues such as AIDS or the use of sun protection for the prevention of skin cancer, especially among male audiences (Conway & Dubé, 2002; Struckman-Johnson et al., 1994). The systematic review conducted by Kalténbacher and Drews (2020) also points out the effectiveness of this communicative strategy in advertisements on environmental sustainability and climate change. In this regard, Lewis et al. (2008) note that ads evoking positive emotions are more effective for men, while campaigns depicting negative and shocking emotions are more effective for women.

The findings are consistent with recent research where humorless messages led viewers to a greater amount of negative thoughts and consequently achieved less change in the targeted behavior (Velde et al., 2018). For their part, Blanc and Brigaud (2014) found that humorous preventive health advertisements related to alcohol, tobacco, and obesity proved to hold viewers' attention more, were more memorable, and convinced subjects to a greater extent relative to neutral advertisements. These cases suggest that humor can be a good resource in health prevention ads (Blanc & Brigaud, 2014). In this sense, communication studies on humor illustrate the complex role it plays in the development of perceptions in the audience (Gonzalez et al., 2018).

1.3. Traffic and road safety campaigns: which resources are most effective?

Early research on the effectiveness of road safety campaigns stated that the appeal to fear was the most appropriate method to achieve a change in attitude and behavior in users (Lu et al., 2013). However, subsequent studies have pointed out that this is not entirely true as there are several factors to take into account.

On the one hand, it is true that evidence points out that raw, violent and persuasive audiovisual pieces generate a lot of immediate impact (Guttman, 2014; 2015). But, with the use of this type of images two phenomena may occur that reduce their potential effectiveness (Sibley & Harré, 2009). In the event that the situation broadcast is very visually aggressive, the viewer may react by avoiding looking at the screen, thus losing persuasive value and reducing the effectiveness of the campaign in the short term. In addition, if high-impact ads are broadcasted continuously, they generate a certain habituation and desensitization of the audience to real and violent images, which also reduces their effectiveness, especially in the long term.

In addition, the most recent models of fear appeal have identified the key factors and cognitive processes that link fear with persuasion, making it unnecessary to evoke the emotion of fear in order to achieve a change in behavior. Among these mediating factors is response efficacy, which encompasses the recommendations or coping strategies conveyed in a message, among other variables (Witte & Allen, 2000). In fact, this has been identified as one of the most important predictors of behavioral change in bystanders, modulating their risky actions on the road and directing them towards other more adaptive and safer behaviors.

Personal variables such as gender also explain the variability in the effectiveness of traffic campaigns. In general terms, men are less susceptible to the persuasiveness of fear-evoking traffic advertisements than women, a phenomenon that may be modulated by existing gender differences in risk perception (Rhodes & Pivik, 2011). Consequently, they modify their behaviors to a lesser extent, maintaining risky behaviors on the road that make them more likely to die or suffer injuries as a result of a traffic accident (Cordellieri et al., 2016). These results support the possibility of designing campaigns adapted to the characteristics of different groups of users, customizing their content and the communicative strategy used to be more effective on the entire population.

As a result of these findings, it is argued that the best way to design a communication strategy for road accident prevention is to intersperse high-impact ads with others of a more informative and/or emotional nature (Faus et al., 2023). In this way, campaigns that generate positive and negative emotions should be considered. Making use of heterogeneous resources to raise awareness and make the audience think.

In this sense, the good results of the use of humor in health prevention campaigns suggest that it can be an alternative to the usual persuasive strategies (Griese et al., 2018). In fact, Lewis et al. (2009), points out that fear is usually valued as more effective because its effects are short-term. However, their research concludes that humorous ads present their greatest effects some time after the broadcast of the spot, which is why their effectiveness has been less studied historically (Wundersitz et al., 2010). Thus, in general terms, fear is identified as more effective in women, while humor is more effective in men.

1.4. The case of Spain

The Dirección General de Tráfico (DGT) is in charge of developing campaigns for the prevention of road accidents in Spain (<https://www.dgt.es/comunicacion/campanas/>). Since the early 1960's, these audiovisual pieces have been used to inform the population about the measures adopted in the traffic and mobility sector by the authorities, as well as to warn about risk factors for road accidents. When analyzing the content and strategies used in Spanish communication campaigns, five temporal stages can be distinguished, whose main characteristics are summarized in Table 1 (Segura-García, 2015; Faus et al., 2023).

Table 1.

