

Does Humor Work in Advertising of Pharmaceutical Products?

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Objective: This article evaluates whether humorous television commercials (TVCs) are effective for OTC (over-the-counter) drugs, a category that is extensively advertised on television in most countries as in Brazil.

Theory: The effectiveness of the construct “humor in advertising” is controversial since it involves complex and broad typology, and depends on the audience characteristics. Several studies indicate that some consumer goods are better suited for humorous TVCs depending on the product category, such as beers or candies; nevertheless, for others, as expensive jewelry or OTC drugs, it is expected that humorous TVCs do not bring advantages from its use (Gulas and Weinberger 2006). This conclusion for OTC drug was based in its product characteristics, since specific studies are non-existent in current literature. Paradoxically, drug announcers continue to spend billions of dollars worldwide in humorous OTC ads.

Method: a laboratory experiment with real consumers was conducted in Brazil, designed as between and within-subjects, to test three hypotheses. Sixty women were exposed to pairs of humorous and non-humorous TVCs, for each of three drug categories (analgesics, vitamins, and laxatives). We used fictional brand names and real ads, edited for the purpose of the experiment, and measured four dependant variables (attitude toward the advertising, attitude toward the brand, purchase intention, and brand choice), after respondents being exposed to manipulations of two independent variables: (non)humorous TV commercials and drug categories. Conditional logit model and t-tests were used to test the hypotheses.

Results: humor did not help to persuade respondents, whose choices, attitudes and purchase intention were reduced with humorous TVCs, in comparison to non-humorous executions. Thus, hypotheses 1 and 2 were partially confirmed, with reduced TVC effectiveness for the three OTC drug categories. Hypothesis 3 on possible differences among analgesics, vitamins, and laxatives, was not confirmed.

Conclusions: these findings were in line with the literature, once OTC drugs belong to a product category where humor may not be effective; the reasons behind that may lay in lack of credibility and/or inappropriateness resulted from humorous TVCs for OTC drugs. These two possible explanations remain as open avenues for future research, as well as other mentioned aspects regarding marketing for pharmaceutical products and humor in advertising. We present insights for future research, considering theoretical, managerial, and public policy implications.

Introduction

Although it remains unclear whether humor has either a positive, neutral, or negative impact on consumer attitude toward the advertising, it has been extensively used to promote products within most consumer goods categories (Weinberger and Gulas 1992) and utilized in all media vehicles. Between 10 and 30% of the all advertising expenditure in the American national media is made in advertisement intended to be humorous (Weinberger et al. 1995). Advertisers believe that humor has a positive impact on enhancing audience attention (Sternthal and Craig 1973), which is very positive for television commercial films (TVC).

In some product categories, and depending on copy advertising, humor proved to be an effective tool while for others, its use reduced communication performance. Most findings in the literature agree that some product categories, including non-prescription (OTC – over-the-counter) drugs, should not use humor, rather focusing on serious copy strategies (Spotts et al. 1997). Even taking into consideration these findings, many announcers continue to use humor to advertise OTC drugs, mainly on television, all over the world. This article aims to further evaluate whether OTC brands are strengthened when humor is used in TVC campaigns, to shed light on this controversy in the academic literature and in the management field. Specifically, we are interested to answer whether humor utilization in television advertising is effective for OTC drugs among consumers, in terms of: i) brand choice (BC), ii) attitude toward the advertising (AAD), iii) attitude toward the brand (ABR), and iv) purchase intention (PI).

Considering that OTC products may be consumed without medical prescription, it is reasonable to assume that they may have different perceptions in consumers' mind according to the pathology to be addressed. To evaluate the likely category differences regarding humor impact, three OTC classes were selected: analgesics, laxatives, and vitamins. These categories were chosen based on a qualitative survey with consumers, representing different pathologies and symptoms severity: analgesics are used to treat relatively serious medical conditions such as headaches, back or body pain, while laxatives are indicated for intestinal constipation, considered a lighter therapy because when consumers feel such discomfort, they also have the option to adjust their dietary habits, by consuming yogurt, fruit, or even a "natural" OTC drug. In between these two categories, there is the vitamins class, a kind of neutral therapeutical group, indicated as a food supplement or an energy booster.

