

## Misleading advertising: a study of radio spots in Spain

Publicidad engañosa: un estudio del spot radiofónico en España

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**Abstract:** In order to identify the different types of misleading advertising, this study is based on the existing legal framework in Spain. A total of 430 radio spots —or 1,664 when broadcast frequency is considered— were coded according to radio station type, time slot and product category. The findings of content analysis reveal that 33% of radio spots in 2009 included misleading content, predominantly in terms of product characteristics and those within the health category. The study suggests that a new approach should be taken by the organisations that control, monitor and follow-up on advertising.

**Key words:** misleading advertising, deceptive advertisements, radio spots, unlawful advertising, content analysis.

**Resumen:** Para detectar los diferentes tipos de publicidad engañosa, este estudio se basa en el marco jurídico vigente en España. Un total de 430 spots radiofónicos —que suman 1.664 incorporando la frecuencia de emisión— fueron codificados por tipo de emisora, franja horaria de emisión y categoría de producto. Los resultados del análisis de contenido muestran que el 33% de los anuncios emitidos en 2009 presentan contenidos engañosos, predominando los relacionados con las características del producto y con la categoría de salud. La investigación sugiere la necesidad de dar un nuevo enfoque a los organismos de control, monitorización y seguimiento de la publicidad.

**Palabras clave:** publicidad engañosa, mensajes engañosos, cuña publicitaria, publicidad ilícita, análisis de contenido.

The excessive supply of almost identical products that satisfy the same need is one of the key characteristics of any market in the mass consumer society, in which the sales strategies of manufacturers are becoming increasingly aggressive in order to retain their consumers. The line of good practice is trespassed when a persuasive and rational message becomes one that misleads the consumer, thereby violating antitrust laws, or even one that deceives an individual who has committed part of their savings and expectations to a particular brand. Some advertisers, therefore, choose the quickest route to achieve their advertising objectives, a shortcut for selling more and faster than their competitors. We are referring to the strategy of deceit, a professional practice that can backfire against the product or service being advertised, therefore against the manufacturing company and its commercial interests. The consequences are not limited to the offender however; they affect all market players and society as a whole. This way, it comes as no surprise that advertising is perceived by consumers as being less informative and truthful (Schutz and Casey, 1981), thus it loses the credibility it needs (Ford *et al.*, 1990; Obermiller *et al.*, 2005) in order to fulfil its objectives and be effective.

Grunert and Dedler point out that due to “the vast number of advertisements that appear every day, it seems impossible to determine whether each advertisement actually misleads consumers” (1985: 154); among other reasons, according to Russo, Metcalf and Stephens: “Because verification is technically impossible or prohibitively expensive” (1981: 119). The Gallup Organization (2010: 31) confirms the data in its *Eurobarometer* report, which states that 69% of Spanish consumers claimed that during 2009 they encountered some type of misleading advertising or offer, compared to an average of 54% in the European Union. Only 28% were satisfied with how their complaints were settled.

When analysing the theoretical framework of misleading advertising, the initial problem encountered was the lack of consensus regarding legislation. Depending on the author, we found a multitude of resolutions and a variety of interpretations as for the same precepts. Consequently, case law and jurisprudence have become inundated with extensive literature and analyses of sentences that often oppose court resolutions. Even the legal bodies contradict one another; in the case that some deem an advertisement unlawful, others interpret it as possessing the characteristic features of any persuasive advertisement. Muñoz Cuesta argues that courts are reluctant to punish misleading advertising (2010: 43). An example is the case of *Coca-Cola España v. Pepsi-Cola España* in 1993, in which the Court of First Instance of

Madrid found the defendant guilty of degrading comparative advertising in a television advertisement; whereas the Provincial Court of Madrid ruled it was simply the use of exaggeration in advertising (Díaz Ruiz, 1995: 79) and was, therefore, considered as a lawful advertisement.

For some, determining whether a spot is misleading is a delicate task of interpretation (Gómez Castallo, 2001: 239) whereby, in applying maximum objectivity, advertisements should be interpreted according to the overall impression they make on the receiver of the message. Russo *et al.* agree, indicating that it “continues to prove difficult and controversial (...) [and that] the problem is further complicated by the conflict between the behavioural paradigm of researchers and the jurisprudential view of regulatory organizations” (1981: 119). Maybe this is one of the reasons why research studies carried out by specialists in law, marketing or consumption are abundant, while those conducted from an advertising perspective, such as persuasive communication, are scarce. In any case, many researchers, legislators and regulators have long been calling for a sole, comprehensible, unambiguous and practicable set of guidelines to determine if an advertisement is misleading or not (Hyman, 1990: 259).

Previous studies address three areas of analysis in respect to the communication components of advertising: “The advertiser, the message itself, and the resultant consumer beliefs about the advertised product” (Russo *et al.*, 1981: 119-120). Our research experience leads us to believe that the second option is the most appropriate for our objectives: analyse the content of the radio advertising message, thereby detecting how and when it violates the principle of truth in advertising. Radio is the chosen medium because it has the second largest audience after television, yet it receives the least amount of attention by researchers (Muela, 2001, 2008) who prefer to base their studies on audiovisual media, newspapers or magazines.

In order to place our study on misleading advertising within context, we refer to the experimental study conducted by Olson and Dover (1978), which offered a definition of misleading advertising based on behaviour in operative terms; they also empirically proved and measured the effects of the deceit before and after viewing the spot in several cognitive states including brand beliefs, purchasing attitudes and intentions. Armstrong *et al.* (1979) carried out an experimental study to identify misleading advertising by measuring the perceptions and beliefs towards *Listerine* mouthwash television advertisements. Russo *et al.* (1981) conducted an empirical testing procedure in order to identify misleading advertising by measuring the beliefs of consumers towards 10 magazine advertisements. The research carried out

by Burke *et al.* (1988) extends this study and applies the same methodology in order to detect advertising that may lead consumers to have a false impression of the advertised product, testing several graphic advertisements of Ibuprofen painkillers. Another experimental study conducted by Grunert and Dedler (1985) analysed the effects of advertising on specific cognitive consumer variables through the text in advertisements. And Barbour and Gardner (1982) offered a simple methodology for detecting and measuring misleading advertising in print media through an experimental study based on the price of car tyres. However, the research project carried out in Spain by Professor León (1993) is closest to the focus of our study; through an empirical study based on content analysis, León quantified the presence of misleading advertising in the four most important media outlets: television, daily newspapers, magazines and radio measuring, among other variables, the degree of truthfulness and exaggeration, the existence of serious omissions and express exclusion of competitors.