Description of the periods of traffic and road safety campaigns in Spain

Stage	Characteristics
The beginnings (1960-1978)	Use of real situations and animations to transmit information. It is a learning period, so the new road rules are taught to the population through very basic informative and educational messages.
The soft line (1979-1991)	The negative consequences of a traffic accident begin to be shown, but without using aggressive images. Resources such as the star-system, metaphors and a slight emotional component appear.
The hard line (1992-1997)	Use of crude and shocking images of the consequences of accidents for the direct victims and their families, through real scenes with a high component of violence, rawness and aggressiveness.
Multivariate period (1998-2010)	Interspersed with informative, emotional and impact campaigns. The aim is no longer to educate the viewer, because users are already aware of the regulations, but to raise awareness and make the audience reflect, through the emphasis on individual responsibility in accidents.
Last years (2011-2024)	The reflective nature of many of the ads is emphasized, in which a high emotional impact is achieved without necessarily using images of great visual impact, although substantially increasing the visual quality of the spots. The importance of each and every life on the road whose deaths are preventable is emphasized.

Source: Elaborated by the authors.

Throughout the years, humor has been identified as a resource used in the campaigns developed in Spain, in the different periods described above, although with substantial differences marked by the particular characteristics of each of these stages. Thus, although it has not been the main or most prevalent feature or communicative resource in any of the stages, it has been identified that in practically all of them, advertisements with humorous appeals have been broadcasted.

2. OBJECTIVES

The aim of this research is to analyze the presence of humor throughout the more than 60 years of history of Spanish traffic and road safety campaigns. Given the lack of research that analyzes the prevalence and content of traffic advertisements, as well as the marketing tools and techniques used in them, the present study aims to address the following specific objectives:

- To determine the proportion of Spanish traffic advertisements that use humor as a communicative resource to raise the viewer's awareness, and to analyze its evolution in the five identified time periods.
- To identify the elements and humorous resources used in traffic advertisements, and to compare the differential strategies with respect to other types of traffic campaigns.
- To evaluate the social perception of the use of humor as a communicative strategy in traffic and road safety advertisements.

3. METHODOLOGY

3.1. Analysis of the prevalence of humor in Spanish traffic and road safety campaigns

The first part of the study used content analysis of advertisements to answer the research questions posed. This analysis technique provides an objective and systematic description of the content of the spots, and is especially useful for comparing the variables present in a large volume of audiovisual material.

3.1.1. Determination of the study's sample of communication campaigns

Hundreds of traffic and road safety campaigns have been developed in Spain since the beginning of their broadcasting by both public entities and private institutions. Therefore, some selection criteria have been established to determine the sample of advertisements to be analyzed, which are detailed below:

- Subject matter: The selected campaigns belong to the field of road safety, mobility and traffic.
- Issuing entity: The ads had to be designed by the DGT, excluding campaigns from other entities in the sector.
- Availability: The videos of the campaigns had to be accessible for viewing. The selected ads were obtained from the DGT database and video platforms such as YouTube.
- Dissemination platform: Only campaigns that included at least one audiovisual piece broadcast on television were selected, discarding those broadcast only on radio, press, posters or other media without a televised version.
- Scope: Only ads with national broadcasting were considered, excluding campaigns with local or regional scope.

Traffic ads that met all the established criteria were downloaded and registered. The ads were selected and analyzed between March 2024 and June 2024. In this process, duplicate spots were eliminated, as well as campaigns that, when viewed in depth, did not meet all the established criteria. This process determined a final sample of 117 traffic, mobility and/or road safety communication campaigns that were broadcasted from 1960 to 2024.

3.1.2. Variable coding procedure

Each ad was reviewed and coded to determine initially whether it used humor or used other emotional techniques. In this first step, the marketing technique (informative or rational, emotional or impact, and humorous) was identified in order to evaluate the presence of humor in Spanish traffic ads throughout the different stages.

Two evaluators carried out the coding independently, without knowing the objectives of the study, and selected the predominant technique in each ad. The agreement between them was 92.3% (108 out of 117 ads). A third evaluator reviewed the cases of disagreement and verified the correct assignments in the ads where there was consensus.

Subsequently, a more detailed analysis of the ads identified as humorous was carried out, recording and evaluating the following variables:

- Campaign and/or its main slogan;
- Year of broadcast;
- Thematic;
- Content of the advertisement through its description.

3.2. Social perception of the use of humor in traffic and road safety campaigns

The second part of the study involved the implementation of a questionnaire among a sample of Spanish citizens to ascertain their perceptions regarding the prevalence and efficacy of humour as a communicative strategy in such campaigns.

3.2.1. Participants

The sample consisted of 403 people of legal age, representing 11 Autonomous Communities of the country. The distribution of the sample was 61.8% men (n=249) and 38.2% women (n=154). The mean age was $M=33.17$; $SD=16.265$, with the most represented groups being those under 26 years of age (n=205; 50.9%) and between 46 and 65 years of age (n=117; 29.0%).

Participation in the study was voluntary and anonymous. Personal information was handled in accordance with current data protection laws, complying with ethical requirements.