This research may have a scholarly interest mainly in Latin America, where few studies about humor in OTC drugs advertising are available (Nascimento 2009). Its relevance is also based on managerial issues, considering over US\$ 300 million invested in OTC drug advertising in the Brazilian television in 2010 (IBOPE 2010), part of it using humor in copy strategy. From the public policy perspective, pharmaceutical product advertising has to comply with strong regulatory constraints all over the world, mainly due to non-responsible self-medication and the risk of side effects. Even though the use of humor is accepted in most countries, its effect on consumption of pharmaceutical products may be seen with caution by the government, since in the vast majority of cases, humorous OTC drug ads do not bring any educational or scientific message regarding the associated pathology, drug mechanism of action or medical conditions of when and how the product should be taken. Those copy strategies come from advertisers' beliefs, mainly based in their practical experience, that humor enhances audience attention and should help to strengthen brand equity and increase sales.

However, if humor does not work in advertising of pharmaceutical products, announcers may be ineffectively directing their messages to their audience and weakening consumers'

education regarding the products they sell. The remainder of this paper is organized as follows. Section 2 discusses the relevant literature on humor in advertising, and presents the hypotheses. The experimental design and data analysis are described in section 3. Section 4 provides analysis and interpretation of the empirical findings and section 5 concludes the paper, providing theoretical and managerial implications, as well insights for future research.

Literature Review

From the dictionary, humor is defined as i) the quality of being laughable, or comical; funniness; ii) something designed to induce laughter or amusement (American Heritage Dictionary 2010). Several theories tried to conceptualize humor and to define when and why it occurs, most of them coming from Psychology, Medicine, Sociology, and Linguistic fields. According to Gulas and Weinberg (2006), current theories of humor fall into three broad categories, each one formed by dozens of variations: i) Cognitive-perceptual (including the incongruity theories); ii) Superiority (affective-evaluative theories); iii) Arousal and Relief (including psychodynamic theories).

Cognitive theories date back to the 1700s and early 1800s and were developed by philosophers Kant and Schopenhauer, focusing on incongruities. According to these theories, humor comes from the divergence of expectations, and the greater the variations the funnier the material. Surprise, confusion, and contrasts are the basis of the incongruities and the consequence of humor. Raskin (1985) further conceptualized humor based on cognitive-perceptual processes when he stated that contrasts can arise from expected and unexpected, actual and non-actual, normal and abnormal, and possible or plausible and impossible or less plausible situations. Since the main point of the theory is not the incongruity per se, but its realization and resolution (i.e., putting the objects in question into the real relation), it is often called the *incongruity-resolution theory*, and it is still the most utilized theory in TV advertising (Shimp 2007).

Superiority theories also called *Disparagement*, started with Plato, Aristotle and Hobbes, for whom the cases of laughter are correlated with derision, insolence, or triumph. In this theory there is always a winner and a loser in a humor situation (Gruner 1997). While several scholars today still defend superiority, hostility, ridicule, or degradation as concepts of humor, this theory does not explain all the humor cases, especially considering that superiority is not always involved. In advertising, it is not difficult to find examples of superiority and disparagements utilization: Spotts et al. (1997) found 8% in printed media and Speck (1991) found 30% in television advertising.

Arousal-Safety or *Relief* theories have, as a common link, the existence of a physiological release in which humor helps to eliminate tension (Spencer 1860). Morreall (1983) summarized the relationship between arousal-safety and other theories: while superiority theory focuses on emotions involved in the laughter, relief theory addresses a question little discussed in the other two theories, namely: "Why does laughter take the physical form it does, and what is its biological function?" Thus, we can assume that relief may exist in both incongruity-resolution and superiority theories.