In short, we can identify two main methodological approaches when examining misleading advertising from an applied research perspective. The first refers to a cognitive focus based on a psychological concept of misleading advertising, understood as being the qualitative difference found when the real characteristics of the product are compared with the expected qualities of the product that the consumer has generated through the perception of a message and the impact that it has produced (Grunert and Dedler, 1985: 155-6). These studies generate highly significant theoretical contributions; however they cannot be applied to all consumers in general.

The second approach is based on the judgment of the experts who must decide whether an advertisement should be considered misleading. This methodological approach is based on the concept of truthful advertising, whose claims must be based on the product, its ingredients, composition or purpose and must not conceal any relevant information from the consumer. This approach is not based on the proven existence of deceitful or misleading advertising but simply on the fact that the advertisement is capable of misleading. This way of evaluating advertising is used by the self-regulatory advertising bodies, by the courts or by the Federal Trade Commission, which only needs a “reason to believe” that the law has been breached and whose decisions are influenced by public interest (Maronick, 1991: 10).

In our opinion, this methodology is more efficient to resolve conflicts in interpretation, quicker to set discrepancies, more economical to carry out and most of all more beneficial to consumers and society as a whole.

## Legislative framework: legal concept and types of misleading unlawfulness

Act 61/1964, of 11 June, which approved the Statute on Advertising<sup>1</sup>, was the first Spanish law that regulated advertising activity. Article 6 refers to the principles of legality, truthfulness, authenticity and free competition; nevertheless, when Spain entered the European Economic Union it had to incorporate the Council Directive of 10 September 1984 relating to the approximation of the laws, regulations and administrative provisions of the Member States concerning misleading advertising; in particular, the legal definition provided in Article 3 and the elements and indicators that determine deceit in Article 4. Therefore, the Spanish General Advertising Act 34/1988 of 11 November<sup>2</sup> incorporates an almost identical text to the superior European regulations, including the section on deceit in Chapter II of unlawful advertising. After two decades Act 29/2009 of 30 December<sup>3</sup> was approved, amending these articles, but without overriding the LGP. This review unified the two most frequent types of unlawfulness: unfair and misleading advertising. After the amendment of Chapter II of the LGP, misleading advertising is described in Article 3 as a form of unlawful advertising together with unfair and aggressive advertising, referring to Act 29/2009. Article 5 of this Act catalogues misleading commercial practices, considering unfair and deceptive any action that contains false information or information that, while true, may include content or is presented in a way that misleads<sup>4</sup> consumers, who are likely to alter their economic behaviour, whenever it refers to aspects such as: *a*) the existence or nature of the good or service; *b*) the principal characteristics of the good or service; *e*) the price; *g*) the businessperson or professional.

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1 Ley 61/1964, 11 June, which approved the Statute of Publicity.

2 Ley 34/1988, 11 November, General Publicity Law (LGP).

3 Ley 29/2009, 30 December, by means of which the legal regime of disloyal competence and publicity to improve protection to consumers and users.

4 As for misleading advertising according to presentation, this concept includes disguised advertising not recognised by the audience, as there are no separating elements between the advertising and the rest of the programme contents broadcast through a particular medium. Moreover, Higuera (1998: 155) raises an important point: how are the potential effects of a deceptive act evaluated? And how is the danger of consumer subjective error, much more difficult to resolve than effective deceit, measured? In Great Britain, for example, opinion surveys are used, while in Germany and Spain the decision is left up to the judge.

Exaggerated advertising or hyperbole is understood as a true claim about a product that can be proven, yet is not taken seriously by the receiver of the message; therefore it does not mislead the consumer. Consequently, it is considered to be lawful, except in the case it is deceptive, for which, as jurisprudence indicates it is difficult, contradictory and complex to establish limits and measurements (Domínguez Pérez, 1999). Therefore this would be a case requiring greater legal and communicational study as often an exaggerated promise may generate false expectations in the receiver of the message; also because the seriousness or humour of an advertisement is subjective and difficult to measure; and lastly, because there are studies (Rotfeld and Rotzoll, 1980) that prove that exaggeration is understood to be true, influencing consumer purchasing decisions and behaviour. This suggests that the law should not understand hyperbole as an element which is inherent in the persuasive message, yet is another form of unlawful advertising.

Another of the most frequent forms of misleading advertising is puffery. According to Lema Devesa, this is when “the advertiser claims that it outclasses its competitors (...), it extols its goods or services to such an extent that consumers believe no other product can be purchased as a substitute” (1976: 350); however, neither names are mentioned nor other competing brands can be identified (Díaz Ruiz, 1995: 80). If this type of advertising is capable of influencing or altering the beliefs of the consumer about the brand product or service and cannot be considered exaggerated advertising, then it should be considered unlawful and unfair because it is taken seriously and is misleading, not because of its unlawful comparison. Lema Devesa points out that the principal element of puffery is a definite article followed by an adjective (the authentic, the true, the genuine, etc.) or a geographical noun (the Rioja); but also a superlative or comparative adjective or adverb (inferiority: the cheapest, or a negative comparative: there is nothing better), the positive adjective (great newspaper, instead of *the* great newspaper) or other adjectives: unique, unbeatable, incomparable, etc.; the adverb alone or other terms such as: the one and only, the last word, at last a product that, the number one in, etc. (1976: 354-356, 364-365).

The first point of Article 7 of Act 29/2009 defines misleading acts of omission: “The omission or concealment of information necessary for the consumer to be able to make an informed transactional decision is considered as unfair practice” (2009: 112044). Providing unclear, unintelligible or ambiguous information, as well as failing to give details timely or informing the user of the commercial objectives, if vague within context, are also considered unfair.

Based on the information above, we can conclude that the definitions of misleading advertising and its different forms are well-delimited in a legal sense. However, we believe that it is necessary to take a step further and consider an operative concept of misleading advertising that goes beyond legal classification. One from which variables can be derived with which to explore the phenomenon of misleading advertising and which puts the overall interest of consumers and their protection before corporate economic activity.

Our study conceptualises misleading advertising as content from a persuasive message, commercial in nature, which uses the mass media to address a target audience and explicitly claims that rational and/or emotional benefits are to be obtained, thereby generating or possibly generating expectations in the consumer of the product or user of the service which the advertiser cannot guarantee, and ultimately leads to financial loss.