3.2.2. Design, procedure and instruments

The data reported in this manuscript are part of an investigation that studied several variables on advertising in general, product advertising, social advertising, and advertising in the traffic and road safety sector. For this purpose, a self-developed questionnaire was used, which was designed in 2020, and was administered between December 16, 2020 and September 15, 2021, with an approximate duration of about 20-25 minutes. The questionnaire was disseminated through Google Forms by various means such as social networks (especially LinkedIn), personal contact networks and other means of dissemination. Prior to its administration to the study sample, a pilot test was carried out with a small group to ensure the clarity of the questions and the viability of the instrument.

Specifically, in order to achieve the objectives proposed in this part of the research, the following variables were taken into account:

- Recall of traffic advertisements employing humor in Spain through a question a To what degree is humor employed in traffic advertisements, with Likert scale from 0 (Nothing) to 4 (Very much).
- Perception of the prevalence of the different communicative strategies of traffic advertisements broadcast in Spain through the question "Indicate the degree to which you consider traffic advertisements to be: shocking, emotional, realistic, symbolic, humorous, tragic", with a Likert scale from 0 (Nothing) to 4 (Very much).
- Perception of the effectiveness of different communicative strategies for changing attitudes and behaviors as road users through the question "To what degree do you consider the following tools to be effective in raising awareness about the dangers of traffic: realism, data graphics, death, victims, victims' relatives, real testimonies, fear, humor, empathy, educate, alarm, among others)" using a Likert scale from 0 (Nothing) to 4 (A lot).
- Sociodemographic variables of gender, age, autonomous community of residence, employment status and educational level.
- Data on driving with questions on license membership, the days respondents drive per week and the most used means of transportation.

3.2.3. Data processing

A descriptive analysis was conducted to ascertain the frequency and description of human-employed traffic advertisements broadcast in Spain. Statistical analyses were carried out using ©IBM SPSS (Statistical Package for Social Sciences) version 26.0 (Armonk, NY, USA).

4. RESULTS

4.1. Analysis of the prevalence of humor in Spanish traffic and road safety campaigns

A large part of the 117 traffic ads that were coded by the independent judges (49.6%) correspond to spots with an informative/rational content in which techniques appealing to rationality are used to educate and raise awareness among the audience. However, it should be noted that this high percentage corresponds mostly to the periods of "the beginnings" and "the soft line", in which practically all ads were of this typology. On the other hand, ads appealing to the viewer's impact and emotion accounted for 39.3% of the total, and those with a humorous slant accounted for 11.1%.

Table 2 presents the categorized data, showing the appearance of emotional or impact ads in the "hard line", after which the use of realistic and crude images, as well as touching stories that appeal directly to emotion, remain as usual techniques in Spanish traffic and road safety ads.

Table 2.

Prevalence of emotional, rational/informative and humorous ads in the stages of traffic campaigns in Spain

	Emotion/Impact		Rational/Informative		Humor		Total	
	n	%	n	%	n	%	n	%
The beginning (1960-1978)	0	0%	21	84,0%	4	16%	25	100%
The soft line (1979-1991)	0	0%	17	89,5%	2	10,5%	19	100%
The hard line (1992-1997)	6	100%	0	0%	0	0%	6	100%
Multivariate period (1998-2010)	15	50%	14	46,7%	1	3,3%	30	100%
Last years (2011-2024)	25	67,5%	6	16,2%	6	16,2%	37	100%
Total	46	39,3%	58	49,6%	13	11,1%	117	100%

Source: Elaborated by the authors.

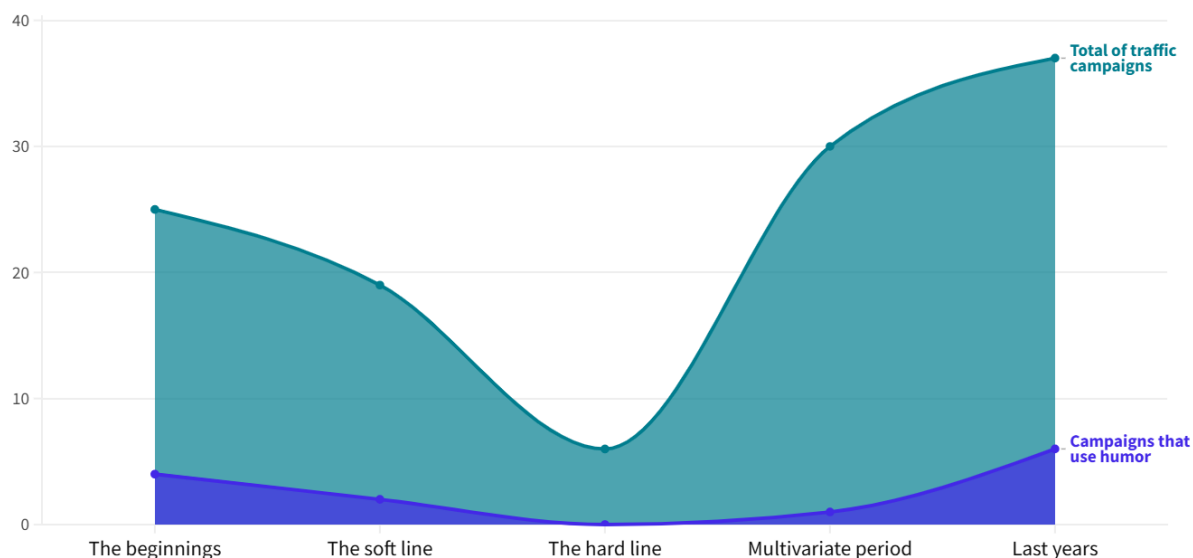
Therefore, 13 ads have used humor as a communicative resource throughout the years of broadcasting national traffic and road safety ads. The presence of ads with humorous appeals has been used since the beginnings of the campaigns until nowadays, being a resource that has appeared in a relatively stable way throughout the different periods analyzed, except for the "hard line" years when, due to its characteristics, it was not used in any of the campaigns.