The new theory of laughter, postulated by Morreall (1983), is an attempt to integrate these three theories. Three general factors form the basis of his comprehensive theory: i) a change of psychological state with a shift in cognition, from serious to non-serious state, and/or in

effect, a boost of positive feelings, or just releasing suppressed ones, ii) this shift must be sudden and be able to catch the subject off guard, and finally, iii) the shift must be pleasant. Under these conditions, a feeling of amusement or mirth should be the end result, with or without laughter. Thus, it is not enough to have a change in cognition or effect; it must also be sudden and pleasant. In other words, incongruities, superiority or disparagements, and arousal-safety or reliefs mechanisms, all acting together are needed to generate effective humor.

Advertisers are intuitively using humor for most product categories, based on the fact that there is a link between humor and attention value attributed. Humor not only attracts attention but also enhances source credibility, which when linked with positive mood may increase persuasiveness. As trade-offs, humor may affect comprehension, distract the audience and fail to bring increased persuasion and purchase behavior when compared to more serious appeals (Sternthal and Craig 1973).

Weinberger and Gulas (1992) evaluated the main studies to date regarding the impact of humor in advertising questioning its controversial effectiveness. Their paper concluded that humorous ads attract attention, enhance liking, do not harm comprehension, do not enhance credibility, and do not appear to increase persuasion or purchase behavior, when compared to non-humorous ads. Also, they found that humor was more appropriate for low-involvement and feeling-oriented products, as opposed to the results found by Sternthal and Craig (1973). Another research conducted by Main, Argo, and Huhmann (2004) about pharmaceutical products and printed advertising, confirmed that humor is largely used and attracts consumers' attention. Spotts et al. (1997) studied humor effectiveness in printed ads using a conceptual framework adapted from Speck (1987) with a product-contingency focus, evaluating the humor mechanisms utilized and the type of product being advertised. They concluded that current advertising practices may not be the most effective, and for several products humor may result in negative performance.

In a trial to understand how humor is processed by consumers, Cacioppo and Petty (1984) developed the Elaboration Likelihood Model (ELM), a model depicting two routes of persuasion in consumers' mind: one central and one peripheral. The central route predicts that when people are motivated to think about a message due to their involvement with the product category or message relevance, or are able to think about it if the message is easy and understandable, they will cognitively elaborate on the ad and its claims (i.e., think or reflect about it), and consequently they can be persuaded by relevant claims. The peripheral route predicts that people may still be persuaded even if they are not motivated or are unable to process the information and arguments presented in the ad. If a person already has positive attitudes about something, message elements not related with the product, called peripheral cues, can be used to relate these positive attitudes toward the ad and the brand, provoking a weaker and more temporary persuasion. This is the case of ads using celebrities, enjoyable music or attractive models. Humor works in the same direction, encouraging lower levels of cognition and elaboration, reducing defenses and leading to persuasion (Beard 2008).

Chung and Zhao (2003) assessed the effect of humorous ads on memory and attitude by evaluating Super Bowl commercials aired from 1992 to 1997, and found a strong positive relationship between humorous advertisement, brand recall, and attitude toward the ad. For low-involvement products this positive relationship was stronger, while for high-involvement products it was small and marginal. These results were explained on the basis of ELM and peripheral cues, which seem to work better in low-involvement situations. As a consequence

of ELM theory, humor effect is most clear and effective in low-motivation and low-ability product situations, in which peripheral cues are activated in the consumers' minds.

Behaviorally oriented product typologies have been developed over the last 20 years classifying products according to their ELM explanations. Product grids were developed (Vaughn 1980; Spotts et al. 1997) to classify consumer goods in basically two dimensions: functionality and risk. Functionality dimension distinguishes products in their functional (think, rational, informational) and hedonic (feel, emotional, expressive, transformational) values. Risk dimension defines low and high-risk situations, and distinguishes product category involvement, associated cost, or whether consumers are able to process advertising information (Gulas and Weinberger 2006).