## Research and hypothesis approach

The scientific and legal framework described above enabled us to establish the specific goals and basic hypotheses essential to initiate our research. The fundamental interest of the study focuses on the need to empirically verify a phenomenon such as misleading advertising, which is largely ignored by organisations responsible for control and monitoring, as well as those within the scientific sphere. Our research findings reveal that what seems to be a marginal reality is in fact much more prevalent and significant.<sup>5</sup> The objective of our study is to identify the real presence of unlawful misleading radio advertising in Spain firstly, in order to illustrate how some advertisers violate the law and are not penalised for it, and secondly, to demonstrate the defenceless situation of listeners, whose potential purchasing decisions could be distorted by purposely misleading information.

Given this context of theoretical and conceptual heterogeneity, the lack of consensus in the interpretation of many court rulings and the absence of previous studies on which to base our own, as a starting point we will refer to the judgements published by *Autocontrol* —the self-regulation body in Spain— corresponding to 2009, the period analysed in our study. We have

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5 This article forms part of a wider research project analysing unlawful advertising and is therefore one of a series of studies conducted by the authors in which they reveal that unlawful advertising (Muela and Perelló, 2011a) and misleading health advertising (Muela and Perelló, 2011b; Perelló Oliver and Muela, 2011) are particularly prevalent in radio.

studied the cases resolved by *Autocontrol* based on interpretation developed by its own codes of conduct and existing legislation. Our research will use this perspective to evaluate the text of advertising messages.

Hence, the objective of the study is to identify the different types of misleading advertising broadcast on Spanish radio based on their legal conceptualisation in order to characterise these unlawful practices in terms of the different radio station types, the time slots in which they are broadcast and the type of product advertised. All of these variables, operationalised in the next section, are statistically related in order to conduct an analysis of residuals which will enable us to identify the atypical associations existing between them.

In short, the in-depth study of the configuration, members and work methodologies of the bodies responsible for controlling and monitoring advertising in Spain has enabled us to identify the limitations of a system that does not rigorously fulfil its objectives with respect to radio advertising. Our first hypothesis is derived from this idea:

H1: The presence of misleading advertising on Spanish radio broadcasting is greater than that reported by the bodies responsible for its monitoring, and more specifically, by the advertising self-regulation associations.

Secondly, the unique characteristics of radio and the predominant format of radio advertising spots, along with qualitative research of the sample used for this study, have enabled us to construct our second hypothesis:

H2: The most frequent type of deceit in radio advertising is related to the characteristics and price of the products and services advertised.

Finally, our third hypothesis is based on the idea that advertising messages associated with health products, which tend to make uncontrolled exaggerated promises about their properties, a priori, are the ones with the most misleading content.

H3: The items most associated with misleading advertising are health-related products.

## **Method**

### *Criteria to select advertisements*

Many researchers claim that the most appropriate method to detect misleading advertising is to relate the misleading message to the cognitive evaluation



made by the recipient of the message. However, it would be unfeasible to analyse all supposedly misleading advertising, interview the recipients of said advertisement—even statistically representative samples—conduct surveys or group discussions or hire experts, as the economic and human resources required to carry out this level of control would by far outweigh the results and alleged benefits obtained. Therefore, another line of research is that of an expert who identifies the misleading advertising, such as judges, or in some cases appraisers appointed by the judges to find a resolution. This approach was chosen for the purpose of this study assuming what Higuera called in the legal context “the subjectivity of the judge” (1998: 155). This way, the concept and objectives established for this study require a quantitative analysis of the content of advertising spots broadcast on Spanish generalist and thematic radio at a national scale for the year 2009. The radio spot has the most uniform structure of all advertising formats that are available on radio, facilitating the analysis and homogeneity of the sample. Commercial messages lasting on average between 20 and 30 seconds form the sample corpus of the study. The month to obtain the sample was chosen according to strategic-intentional criteria and based on data published by Infoadex, the annual study and benchmark for advertising investment in Spain. We observed that the investment behaviour of the advertiser follows a similar pattern each year and coincides with other media, indicating that the month with the highest level of advertising activity is June.

In order to select those radio stations with the largest audience, we consulted the General Media Study<sup>6</sup> (EGM), which provided us with the data corresponding to listeners between April-May, 2009. Once public and regional stations were identified and excluded, the sample of generalist radio stations was taken solely from a grouping of commercial radio stations with national coverage: Cadena Ser, Onda Cero, Cadena Cope and Punto Radio. Therefore, spots that reached 8,820,000 listeners were analysed, which represent 81.12% of total generalist radio listeners: 10,872,000. With respect to thematic radio, the seven stations with the largest audience were taken into account: 40 Principales, Cadena Dial, M80, Radiolé, Cadena 100, Europa FM and Kiss FM, which represent different musical styles and reach different audience profiles. The remaining stations are regional, public and specialised with audiences considered to be of little relevance to our study. In summary, we analysed radio spots broadcast on thematic radio with national coverage reaching 9,087,000 Spanish listeners, which represents 76.3% of

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6 Estudio General de Medios.

total listeners of this type of radio station and whose overall figure reaches 11,910,000.

In this multi-stage sampling, the next step was to register 24 hours of broadcasting from the eleven stations, on alternate days and weeks, using a digital mass storage system of audio data. Of the 96 hours of programming, the spots that would comprise the sample were selected and the exact moment of broadcast was determined, so as to register the broadcasting frequencies of each of them. Using specific software, all of the spots broadcast in the different time slots were edited and catalogued, selecting only those spots broadcast at a national level. Although we are aware that radio is considered to be a local media channel due to the amount of stations in Spain with limited geographical coverage, we believe that this study should focus on those stations with national broadcasting, remaining consistent with analyses carried out on other media (newspapers, television, magazines, etc.) in order to subsequently conduct comparative studies with the same broadcasting parameters. We also decided not to include spots referring to offers and promotions as they are based on price and seek an increase in consumption for a particular time period—generally short-term—and their broadcast has a very specific time limitation.

### *Sampling*

The representativeness and significance of the sample upon which our study is based is perfectly guaranteed as it virtually incorporates all radio spots broadcast by commercial (private) generalist radio stations with national coverage during the time period stated, and almost all advertisements broadcast by thematic radio stations. In short, we have worked with a sample that comprised 430 different spots, for which a complete transcription of the texts was made, corresponding to a total of 1,664 sample units, taking into account the accumulated frequency of each one in broadcasting terms (Rossiter and Percy, 1987: 387). It is essential to include analyses of accumulated broadcasts in order to improve the study of the content of each advertising spot, analysing the relative weight that the different types present in the advertising discourse that is broadcast.