More specifically, the early years (1960-1978) were a favorable period for this type of campaign, since it was a period in which all the messages launched had a positive tone. In other words, the ads were intended to educate the population by means of simple messages that fitted perfectly with the introduction of humor in them. Thus, in 16% of the spots of that period there are humorous references. From the next stage on, the presence of humor starts to decrease until it is not used in any of the campaigns of the "hard line" period, and only once in the "Multivariate Period" (which represents 3.3% of the total). In 2011 there is a change of trend again, in which humor shoots up as one of the most used resources, being explicitly present in 6 ads (16.2%) of the last stage.

Table 2 and Figure 1 show the number of campaigns that used humor in relation to the total number of campaigns aired in each time period.

Figure 1.

Evolution of traffic campaigns broadcast in Spain



Source: Elaborated by the authors.

Table 3 shows the main characteristics of all traffic and road safety advertisements that have used humor throughout the years of broadcasting of this type of campaigns in Spain. In this line, it should be pointed out that the way humor is used in the different stages is very different.

In the first periods, they are viewer-friendly ads, which generally use animated characters performing behaviors with comic nuances, as well as musical pieces accompanying this resource. Examples are the campaigns "Use... helmets" (1964) or "The weakest need more protection" (1967). Film references and metaphors are also used, as in "Don't make your trip an adventure" (1990).

However, in recent years the communicative strategy is very different and heterogeneous. Some spots feature comedians in which the message is conveyed through their monologues and gestures, such as "Stay focused no matter what" (2012) or "Oh! Phone" (2017). In other ads, surprise, comparison, exaggeration and absurdity are used to contextualize the reader about certain risk factors, as in "Where am I going with a turkey?" (2007) or "At the wheel 99% of attention is not enough" (2014). And, in other campaigns humor is used as a resource that accompanies the message and makes the viewer reflect, being a more complex form of action, especially through black humor, sarcasm and irony, as in " Top Vacation" (2019).

Table 3.

Analysis of the selected advertisements

Slogan	Year	Thematic	Description of the advertisement
First look, then cross	1963	Pedestrians	An animated character performs various dangerous actions without thinking, which has bad results. Then, he realizes that one must look before crossing. All of this is accompanied by comic music and somewhat absurd situations.
Wear... helmets	1964	Helmet	Several animated characters suffer crashes with their motorcycles without wearing helmets, to which another motorcyclist tells them to "wear a helmet". Street sounds and comic music are used.
The weakest need more protection	1967	Children	The scene shows small animals being attacked by larger ones until another animal comes to their rescue. Then, the voice-over recites the slogan.
Teach them to walk save	1969	Children	The scene depicts a child who is not being taught to walk by his father. As a result, the child stumbles and breaks things around him. Later, the father teaches him to walk save.
City in chaos	1982	Mobility	Vehicles are depicted on the streets, sprouting teeth and "eating" signs and other vehicles until everything is destroyed.
Don't make your trip an adventure	1990	Trips	An Indiana Jones actor is accompanied on his journey, mixing the urban environment with elements from the movie.
Where am I going with a turkey?	2007	Driver's license	A young man wakes up with a turkey, which accompanies him in various scenes of his day, until he "gets rid" of it by going to driving school (in Spain, colloquially a turkey means one euro).
Stay focused no matter what	2012	Distractions	Comedian Leo Harlem performs several monologues on distractions caused by cell phones.
At the wheel 99% of the attention is not enough	2014	Distractions	Realistic scenes of a surgeon, an airplane controller, etc. with the protagonists looking at their cell phones. Conveying that full attention is required when driving a vehicle.
Move with awareness	2015	Sustainable transportation	A driver has multiple obstacles every day because of neighbors, traffic jams, parking, etc. Until he discovers the advantages of cycling.
Oh! Phone	2017	Distractions	Comedians Tricycle mime drivers looking at their cell phones, shouting in the vehicle, etc until they pretend to crash.
Top Vacation	2019	Speed, distraction and alcohol	The program informs about holiday destinations involving road risks: cemetery, hospital and jail. Images are broadcast with a certain realism, but with the satirical role of the presenter's comments.
Don't mess it up	2021	Trips	After the pandemic, multiple dangerous scenes are shown in which no accident occurs, which are comical because of background song that repeats "After what we've been through, don't mess it up."