Gulas and Weinberger (2006) developed the Product Color Matrix (PCM), classifying most consumer goods in four color groups (white, red, blue and yellow) (see Table 1). Accordingly, OTC products are classified as blue goods, also called “little tools”, consumed to alleviate minor ailments.

Table 1: Product Color Matrix

Product Classification	Risk	Motivation	Consumption Motives	Emotional Benefits	Motivation to Process Information	Processing Style	Product Type
White	high	negative	functional / rational	some / long term	high	systematic	Durable; shopping (cars)
Red	high	positive	expressive / usually conspicuous	many / long term	high	systematic	Durable; nondurable; often luxury (jewelry)
Blue	low	negative	functional / rational	few / short term	low to moderate	heuristic	Nondurable; staple (OTC remedies)
Yellow	low	positive	expressive / rarely conspicuous	some / short term	low	heuristic	nondurable; often impulse (beer)

Source: adapted from Gulas and Weinberger (2006).

Blue goods are low involvement/low risk and functional products that do not require detailed information; trial experience is sufficient. As for advertisements, a simple problem-solution format focusing on the central benefits of the product is most appropriate. It is not necessary for consumers to like the ad (although ad liking does no harm to advertising effects); both related and unrelated humor may bear the risk of distracting the consumer from a successful information transfer of the central benefits of the product. Hence, humor may be effective, but less so than for other kinds of products in the matrix (Eisend 2009). However, humor performance for blue goods resulted in significant negative correlations, harming advertising performance, while for yellow goods was highly effective in the study of Spotts et al. (1997).

Those authors concluded that for blue goods, humor reduced score performance for initial attention and aided in brand recall, by using a sample of 470 magazine ads. Their explanation of the negative findings was that consumers are not highly involved, so the advertising must

provide quick information how the product solves their problems or the ad page will be turned.

Spotts et al. (1997) classified humor as per the association with the advertised product. This concept is called relatedness, and means that related humor may be more effective. Relatedness is classified in three types: intentional, structural and thematic. Our study deals with intentional relatedness or dominance of humor in the message, regarding how humor is related to the message type and message processing. Eisend (2009) confirmed in a meta-analysis that humor does not provide any advantage for blue goods, in line with the findings of Spotts et al. (1997), in both cases of related or unrelated humor. In his evaluations of the main studies to date, several of them in the television advertising field, reached negative correlations between humor and attitude toward the brand for blue goods. Eisend's evaluations go beyond blue goods and emphasize the literature gap regarding the role of humor in purchasing behavior; it also criticizes the limitations of previous studies, since most of them use students instead of real consumers, and printed media rather than radio or television for humor ads (Eisend 2009).

Hypotheses

Based on Spotts et al. (1997), Gulas and Weinberger (2006), and Eisend (2009), humorous ads should not be as effective in comparison with non-humorous ads for the blue goods category. Thus for OTC remedies, it is expected that consumers tend to prefer drugs advertised through non-humorous TVCs. This could possibly be explained by the fact that consumers consider OTC drugs as “little tools”, considering funny approaches inappropriate to specific product characteristics, as well as to their medical conditions. So we have the first two set of hypotheses:

H1: Humorous advertising reduces consumers:

H1a: attitude toward the advertising (AAD)

H1b: attitude toward the brand (ABR)

H1c: purchase intention (PI)

for OTC drugs, when compared with non-humorous advertising.

H2: Consumers choose OTC drugs advertised through non-humorous TVCs, when compared with those advertised through humorous TVCs.