### *Variables*

The sample, therefore, will be analysed according to the five variables used to characterise the phenomenon of misleading advertising:

1. Station; with the attributes: Cadena Ser, Onda Cero, Cadena Cope, Punto Radio, Cadena 40 Principales, Kiss FM, Cadena 100, Europa FM, M80 and Radio Olé.
2. Radio station type; generalist and thematic.
3. Time slot of broadcast; coinciding with the EGM classification, we have characterised this variable with the following attributes: Early hours (00:00h-05:59), Morning (06:00-11:59), Afternoon (12:00-15:59), Evening (16:00-19:59) and Night (20:00-23:59).
4. Product category; according to the list of 22 products/services used by Infoadex for its annual investment study: food; cars; drinks; beauty and hygiene; construction; culture, education and media; sports and leisure; distribution and restaurants; energy; office equipment; electronics/IT and retail; finance; home; industrial, work material, agriculture; cleaning; personal items; health; public and private services; tobacco<sup>7</sup>; telecommunications and Internet; textile and clothing; transportation, travel and tourism; miscellaneous.
5. Misleading advertising; this variable includes attributes based on the existing legislation described in the previous section, except for exaggerated advertising, excluded due to the complexity of the analysis derived from the subjective nature of its conceptualisation. Ultimately, this variable will be composed of the following six attributes: misleading practices associated with the characteristics of the product; misleading action in respect to price; misleading action in respect to purchasing conditions or guarantee; misleading practices relating to the nature or qualification of the advertiser; misleading advertising due to puffery; and lastly, misleading advertising due to omission.

Each one of the 430 spots comprised in the sample was subject to a complete and consensuated coding process by the authors of this study. Specifically, the researchers evaluated each advertisement according to the Product Category and Misleading Advertising variables and in the case of a divergence of criteria the coding was always adjusted to the actual content of the messages and the legal framework regulating misleading advertising.

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<sup>7</sup> The Tobacco category will not appear in the results as its advertising is banned in all media, including radio, according to Article 9 of Act 28/2005, of 26 December, concerning health measures to combat tobacco and the regulation of its sale, supply, consumption, and the advertising of tobacco products.

## Results

As previously mentioned, the analysis of our study is the result of an articulated sequence in two phases. In the first phase, the above-described variables are related and their statistical significance is verified. Applying the  $\chi^2$  contrast, we rejected the null hypothesis ( $H_0$ ) in all the variable cross tabulations relevant to our study: misleading advertising and Radio station type:  $\chi^2$  (5, N=1,664) = 73.283,  $p < .001$ ; misleading advertising and time slot:  $\chi^2$  (20, N=1,664) = 38.522,  $p = .008$ ; and misleading advertising and product category:  $\chi^2$  (100, N=1,664) = 2,160.765,  $p < .001$ .

In the second phase we studied the residuals that link the different variables in order to identify from a comparison of this relationship with the  $\chi^2$  test whether an association of attraction or rejection can be concluded. The analysis of residuals is a statistic that enables us to detect the existence of anomalous cases that have a series of significantly different relations in comparison to the majority of other cases observed (Sánchez Carrión, 1999: 341). It is a matter of identifying specific traits between attributes of different variables derived from the associative relationship that links them. These specific traits or anomalies may take the form of a more intense relationship of attraction than expected or on the contrary, cases may be found in which a relationship of rejection exists between variables, one that is stronger than expected. Viewed from this perspective, we have related the variables misleading advertising, time slot and station type.

### *Misleading advertising by radio station type frequency*

Based on the sample of messages used for this study (N=1,664), we can affirm that 33% of the advertising discourse broadcast on radio in the form of spots during the period under study contained misleading content. As shown in Table 1<sup>8</sup>, this percentage is the result of integrating the misleading content by action (28.9%) and by omission (4.1%). As it was previously indicated, misleading advertising by action has different forms which have been clearly reflected in the analysis and testing of the sample. The first of these forms, misleading advertising by action associated with product characteristics, exists in 17.4% of the total broadcast messages. Misleading advertising by action related to pricing or services advertised appears in 4.9% of spots; whereas misleading advertising linked to puffery represents 6.1%

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8 All tables will be found at the end of this document.

of the total messages. Misleading advertising associated with the nature and qualification of the advertiser overall represents only 0.4% of deceptive advertising.

There are highly relevant characteristics to be found in misleading advertising when we break down the analysis in terms of station type (generalist or thematic). Therefore, in our sample of radio spots (N=1,664), the relative weight of messages transmitted through generalist radio (58.5%) is greater than the percentage of advertising using thematic radio as a broadcasting channel (41.5%). From the perspective of each type of station, however, evidence of highly relevant characteristics can be seen; for example, the percentage of misleading advertising broadcast on generalist radio is higher than that broadcast on thematic radio, specifically 38.9% and 24.6% respectively.

If we break down the sample according to the various aforementioned forms of misleading advertising, we find that 71.4% of deceptive advertisements related to the characteristics of the product are broadcast on generalist radio, while 28.6% are broadcast on thematic radio. In the case of misleading advertising relating to price, 74.1% is broadcast on generalist radio while 25.9% use thematic radio stations. However, the majority of deceptive advertisements that contain puffery are broadcast on thematic radio (54.9%), while 45.1% are broadcast on generalist radio. Finally, 85.5% of all spots with misleading contents by omission are broadcast on generalist radio and only 14.5% use thematic radio.

### *Misleading advertising by time slot frequency*

On the other hand, when we incorporate time slots into the analysis, as shown in Table 2, we notice a greater relative presence of misleading advertising in the 20:00-23:59 slot, in which misleading contents by action or omission reach 40.4% of broadcast spots, followed by the 00:00-05:59 slot with a similar percentage, 39%. The time slot with the least presence of deceptive advertisements is 06:00-11:59, with 29.4%.