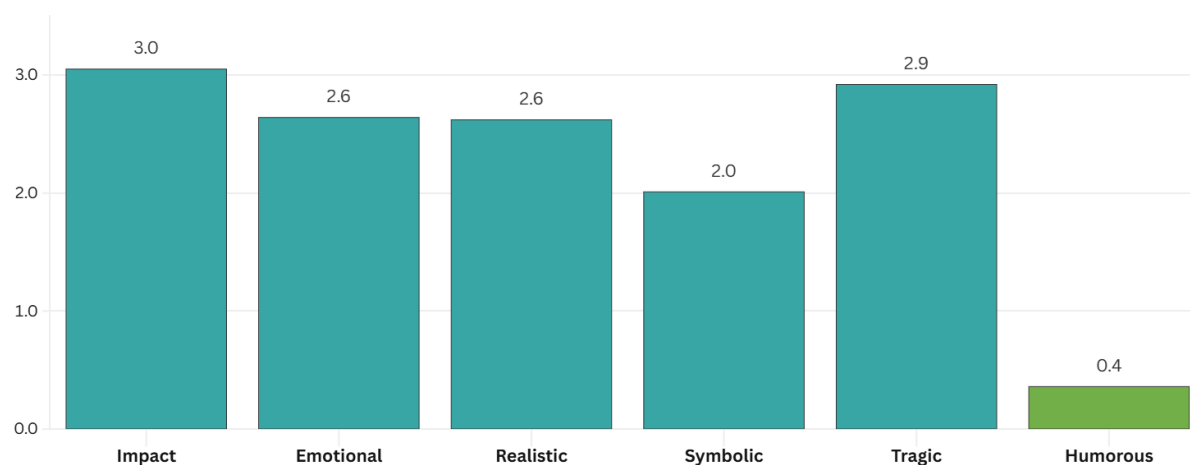
Source: Elaborated by the authors based on the content analysis of DGT Campaigns (2024).

4.2. Social perception of the use of humor in traffic and road safety campaigns

In relation to the communicative strategy perceived as most frequent in traffic advertisements, respondents point out that it is impact ($M=3.05$; $SD=1.016$), followed by tragedy ($M=2.92$; $SD=1.078$). Whereas humor is practically not identified as present in this typology of advertisements ($M=0.36$; $SD=0.821$) (Figure 2). No significant differences were identified in the humor variable as a function of age or gender. However, there were significant differences as a function of road user in both humor ($F(1,401)=3.997$; $p=0.046$) and the rest of the variables. In all cases, people without a license perceive a greater presence of the communicative strategies presented compared to those who did have a driving license.

Figure 2.

Perceived effectiveness of communication techniques employed in traffic advertisements

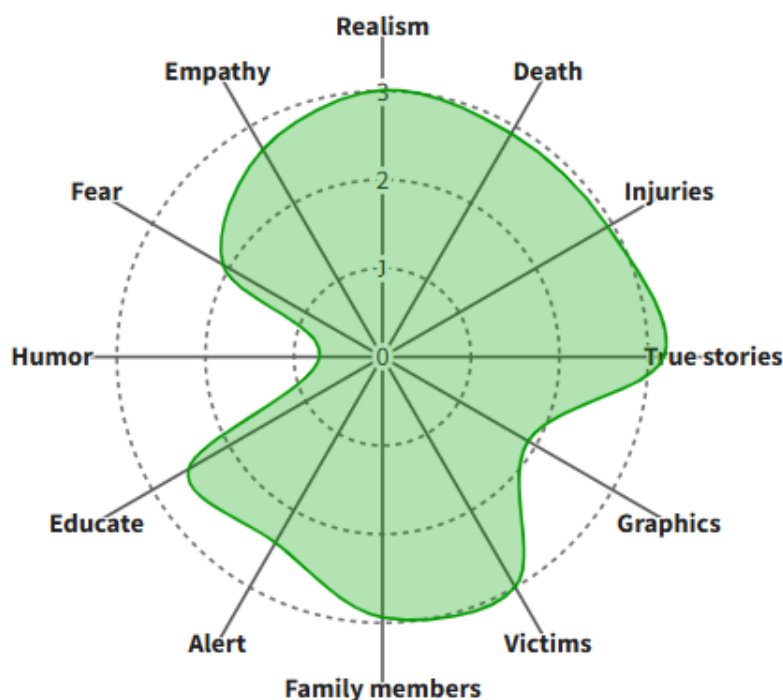


Source: Elaborated by the authors.