To better understand consumer behavior regarding OTC drugs, three product categories (analgesics, laxatives and vitamins) were studied. Since pain is considered a “serious” medical ailment by suffering consumers, it would be expected that analgesic humorous ads would face a significant reduction of AAD, ABR, and PI scores in comparison with non-humorous copies. For laxatives, once they should be considered less serious and sometimes a “funny” category by consumers, it would be expected that humorous ads provoke smaller reduction of AAD, ABR, and PI, in comparison with analgesics. Finally, for vitamins, as an “intermediary” class, their AAD, ABR, and PI scores are expected to be reduced in comparison with analgesics, equivalent to laxatives. Thus, the third set of hypotheses is:

H3: Humorous advertising reduces consumers':

H3a: attitude toward the advertising (AAD)

H3b: attitude toward the brand (ABR)

H3c: purchase intention (PI) for analgesics, when compared with humorous advertising for laxatives or vitamins.

The description of the experiment, variables and sampling, and the models to test the hypotheses are detailed in the next section.

Method

We performed an experiment in a factorial 2 (humor: yes vs. no, between-subjects) x 3 (drug categories: analgesic, laxative, and vitamin, within-subjects) design. Four dependent variables were measured: brand choice (BC), attitude toward the advertising (AAD), attitude toward the brand (ABR) and purchase intention (PI). The within-subjects design is recommended for this experiment since each subject serves in every treatment, creating more comparable groups and making the test more sensitive (Keppel and Wickens 2004). On the other hand, within-subjects design introduces a nuisance variable, namely the order in which the conditions are tested. We addressed this issue through randomly selected TVCs' sequences.

The target population was formed by women, since the vast majority of decisions and purchases regarding OTC remedies are in *mother's* hands, the informally designated person responsible for the entire family healthcare aspects in Brazil (Pachelli 2003). This is similar to the USA, where Gore et al. (1994) affirmed that females have a higher involvement than males in non-prescription purchase decisions, attributable to their family care guardian role. The sample was formed by women living in the city of Sao Paulo, Brazil. The TVCs exhibition and subsequent questionnaire were applied individually to prevent any audience effects (Zhang and Zinkhan 1991, Gulas and Weinberger 2006) and to emulate a real world situation, since consumers usually watch television alone, or with family members.

To ensure sample homogeneity, the inclusion criteria was women, ranging from social classes B and C (Brazilian medium social class), mothers, aged between 25 and 50 years old, who had themselves bought at least one OTC drug belonging to the analgesic, laxative, or vitamin categories in the last six months. Subjects were contacted by telephone, selected randomly from the internet telephone list. After screened according to above criteria, were invited to participate in a research about "non-prescription pharmaceutical products". A financial support of US\$ 14.00 was offered to each subject as part of the transport cost reimbursement. A total of 570 contacts were performed to achieve the final sample size of 60 women (30 in each social class).

It is well established in the advertising literature, and understood in advertising practice, that people react differently to new product advertising than they do to advertising for existing products (Gulas and Weinberger 2006), so we used fictional brand names and real ads. Chattopadhyay and Basu (1990) showed that prior brand evaluation plays a fundamental role in consumers' evaluation of humorous ads. When the prior attitude is favorable, the impact on BC, AAD, ABR, and PI are positive, in comparison with non-humorous ads. Conversely, when there is a negative prior attitude, non-humorous ads are more effective. To prevent this effect, expected to be more important for remedies due to their health implications, it was decided that fictional brands would be used in this research. Also, Gulas and Weinberger (2006) advocated the use of real ads, since actual captured ads bring a sense of realism to any study.

The next step was to select six TVCs for the experiment. Over 100 TVCs were reviewed from *Arquivo da Propaganda* (Brazil's largest collection of advertising) dataset, aired in Brazilian television from 2000 to 2008, to select the experiment executions. This precaution to not use up to date commercials was to reduce brand name recall. The chosen executions were representations of humorous and non-humorous OTC drug advertising, in a trial to make the experiment as close as possible to real advertising practices. The selection criteria were: i) Humorous TVC - focus on brand name and product indication without therapeutical claims or rationale to use the product, using the incongruity-resolution humor mechanism within a related humor execution; ii) Non-humorous TVC - brief explanation about the pathology (medical problem), brand presentation as an effective medication (solution) and the rationale to use the product within a non-humorous execution.