After evaluating the types of misleading advertising and their relation with different time slots, the findings reveal that misleading advertising by action associated with product characteristics are mainly broadcast during the 06:00-11:59 time slot (35.5%), followed by those broadcast between 12:00 and 19:59 (21.4%) and 20:00-23:59 (14.8%). As for deceptive advertising related to pricing, 43.2% of these unlawful contents are broadcast during the

morning time slot (06:00-11:59) and 21% are concentrated in the 20:00-23:59 slot; 19.8% are broadcast between 16:00 and 19:59 and only 3.7% during the early hours between 00:00 and 05:59. Similarly, the majority of misleading advertising containing puffery is broadcast during the morning slot: 43.1% of these unlawful contents are broadcast between 06:00 and 11:59, followed by the evening slot (16:00-19:59) when 26.5% of this type of illegal advertising is broadcast. It should be noted that, 100% of misleading advertising by action related to the nature or qualification of the advertiser, the unlawful advertising with the lowest presence in the sample studied as a whole, is broadcast during the 06:00-11:59 time slot.

If we analyse how the different types of deceptive advertisements are distributed within each of the time slots, we find that once again misleading advertising by action associated with product characteristics is the most common, especially during the 00:00-05:59, 12:00-15:59 and 20:00-23:59 slots with percentages of 24.4%, 21% and 21.7% respectively. Therefore, we can confirm that the night time slot (20:00-23:59) is when the highest percentage of unlawful advertising is broadcast, and the morning slot (06:00-11:59), although in terms of percentages has the smallest amount of deceptive advertising content, is the time slot with the highest absolute number of unlawful advertisements; overall, misleading advertising by action related to product characteristics is the most common in all time slots.

#### *Misleading advertising by time slot and radio Station type; adjusted residual*

Table 3 shows the residuals derived from the statistically significant relationship between types of misleading advertising and different time slots. When this statistic reveals a value of more than  $\pm 1.95$  an atypically relevant relationship of attraction (+) or rejection (-) exists between the analysed variables. From this perspective, misleading advertising derived from product characteristics has a strong relationship of attraction with thematic radio during the 00:00-05:59 (5.5) and 20:00-23:59 (4.0) time slots, while it reveals a significant and atypical association with the time slot between 06:00 and 11:59 (3.9) of generalist radio. Misleading advertising in terms of price only reveals an atypically strong relationship of attraction with generalist radio during the 20:00-23:59 time slot (2.4), while deceptive advertisements that contain puffery are particularly linked to generalist radio during the 16:00-19:59 slot (2.0). Misleading advertising related to the nature and qualification of the advertiser reveals a highly significant attraction with the 06:00-11:59 time slot (3.1) in generalist radio.

These residuals, therefore, identify a positive association, that is, a particularly atypical relationship of attraction. However, on the contrary, only one atypically strong relationship of rejection has been identified between the type of misleading advertising and the time slot by station type, that is misleading advertising by product type, which on thematic radio reveals a strong rejection with respect to the 06:00-11:59 time slot (-3.9). The rest of residuals do not reveal any significant anomalous relationship.

### *Misleading advertising by product macro-category frequency; an emerging variable*

As previously indicated, the content of the product category variable is based on the criteria used by Infoadex to classify any advertisement and in accordance with general market segments relating to consumer goods and services. This classification is largely inoperative, due to its enormous dispersion, which makes advanced quantitative studies such as the analysis of residuals difficult to perform. This is precisely the reason why we have created a new variable that effectively integrates related product types with the advertising discourse. This variable is the Product macro-category which has been constructed by applying two criteria (Perelló Oliver, 2009: 104): the first seeks to improve the heterogeneity between the different attributes which it is composed of, and the second seeks to guarantee the internal homogeneity of the attributes in terms of the initial Infoadex categories. Therefore, we have constructed a variable with five attributes enabling us to characterise the content of the sample in a more efficient manner. According to these grouping criteria, the product macro-category is made up of the following five attributes:

1. House and home comprises the following categories: food; drinks; construction; distribution and restaurants; energy; home; cleaning; telecommunications and Internet.
2. Health and beauty is made up of beauty and hygiene; sports and leisure; personal items; health; textile and clothing.
3. Leisure and Culture includes: culture, education and media; transportation, travel and tourism.
4. Finance: includes finance and miscellaneous.
5. Services is made up of: cars; office equipment, electronics/IT and retail; industrial, work material, agriculture; public and private services.

Theoretically, some of the product types used by Infodex may be included as attributes in more than one of the proposed macro-categories. In order to resolve this methodological problem, it was necessary to meticulously review the initial coding of all of the spots, paying particular attention to their content and orientation in terms of their discourse. For example, the radio spots in Telecommunications and Internet category have been integrated into the House and Home macro-category and not in Leisure and Culture or even Services categories, because their messages sought to associate connection speed with the improvement of the quality of home life; however their use also enables the user to enjoy a greater number of online cultural options or better-organised and cheaper holidays.

Furthermore, in relation to this point, it is essential to take into account an aspect of enormous methodological importance. In any categorisation process that subsequently will be subject to statistical analysis, it is fundamental that the resulting categories reveal a number of relatively similar cases. Only this way will the results be potentially stable and reliable. In our study, all of the resulting macro-categories, in addition to guaranteeing internal homogeneity and external heterogeneity, reveal a reasonably balanced number of cases which also contributes to validating this categorisation.

The cross between the new variable product macro-category and the variable referring to misleading advertising passes the  $\chi^2$  contrast test as the new variable is the product of integrating the attributes of a previous variable that has also passed the test. Misleading advertising and Product macro-category:  $\chi^2 (20, N=1,664) = 809.130, p < .001$ ; Misleading advertising and Product macro-category, by radio station type: Generalist:  $\chi^2 (20, N=1,664) = 562.030, p < .001$  and Thematic:  $\chi^2 (16, N=1,664) = 295.011, p < .001$ .

Analysing from the perspective of this new integrated variable, Table 4 shows that 77.8% of spots advertising health and beauty products are misleading, of which 62.7% correspond to misleading advertising by action associated with the product characteristics, followed by leisure and culture advertising where 40.8% of the spots are in some way unlawful; and in respect to the content of these types of products and services, 18.9% can be considered misleading advertising as for price. Furthermore, the house and home and finance categories reveal a very similar level of misleading advertising: 23.9% and 22.8%, respectively; and spots that advertise services represent the largest percentage of rigorous adverts, 96% of which lack deceitful undertones.