In relation to the strategies considered most effective for changing the attitude and behavior of road users, the most highly rated were true stories ($M=3.18$; $SD=1.048$), realism and crudeness in the images ($M=3.01$; $SD=1.131$), and victims and their consequences ($M=3.00$; $SD=1.086$). In contrast, humor scores the lowest, being perceived as the least effective technique for this purpose ($M=0.71$; $SD=1.059$) (Figure 3).

Figure 3.

Perceived effectiveness of communication strategies employed in traffic ads



Source: Elaborated by the authors.

There are some significant differences according to gender. Specifically in the variables realism and crudeness in the images ($F(1,401)=6.674$; $p=0.010$), true stories ($F(1,401)=8.711$; $p=0.003$), victims and their consequences ($F(1,401)=7.216$; $p=0.008$), victims' relatives and their consequences ($F(1,401)=4.625$; $p=0.032$), and humor ($F(1,401)=8.421$; $p=0.004$). In all cases, women gave higher scores to the communicative strategies, except in the case of humor, where the opposite occurred, with men scoring higher on this variable (Table 4). With regard to humor specifically, there were no significant differences according to age or the role of the road user, although significant results were identified in other of the communicative strategies analyzed.

Table 4.

Perceived effectiveness of different communication techniques as a function of gender

Variable	Women		Men	
	M	SD	M	SD
Realism / crudeness in images	3.13	1.055	2.83	1.225
True stories	3.30	1.001	2.99	1.097
Victims and their consequences	3.11	1.032	2.81	1.148
Victims' relatives and their consequences	3.03	1.068	2.79	1.149
Humor	0.59	0.968	0.90	1.170

Source: Elaborated by the authors.

5. DISCUSSION

The aim of this research was to analyze the presence of humor as a communicative resource in traffic and accident prevention campaigns, as well as to evaluate the degree to which viewers remember this type of advertisement and the effectiveness they attribute to it for changing attitudes and road behavior.

5.1. Evolution of the presence of traffic campaigns using humor in Spain: Are the ads of this type effective?

It is difficult to assess the effectiveness of traffic advertisements that use humorous resources because they are broadcast within a certain context that largely determines the accident figures (Davey & Freeman, 2011). Over the years, multiple traffic laws and regulations have been implemented in Spain, as well as sanctioning procedures that undoubtedly have a great influence on the behaviors of individuals, such as the points-based driving license (Alonso et al., 2025). However, it is important to emphasize the importance of advertisements and communication campaigns as a disseminator of the rules and as a way of raising awareness of the associated risk factors.

In this sense, it is possible to compare the two periods that have most used the humorous resource: the beginnings (1960-1978) with a 16% prevalence of this type of spots, and the last years (2011-2024) with 16.2%. It should be noted that these are two tremendously different periods in terms of the objectives sought and, therefore, they differ substantially in the way of communicating and transmitting the message to the viewer. In the beginnings, the purpose was to educate and inform a population still unaware of many of the existing risks on the road. Therefore, humor was used in the form of animated characters that either only informed the audience about how to behave on the road, or were drivers or other road users experiencing negative consequences, but very slight and comical after their infractions at the wheel (Faus et al., 2023). In part, this way of communicating contributed to the fact that this was a period of sustained growth in road accident and mortality rates in Spain. As a result, the direction of the campaigns of the following years began to change. In fact, soon after, the so-called hard line would arrive, in which the realism and crudeness of the campaigns increased tremendously, showing the short and long term consequences of traffic accidents with high impact images. This is the only period in which humor is not used in any of its forms to transmit information.

After this period in which harsher penalties were established, road safety education programs increased and campaigns were more aggressive and impactful, the way of transmitting road safety messages changes again (Pérez Requena & Giner Alegría, 2018). Although the 90s' meant a reduction in traffic accidents, at the end of this stage there is a stagnation in the figures that the literature associates with the habituation of the viewer to this type of images. Therefore, after this period, it was decided to broadcast advertisements using different communicative strategies (Castillo Manzano et al., 2011). At this point, the ads serve to keep road users alert, no longer aiming to educate the audience because they are already aware of the rules and risks, but rather to enhance the

recall of the spots and make them reflect and raise awareness of the importance of avoiding infringing behavior on the road. This is the reason why, in the last two stages and especially in the period known as the last years, there is a great variety in the typology and techniques used in the campaigns. Humor stands out, appearing in almost a quarter of the ads, with different repercussions on the figures than in the early period, since the number of fatalities resulting from road accidents continues to fall.