The chosen TVCs with original product names were converted into fictional brands. The six TVCs had their brand names modified to equivalent fictional brands. The edition process was conducted by an advertising agency, with professional artists recording voices over the original scripts and new sound tracks. Thus, six “new” TVCs with fictional brand names, one for each OTC product, were obtained (see table 2).

Table 2: Fictional Brands Utilized in the Experiment

OTC category	TVC execution	Fictional brand
Analgesic	Humorous	Adorpan
	Non humorous	Adorpin
Laxative	Humorous	Zilax
	Non humorous	Zolax
Vitamin	Humorous	Clevit
	Non humorous	Clavit

The common suffix of the fictional brands (*dor*, *lax* and *vit*) were adopted since they are usual in Brazilian OTC market; indeed, several real product names utilize these words either as prefixes or suffixes in analgesic, laxative, and vitamin categories, respectively. To increase comparability of executions, the same pack-shot and selling idea, product image and slogan commonly used at the end of TVCs, which summarize the emotional or functional benefit and link it memorably to the brand name, were applied to each pair of commercials. This was done to ensure comparable TVCs, avoiding different pack-shots or selling ideas effects.

TVCs were pre-tested to check whether they really complied with above mentioned criteria and could be considered representative of humorous and non-humorous approaches in OTC drug advertising. During the experiment, the six TVCs were checked again to reconfirm whether they were representative of humorous and non-humorous categories, as part of the manipulation check (measured by the advertising humor level – HAD, a scale adapted from Zhang 1996).

When the subject arrived at the research location, as per her appointment, she was taken by the experimenter to a room with a television set. In the room, snacks and soft drinks were available to welcome and provide a warmer atmosphere for the interview subject. Then, the confederate reconfirmed to the interviewee (subject) the purpose of the research on non-prescription drugs, and then the first part of the questionnaire was applied. The objective of this initial group of questions was to get to know the usual drugs taken by that consumer in the three categories and the actual use of the real brands. Afterwards TVCs were sequentially presented to subjects, showing two films for each OTC category, in a total of six exhibitions made to each participant.

We addressed the concerns about order effect of the ads, so randomization of the TVCs sequence was adopted. After each pair of TVCs exhibition, subjects made immediately their brand choice (BC) answering a dissimulated question: “which of these two analgesics/laxatives/vitamins would you like to take home to test?” After the presentation of the six TVCs and the three brand choices, subjects answered the questionnaire for each advertised product, on attitude toward the advertising AAD (scale adapted from Neese and Taylor 1994), attitude toward the brand – ABR (scale adapted from Putrevu and Lord’s 1994), and purchase intention – PI (scale adapted from Neese and Taylor 1994). All scales were Likert, from totally disagree (1) to totally agree (7).

As a complementary action to control the experiment procedure, subjects were openly asked about the purpose of this research. Basically the answers were focused on the declared purpose: a research about new OTC drugs to be launched in the market. Only two out of 60 answers mentioned humor as part of the research purpose, but regarding humorous advertising with drug credibility (and not with persuasion or choice). So we decided to keep all 60 respondents in the data analysis.

Comparison among the dependent variable across the independent variables was made by two-tailed T-tests. We evaluated regression of (non)humorous TV commercials on brand choice (BC) using conditional logit model at STATA 11 software. In the conditional logit model, the categories of answers are not in ordinal order, i.e. having 3 alternatives (1, 2, and 3), does not mean 3 is bigger than 2, and 2 is not bigger than 1. Consider Y_i a random variable to indicate the choice made by a consumer. If the P errors are independent and identically distributed (i.i.d.) by Gumbel distributions, thus:

$$F(\varepsilon) = \exp(-e^{-\varepsilon}) \quad \text{therefore,} \quad P(Y_i = j) = \frac{e^{\beta'z_{ij}}}{\sum_{p=1}^P e^{\beta'z_{ip}}} \quad \text{refers to conditional logit model,}$$

where z_{ip} is regarding to the vector of independent variables. Next we present the empirical results of our experiment.