*Misleading advertising by product macro-category and radio station type; adjusted residual*

If this analysis is further complemented with the interpretation of the residuals that relate the product macro-category variable with the type of misleading advertising, which is then broken down by radio station type, the data reveals highly relevant conclusions which can be seen in Table 5. Firstly, a particularly strong and anomalous relationship of attraction (21.9) is detected between misleading advertising associated with product characteristics and health and beauty spots. When this is broken down by radio station type, there is still a very atypical and strong association between the advertising for this type of product and the underlying deceit in terms of the product characteristics that are advertised on both generalist (16.5) and thematic radio (14.2). At the same time, the leisure and culture category reveals a strong and atypical relationship of attraction (14.5) with misleading advertising but, in this case, it is associated with the price quoted. Again the anomalous association between this type of product advertising and misconceived pricing when broken down by radio station type is still evident on both generalist (13.1) and thematic radio (7.6).

The rest of positive residuals, those revealing anomalous relationships of attraction, have a lower impact when compared with the above-mentioned results, although on the whole, these levels of residuals are in themselves highly relevant. For example, advertising messages related to products or services for the house and home reveal a highly significant relationship of attraction with misleading advertising associated with the nature of the advertiser, especially in the case of generalist radio (5.5). In the case of misleading advertising by omission, even with a low relative weight in terms of overall deceptive advertisements broadcast by Spanish radio, it has a significant and anomalous association with the health and beauty (2.8) and leisure and culture (2.1) categories.

## **Conclusions**

Achieving our initial objectives has enabled us to adequately validate our preliminary hypotheses. We were able to establish that the presence of misleading advertising broadcast on Spanish radio is much higher than what is recognised by the self-regulatory bodies. Hypothesis 1: after analysing the total number of spots in our sample, without considering their accumulated broadcasting frequency — exactly 430 different advertisements corresponding

to 2009— we were able to identify 135 spots with misleading content, while competent organisations<sup>9</sup> for the same year considered only four radio spots misleading and are in fact still being broadcast today. More specifically, our findings reveal that 31.4% of the analysed spots (without taking broadcasting frequency into account) and 33% of the total number of advertising spots broadcast (taking broadcasting frequency into account) violate the existing legislation in respect to the truthfulness of the goods or services advertised. Furthermore, the percentage of misleading advertising broadcast is higher for generalist radio than for thematic radio: 38.9% and 24.6% respectively, due to larger volumes of advertising and consequently, a heavier investment destined for this type of radio station (Infoadex, 2010). We were also able to identify a greater presence of deceptive advertising in the night time slot; unlawful content by action or omission reached 40.4% of spots broadcast, followed by the early-hours time slot with 39% found to be misleading. On the contrary, the time slot with the lowest relative presence is the morning slot, with 29.4%. Although the morning time slot has the lowest percentage of misleading advertising, it has highest absolute number of unlawful spots (217) with respect to our total sample (N=1,664).

Our hypothesis 2 argued that misleading advertising on radio is associated primarily with the characteristics and price of the products and services advertised. The data reveals that this is only partly true: while unlawful spots associated with the characteristics of the product are the most abundant, representing 17.4% of spots broadcast, the second most common type of misleading advertising is associated with puffery, not price. In fact, 6.1% of all spots broadcast were found to be deceptive due to puffery, while only 4.9% were misleading in terms of price. It is surprising how easily advertisers boost their products, emphasising and insisting to the consumer that they “won’t find anything like it on the market”. On the other hand, two basic practices as for pricing are found: the first consists in the advertiser referring to other figures or percentages that are ambiguous and difficult

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9 A clear example: of the 192 resolved cases, only 2% were complaints corresponding to radio, while 40%, for example, corresponded to television advertisements and 29% to newspaper advertisements. *AUTOCONTROL DE LA PUBLICIDAD* (Advertisement self-regulation), “We work to achieve responsible advertising”, retrieved from <http://www.autocontrol.es/pdfs/balance%2009%20AUTOCONTROL.pdf>. Moreover, these figures are surprising if we compare them with those of the Committee of Advertising Practice in the United Kingdom, where in the same year and only for radio, judgements were passed for 444 claims of the 785 presented; retrieved from [http://bcap.org.uk/AboutUs/~~/media/Files/ASA/Annual%20reports/ASA\\_CAP\\_Annual%20Report\\_2009.ashx](http://bcap.org.uk/AboutUs/~~/media/Files/ASA/Annual%20reports/ASA_CAP_Annual%20Report_2009.ashx)

to apply, as opposed to mentioning the exact price of the product, so the final amount is impossible to decipher; the second focuses on inviting the listener to request the price directly from the advertiser by phone or via the web, which requires additional effort by the consumer in order to obtain data that is basic to any advertising message and essential to the purchasing process. Finally, it is important to note that deceptive advertising by action that manipulates purchasing conditions or guarantees is not broadcast on the radio. This information, considered more extensive, is usually reserved for media that allow a lengthier description of the offer, so the receiver can process it at leisure and in greater detail. These types of advertisements are usually found in graphic media: newspapers and magazines.

The object of our hypothesis 3, taken from the perspective of the product type advertised, enabled us to establish that health advertisements have the highest percentage of misleading spots (81%), followed by those associated with beauty and hygiene, with 79.3% that are misleading; there is predominantly an exaggerated promise, usually based on the immediate effect of the product, which is most likely to create false expectations in the consumer. In addition, there is a significant presence of deceptive advertising in certain product categories initially unexpected; for example, 66.9% of transport, travel and tourism spots were found to be misleading in some way, and 54.5% of those referring to sport and leisure. What should radio listeners think and how should they react when they hear three competing travel agencies on the radio that offer the minimum price for domestic and international holidays?

## Discussion

We should bear in mind at this point that our empirical approach is focused on the study of radio advertising messages broadcast in the form of spots. It would also be worthwhile to incorporate the perspective of the target audience of these spots in order to test their actual potential for deception. Hence, it would be very interesting in future research to incorporate the perceptions and beliefs of the listeners of these potentially misleading advertisements (Olson and Dover, 1978; Armstrong *et al.*, 1979; Russo *et al.*, 1981; Burke *et al.*, 1988; Grunert and Dedler, 1985; Barbour and Gardner, 1982) into the content analysis. Moreover, our research has not incorporated exaggerated advertising or hyperbole as a potentially unlawful practice due to its subjective and complex nature (Domínguez Pérez, 1999). This suggests the need to continue developing a line of research, already started by Rotfeld

and Rotzoll (1980), exploring in greater depth, for example, the semantic and legal delimitation of the term, which even today the scientific community deems necessary (Russo *et al.*, 1981; Hyman, 1990).