This difference occurs mainly for two reasons. On the one hand, the general knowledge of the population helps the use of humor in this type of campaign, but at the same time, viewers fully understand the importance of the message (Norza-Céspedes et al., 2014). This corresponds with the product marketing theory advocated by Rothschild (1987) in which it is pointed out that as a product or service becomes more familiar to the consumer, the abstraction of humor can be effective, while when a product is still unknown, other types of resources have to be used because humor can distract from the main message. On the other hand, the type of humor is very different from that used in the early days. In recent campaigns, the resources used are much more elaborate (Fugate, 1998). Thus, the same campaign can be satirical and at the same time shocking, emotional and reflective (Miller et al., 2021). An example of this is the campaign "Top Vacation" in which a sympathetic reporter exposes the characteristics of three potential tourist destinations: the cemetery, the prison and the hospital. In this way, sarcastic and humorous resources can also serve to provoke the viewer's reflection and activate their empathy (Moyer-Gusé et al., 2018), these being variables that enhance the internalization of the message (Frutos, 2012).

However, it should be emphasized that in order to be potentially effective, the humorous resource must be present in the design of the campaign (Wang & Pavelko, 2024). Sometimes, a spot is designed to be highly impactful, but the audience does not perceive it as such. This can affect the message's correct delivery (Adamos et al., 2013). Thus, the comic tone of an image or a message is not only determined by the sender, but the interpretation of whoever captures this information also influences this process (Bergson, 2003). A clear example of this phenomenon is the campaign "Knowing is starting to avoid it", broadcast in 2022 in Spain, in which celebrities exposed the alarming figures of pedestrian accidents on interurban roads and were subsequently run over in a very violent way. This ad was designed to provoke impact and emotion in the viewer, which is why it has not been classified as humorous in the classification made in this study. However, the images, especially of the spot in which a young famous singer was run over, became viral on social networks, provoking laughter from the audience. In fact, it is curious, because it is one of the most remembered campaigns in recent years. However, there is a divergence between the high degree of recall of the spot, especially among younger people, and the recall of the message or the subject matter addressed in the ad, which is rarely evoked by viewers (Faus et al., 2024). Therefore, the findings pointed out in various studies conducted on commercial advertising are reinforced, in which it is argued that humor should not be considered the central element of the advertisement, because this contributes to a greater increase in the recall of the satirical element, but not of the advertised product, or in this case, of the risk factor about which the audience is alerted (Borden & Suggs, 2019).

5.2. Social perception of the use of humor as a communicative strategy in traffic and road safety campaigns

This study shows that humor is perceived by Spanish citizens as a very ineffective strategy for changing attitudes and behavior when applied in traffic and road safety campaigns. Thus, humor is by far the technique that is perceived as the least effective, compared to the rest of the resources analyzed. These results are in line with other studies which indicate that the audience perceives the use of this communicative strategy as a negative factor when it is applied in campaigns on social or public health issues (Lewis et al., 2007). The target audience does not associate these topics, which present a certain seriousness, with humorous resources, so they generally reject this type of advertisements. This reasoning is more emphasized in spots that are broadcasted or disseminated from public and/or governmental entities, because they consider that the importance of the messages and information transmitted is being reduced (Ojeda et al., 2015).

Scientific evidence presents disparate results regarding the effectiveness of humor for this type of advertisements. There is some research that argues that the use of humorous resources can hinder the understanding of the message, especially if social issues are addressed (Weinberger & Gulas, 1992; Yoon & Tinkham, 2013). However, other studies contrast with these findings, determining that some variables such as the surprise generated in the viewer by a television advertisement, is a key factor to capture their attention and increase the understanding of its content (Alden et al., 2000). On the other hand, some research indicates that certain humorous resources such as "absurdity" and "comparisons" or "exaggerations" were effective for recall (Cardoso & Fonseca, 2008). But other resources such as "irony", could hinder the proper understanding of the main message of the campaign, since its greater complexity could produce errors in its interpretation, and consequently, be less effective for its purpose (Chan, 2011).

That is why Spain is not the only country in which traffic and road safety campaigns with a humorous approach are developed. In this line, the advertisement "Don't be a goose. Leave your phone alone" by the Road Safety Advisory Council (2022), which shows a person who considers himself capable of answering his cell phone while driving, but at that moment is transformed into a goose unable to drive his car, being on the verge of causing a road accident. Also in the United Kingdom, the spot "It's easy to miss something you're not looking for. Look out for cyclists" within the program *Think UK* (2016), in which a group of basketball players appear for the viewer to count the number of passes and, while doing this task, they do not notice the appearance on screen of a gorilla dancing among them. These are two examples of traffic ads that use humorous resources as part of their message and content to try to raise awareness of this issue.