Results

Table 3 present the descriptive statistics of the sample: the majority of the subjects had intermediary formal education (65%) and aged between 25 and 24 years old (47%), balanced between the two social classes (50%). 100%, 52% and 73% had bought at least one analgesic, laxative or vitamin, respectively, in the last six months.

Table 3: Descriptive Statistics

Variable	Level	%
Social Class	A	50
	B	50
Education	Elementary	12
	Intermediary	65
	Undergraduate	23
Age	25-34 years old	47
	35-44 years old	35
	45-54 years old	18
OTC Usage	Analgesic	100
	Laxative	52
	Vitamin	73

Reliability of the scales for the three dependent variables and advertising humor level (HAD) was satisfactory, as per Cronbach's Alpha tests performed for each TVC, as shown in table 4.

Table 4: Cronbach's Alpha of AAD, ABR, PI and HAD

Dependent variable	AAD		ABR		PI		HAD	
	Yes	No	Yes	No	Yes	No	Yes	No
Humor								
Analgesic	0.93	0.81	0.94	0.80	0.93	0.77	0.93	0.87
Laxative	0.89	0.85	0.90	0.81	0.95	0.87	0.92	0.94
Vitamin	0.91	0.86	0.87	0.80	0.95	0.93	0.91	0.94

AAD: attitude toward the advertising; ABR: attitude toward the brand; PI: purchase intention; HAD: advertising humor level.

By the manipulation check, means of advertising humor level (HAD) in a two-tailed T-test were significantly higher (95% confidence interval) for the humorous execution in comparison with the non-humorous ads, indicating that the humor stimulus was perceived by subjects and worked appropriately. Results for the three dependent variables AAD, ABR, and PI for the six TV commercials are detailed in the Table 5. Their means were compared (two-tailed T-test) resulting in statistical differences between humorous and non-humorous commercials for vitamins and laxatives, but not for analgesics, partially confirming H1. The differences between analgesics vs. vitamins and analgesics vs. laxatives scores were positive or non-significant for humorous analgesics TV commercials, not confirming H3, as stated in the last two lines of Table 5.

Table 5: Dependent Variables Means for the six TVCs

Dependent variable	AAD			ABR			PI		
	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value
Humor									
Analgesic	5.46	5.85	0.13	5.24	5.53	0.34	4.86	5.24	0.28
Laxative	5.19	6.09	0.00**	5.14	5.76	0.01*	4.68	5.45	0.01*
Vitamin	4.99	6.19	0.00**	4.81	6.00	0.00**	4.53	5.95	0.00**
Analg. vs. Vit.	0.48		0.02*	0.43		0.03*	0.32		0.21
Analg. vs. Lax.	0.29		0.22	0.09		0.71	0.18		0.57

AAD: attitude toward the advertising; ABR: attitude toward the brand; PI: purchase intention

** and * indicate significance at the 1 and 5 percent levels respectively.

Results for brand choice (BC) are depicted in Table 6. For analgesic, there is no statistical significance for humorous ads affecting brand choice. But for vitamins and laxatives, the significant negative coefficient means subjects have less probability of choosing the brand advertised by humorous messages. This partially confirms H2, since consumers chose OTC drugs advertised through non-humorous TV commercials, when compared with humorous ads, for vitamins and laxatives. Only for analgesics, results were non-statistically different for humorous and non-humorous TVCs.