As we have indicated throughout the study, our casuistic and comparative references have been the rulings by *Autocontrol* in 2009. This is the principal self-regulatory body in Spain responsible for monitoring and controlling the lawfulness of advertising as set forth in the current legislation (Act 29/2009 of 30 December, modifying the laws governing unfair competition and advertising in order to improve the protection of consumers and users, Chapter 5, Articles 37, 38 and 39; Directive 2005/29/EC of the European Parliament and of the Council of 11 May 2005 concerning unfair business-to-consumer commercial practices in the internal market, Chapter 3, Article 10), in order to expedite claims within a slow judicial system. Consequently, in spite that consumer associations and other public bodies through which abusive advertising practices can be reported and legally challenged exist, their activity is not as influential or relevant as that of *Autocontrol*. In order to continue this study, and as a suggestion for future research, this type of analysis should be made on other media, such as television, newspapers or magazines, so that comparative studies may be carried out. Furthermore, it would be very interesting to verify whether the concept of misleading advertising addressed in this study and applied to radio is operative in other media, and whether it can be clarified or even questioned.

Cross cultural studies with the same objectives will be carried out in order to advance with the results of the research, consisting in similar studies in various countries of the European Union or between Anglo-Saxon, European and Latin American advertising; we intend to pursue this line of work using the same methodology tested for the purposes of this article. However, there is an even greater need for these studies to have continuity over time. The publication of these situations should contribute to an improvement in the legislative, judicial and professional ethics system, giving rise to more truthful and believable advertising in terms of social perception. The system for monitoring, following-up and evaluating advertising content needs to be much more efficient. As we have demonstrated, advertisements that have been declared unlawful continue to be broadcast with absolute impunity. Consequently, we believe that it is imperative that *Autocontrol* acts or is forced to act on its own against these practices, without the need for a specific complaint on behalf of competing advertisers or consumers. The relaxed attitude or lack of resources that characterise this institution in comparison with the activity of its counterparts in other countries, such as the United

Kingdom, seem to suggest the need for the intervention of a more operative, neutral and efficient authority, one that would reinforce the credibility of advertising as a professional activity and form of communication with the clear and fundamental purpose of providing consumer information.

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Anexo

Table 1  
Misleading Advertising by Radio Station Type

|  |                         | Generalist   | Thematic | Total |       |
|--|-------------------------|--------------|----------|-------|-------|
| Absence of deceit                          | Spots                   | 595          | 520      | 1,115 |       |
|  | % horizontal            | 53.4         | 46.6     | 100.0 |       |
|  | % vertical              | 61.1         | 75.4     | 67.0  |       |
|  | % of total              | 35.8         | 31.3     | 67.0  |       |
| Misleading advertising by action           | Product characteristics | Spots        | 207      | 83    | 290   |
|  |                         | % horizontal | 71.4     | 28.6  | 100.0 |
|  |                         | % vertical   | 21.3     | 12.0  | 17.4  |
|  |                         | % of total   | 12.4     | 5.0   | 17.4  |
|  | Price                   | Spots        | 60       | 21    | 81    |
|  |                         | % horizontal | 74.1     | 25.9  | 100.0 |
|  |                         | % vertical   | 6.2      | 3.0   | 4.9   |
|  |                         | % of total   | 3.6      | 1.3   | 4.9   |
|  | Puffery                 | Spots        | 46       | 56    | 102   |
|  |                         | % horizontal | 45.1     | 54.9  | 100.0 |
|  |                         | % vertical   | 4.7      | 8.1   | 6.1   |
|  |                         | % of total   | 2.8      | 3.4   | 6.1   |
| Nature and qualification of the advertiser | Spots                   | 7            | 0        | 7     |       |
|  | % horizontal            | 100.0        | .0       | 100.0 |       |
|  | % vertical              | .7           | .0       | .4    |       |
|  | % of total              | .4           | .0       | .4    |       |
| Misleading advertising by omission         | Spots                   | 59           | 10       | 69    |       |
|  | % horizontal            | 85.5         | 14.5     | 100.0 |       |
|  | % vertical              | 6.1          | 1.4      | 4.1   |       |
|  | % of total              | 3.5          | .6       | 4.1   |       |
| Total                                      | Spots                   | 974          | 690      | 1,664 |       |
|  | % horizontal            | 58.5         | 41.5     | 100.0 |       |
|  | % vertical              | 100.0        | 100.0    | 100.0 |       |
|  | % of total              | 58.5         | 41.5     | 100.0 |       |

$\chi^2 (5, N=1664) = 73.283, p < .001$



Table 2  
Misleading Advertising by Time Slot

|                                  |              | 00:00-05:59 | 06:00-11:59 | 12:00-15:59 | 16:00-19:59 | 20:00-23:59 | Total |
|----------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------|
| Absence of deceit                | Spots        | 50          | 520         | 199         | 228         | 118         | 1,115 |
|                                  | % horizontal | 4.5         | 46.6        | 17.8        | 20.4        | 10.6        | 100.0 |
|                                  | % vertical   | 61.0        | 70.6        | 67.5        | 64.8        | 59.6        | 67.0  |
|                                  | % of total   | 3.0         | 31.3        | 12.0        | 13.7        | 7.1         | 67.0  |
| Product characteristics          | Spots        | 20          | 103         | 62          | 62          | 43          | 290   |
|                                  | % horizontal | 6.9         | 35.5        | 21.4        | 21.4        | 14.8        | 100.0 |
|                                  | % vertical   | 24.4        | 14.0        | 21.0        | 17.6        | 21.7        | 17.4% |
|                                  | of total     | 1.2         | 6.2         | 3.7         | 3.7         | 2.6         | 17.4% |
| Misleading advertising by action | Spots        | 3           | 35          | 10          | 16          | 17          | 81    |
|                                  | % horizontal | 3.7         | 43.2        | 12.3        | 19.8        | 21.0        | 100.0 |
|                                  | % vertical   | 3.7         | 4.7         | 3.4         | 4.5         | 8.6         | 4.9%  |
|                                  | % of total   | .2          | 2.1         | .6          | 1.0         | 1.0         | 4.9%  |
| Puffery                          | Spots        | 5           | 44          | 17          | 27          | 9           | 102   |
|                                  | % horizontal | 4.9         | 43.1        | 16.7        | 26.5        | 8.8         | 100.0 |
|                                  | % vertical   | 6.1         | 6.0         | 5.8         | 7.7         | 4.5         | 6.1%  |
|                                  | % of total   | .3          | 2.6         | 1.0         | 1.6         | .5          | 6.1%  |