However, despite being a widely used strategy in several countries around the world, as well as its relatively sustained presence in time at national level, the perception of citizens does not accompany these data (Adamos et al., 2012). Thus, in addition to

indicating that they do not consider humor as an effective strategy for traffic and road safety advertisements, respondents also point out that the presence of this type of campaign has historically been very low in Spain. Therefore, there is a low recall of traffic and road safety ads using this communicative resource. This is a perception that does not match reality, since the content analysis carried out shows that this strategy has been used continuously in DGT ads throughout all stages, except for the hard line, being present in 11.1% of the total of these spots. It does fit the data to perceive humor as a resource less used than realism or impact, but not that the score given is so low, being even lower than symbolism, which is a strategy less used in DGT campaigns.

Therefore, if the scientific literature points to humor as a potentially effective strategy for changing attitudes and behaviors in the context of social advertising, why are traffic and road safety advertisements that use humorous resources so little remembered? One possible reason may be related to the perception of their effectiveness is also low (Cárdenas-Rebelo & Orozco-Toro, 2020). In this sense, the fact that humor is not considered a valuable resource for behavioral change may cause citizens' recall of the campaigns in which it is used to be distorted, even underrepresenting its actual prevalence in the ads (Adamos & Nathanail, 2016).

Another possible reason, according to some previous research mentioned above, is that the specific humorous resource used is not the most effective to capture the viewer's attention (Cardoso & Fonseca, 2008; Chan, 2011). Over the years, different resources such as metaphor, irony, exaggeration or monologues have been used by well-known comedians. Therefore, it is possible that the friendly tone and simplicity of some of these ads may not have sufficiently appealed to the audience (Nabi et al., 2007). While those that used a more complex humor, either the message has not been fully understood or they have not been considered humorous (Lagerwerf, 2007). The truth is that it is difficult to compress certain social messages in short audiovisual pieces and to awaken the viewer's reflection. Consequently, these characteristics favor that the greatest recall is related to advertisements with high emotional charge and, especially, those that show shocking and surprising images for the audience (Pedruzzi et al., 2016). Therefore, these campaigns are the ones that generally come to mind first when thinking of a traffic advertisement, leaving in second and third place those spots of an informative nature and those that use humorous resources of any kind, which have not managed to settle in the collective memory of Spaniards (Yousef et al., 2021).

Finally, the reduction in television consumption in recent years may be having an influence (Tuchman et al., 2018). Traffic and road safety advertisements are disseminated through multiple media such as radio, billboards or social networks, among others. However, television is the most prone platform for broadcasting these advertisements and educational programs given that it combines images and sound, which creates a visual and auditory impact superior to other media, better capturing the viewer's attention (Sama, 2019). Over many years, television has been the media with the widest reach, reaching a diverse audience (Deng & Mela, 2018). But, the rise of other non-advertising platforms, as well as the internet and social networks, has led to a decrease in the number of people watching television and, consequently, the reach

of traffic ads through this medium has been reduced, especially among younger people (Twenge et al., 2019; Díaz, 2020).

This is a factor that affects both the recall of humorous campaigns, as well as other types. In Spain there are some ads and slogans that were broadcast decades ago and are still present in the collective imagination, such as "If you drink, do not drive" (1985) or "Heads up, fellow driver!" (2006). In both cases, they are not high visual impact ads, but they are slogans that were widely repeated on television both at the time the campaign was aired and in later years, which used an appropriate musical accompaniment that favored the recall of the message. In recent years, there have been some of the best campaigns in history in terms of image quality, communication strategy and message. Examples include both campaigns with a high emotional impact such as "If you were in an accident, would you want to live or die?" (2018), informative campaigns that use big data and favor viewer empathy such as "The 36, let's prove big data wrong" (2022), and also humorous campaigns such as "Top Vacation" (2019), in which black humor is used for the viewer's reflection. However, the reduced consumption of the television medium, among other factors, has meant that they are little remembered ads, despite the power of their messages, which should invite reflection to rethink the form and media in which this type of campaigns are transmitted.

5. CONCLUSIONS

Humor has been a communicative strategy historically employed by the DGT, having been used in a sustained manner over time with the exception of a specific period. In fact, 11.1% of the traffic and road safety campaigns analyzed have incorporated humor in some of its forms and typologies.

However, the perceived effectiveness and recall of these humorous campaigns by citizens is limited. This can be attributed to various factors, including changes in the media and the rise of new digital platforms, which have reduced the visibility and impact of campaigns, both humorous and those employing other types of communication strategies. To improve the effectiveness and reach of future traffic and road safety campaigns, it is essential that the responsible entities consider the changes in the consumption of the various media by citizens, and adjust their dissemination strategies according to these new audience habits.

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