Table 6: Dependent Variables Means for the six TVCs (conditional logit regression)

OTC category	N	Coef. Humor	Std. Err.	z	P > z	Log Likelihood
Analgesic	120	-0.20	0.26	-0.77	0.44	-41.29
Laxative	114	-1.22	0.31	-3.86	0.00	-30.60
Vitamin	120	-1.10	0.23	-3.68	0.00	-33.74

Dependent variable is brand choice.

H3 was not confirmed since humorous advertising did not reduce consumers' attitude toward the advertising (AAD), attitude toward the brand and purchase intention (PI) for analgesics, when compared with humorous advertising for laxatives or vitamins, as per Table 5. Next we present the implications of our results.

Conclusions

Based on this empirical research, subjects generally chose brands advertised by non humorous commercials (for both vitamins and laxatives), and attitude toward the advertising (AAD), attitude toward the brand (ABR), and purchase intention (PI) were lower when subjects were exposed to humorous ads (also for both vitamins and laxatives only).

Humor has been extensively used to promote products within most consumer goods categories (Weinberger and Gulas 1992) since advertisers believe that humor has a positive impact in enhancing audience attention (Sternthal and Craig 1973) for television commercial films (TVC). In some product categories, and depending on copy executional aspects, it has been supported that humor is effective when present in ads, whereas in other product categories its use reduced communication performance (Spotts et al. 1997). This may be the case of non-prescription drugs, as confirmed by our results.

In the framework of Gulas and Weinberg (2006), products such as OTC remedies were categorized as goods with perceived low-risk and functional dimensions; humor utilization in advertising for these products is controversial, and does not necessarily improve performance indicators, such as purchase intention. A meta-analysis published by Eisend (2009) confirmed that humor does not provide any advantage for these blue goods.

Evaluating the possible way in which humor does not support the sales of OTC drugs was not the purpose of this article; but from its results it seems that consumers prefer drugs advertised through serious TV commercials, maybe because they provide greater credibility, which is a key success factor for such a kind of product. Other possibility is that the use of humor is considered inappropriate for OTC drugs by consumers, due to its nature and associated risks. Our empirical research conducted with real consumers may have managerial implications, not only due to the high expenditures in advertising, but also due to the nature of the product, with public policy concerns and under certain regulation of the government.

Our results may provide insights for the marketing executives from pharmaceutical industries, when choosing the copy strategies of their product's message, and further dwell on the mentioned issues regarding the use of humor in TV commercials. In fact, the heavy media investments using humor in OTC business may not provide the returns as expected. This may not be adequately detected by advertisers since brand equity and other product attributes may be behind an apparent success in sales. In other words, if a lab invests in media to strength the brand and increase sales, the use of humor in TVC may not be adding value as expected

In addition, consumers are not getting any educational information from humorous copy executions of TVCs. The emphasis on creating a hilarious film in the usual 30 seconds may easily jeopardize drug information, and consequently, its credibility and persuasion effects. In any case, this is not a problem exclusive to the announcers, but also a regulatory concern. The way OTC drugs are communicated through humorous ads may contribute as a source of non-conscious use of medications, and this issue might be investigated in future research.

This research has limitations, such as the possible distortion regarding TV commercials used in the experiment. Ideally, the experiment should be conducted with two new TVCs, with similar approaches and claims, differing only from their sense of humor. Somehow, the experiment should follow the designs developed by Flaherty et al. (2004), or Chattopadhyay and Basu (1990), with consumers divided into different groups, and thus, between-subjects, evaluate the same product with equivalent humorous and non-humorous advertising pieces. Nevertheless, those two experiments presented other limitations that this study did not have. The use of real TVCs with real consumers simulated the current market context more precisely, although differences on the argument of the commercial may be considered a relevant extraneous variable.

OTC drugs belong to a particular complex market, with brands carrying heritage of medical or family member recommendation. In addition, humor is a complex construct, hard to standardize in experiments, since consumers perceive humor in a highly heterogeneous manner. Therefore, future research could also consider removing the effect of heterogeneity among subjects regarding perception of humor in advertising.

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