|                                    |  | 00:00-05:59 | 06:00-11:59 | 12:00-15:59 | 16:00-19:59 | 20:00-23:59 | Total |
|------------------------------------|--|-------------|-------------|-------------|-------------|-------------|-------|
| Misleading advertising by action   | Nature and qualification of the advertiser |             |             |             |             |             |       |
|                                    | Spots                                      | 0           | 7           | 0           | 0           | 0           | 7     |
|                                    | % horizontal                               | .0          | 100.0       | .0          | .0          | .0          | 100.0 |
|                                    | % vertical                                 | .0          | .9          | .0          | .0          | .0          | .4%   |
|                                    | % of total                                 | .0          | .4          | .0          | .0          | .0          | .4%   |
| Misleading advertising by omission | Spots                                      | 4           | 28          | 7           | 19          | 11          | 69    |
|                                    | % horizontal                               | 5.8         | 40.6        | 10.1        | 27.5        | 15.9        | 100.0 |
|                                    | % vertical                                 | 4.9         | 3.8         | 2.4         | 5.4         | 5.6         | 4.1   |
|                                    | % of total                                 | .2          | 1.7         | .4          | 1.1         | .7          | 4.1   |
| Total                              | Spots                                      | 82          | 737         | 295         | 352         | 198         | 1,664 |
|                                    | % horizontal                               | 4.9         | 44.3        | 17.7        | 21.2        | 11.9        | 100.0 |
|                                    | % vertical                                 | 100.0       | 100.0       | 100.0       | 100.0       | 100.0       | 100.0 |
|                                    | % of total                                 | 4.9         | 44.3        | 17.7        | 21.2        | 11.9        | 100.0 |

$\chi^2 (20, N=1664) = 38.522, p=.008$

Table 3  
 Misleading Advertising by Time Slot and Radio Station Type; residuals

|  | 00:00-05:59 |         | 06:00-11:59 |       | 12:00-15:59 |       | 16:00-19:59 |       | 20:00-23:59 |       |
|--|-------------|---------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
|  | Gen.*       | Them.** | Gen.        | Them. | Gen.        | Them. | Gen.        | Them. | Gen.        | Them. |
| Product characteristics                    | -8          | 5.5     | -1.1        | -3.9  | 3.0         | .5    | .0          | -2    | -7          | 4.0   |
| Price                                      | -1.2        | 1.0     | -1.0        | 1.4   | -3          | -1.1  | .1          | -1.1  | 2.4         | .2    |
| Puffery                                    | 1.0         |         | -1.1        |       | .0          |       | 2.0         |       | -1.6        |       |
| Misleading advertising by action           |             |         |             |       |             |       |             |       |             |       |
| Nature and qualification of the advertiser | -7          | -1.1    | 3.1         | .5    | -1.0        | -.9   | -1.4        | .1    | -1.1        | .7    |
| Misleading advertising by omission         | -6          | 1.9     | .0          | -1.1  | -1.5        | .4    | .8          | .9    | .9          | -.9   |

Generalist:  $\chi^2 (20, N=974) = 35.353, p=.018$

Thematic:  $\chi^2 (16, N=690) = 66.363, p<.001$

\* Generalist

\*\* Thematic

Table 4

Misleading Advertising by Product Macro-Category

| Product Macro-Category | Misleading advertising by action |                         |       |         |  |                        |       | Total |
|------------------------|----------------------------------|-------------------------|-------|---------|--|------------------------|-------|-------|
|                        | Absence of deceit                | Product characteristics | Price | Puffery | Nature and qualification of the advertiser | Misleading by omission |       |       |
| House and Home         | Spots                            | 45                      | 3     | 29      | 7  | 7                      | 381   |       |
|                        | % horizontal                     | 76.1                    | .8    | 7.6     | 1.8  | 1.8                    | 100.0 |       |
|                        | % vertical                       | 26.0                    | 3.7   | 28.4    | 100.0                                      | 10.1                   | 22.9  |       |
|                        | % of total                       | 17.4                    | 2.7   | .2      | 1.7  | .4                     | 22.9  |       |
| Health and Beauty      | Spots                            | 62                      | 175   | 0       | 22   | 0                      | 279   |       |
|                        | % horizontal                     | 22.2                    | 62.7  | .0      | 7.9  | .0                     | 100.0 |       |
|                        | % vertical                       | 5.6                     | 60.3  | .0      | 21.6                                       | .0                     | 16.8  |       |
|                        | % of total                       | 3.7                     | 10.5  | .0      | 1.3  | .0                     | 16.8  |       |
| Leisure and Culture    | Spots                            | 225                     | 43    | 72      | 17   | 0                      | 380   |       |
|                        | % horizontal                     | 59.2                    | 11.3  | 18.9    | 4.5  | .0                     | 100.0 |       |
|                        | % vertical                       | 20.2                    | 14.8  | 88.9    | 16.7                                       | .0                     | 22.8  |       |
|                        | % of total                       | 13.5                    | 2.6   | 4.3     | 1.0  | .0                     | 22.8  |       |

| Product Macro-Category | Misleading advertising by action |                         |       |         |  |                        |       | Total |
|------------------------|----------------------------------|-------------------------|-------|---------|--|------------------------|-------|-------|
|                        | Absence of deceit                | Product characteristics | Price | Puffery | Nature and qualification of the advertiser | Misleading by omission |       |       |
| Finance                | Spots                            | 247                     | 22    | 6       | 26   | 0                      | 19    | 320   |
|                        | %                                | 77.2                    | 6.9   | 1.9     | 8.1  | .0                     | 5.9   | 100.0 |
|                        | horizontal                       | 22.2                    | 7.6   | 7.4     | 25.5                                       | .0                     | 27.5  | 19.2  |
|                        | % vertical                       | 14.8                    | 1.3   | .4      | 1.6  | .0                     | 1.1   | 19.2  |
| Services               | Spots                            | 291                     | 5     | 0       | 8  | 0                      | 0     | 304   |
|                        | %                                | 95.7                    | 1.6   | .0      | 2.6  | .0                     | .0    | 100.0 |
|                        | horizontal                       | 26.1                    | 1.7   | .0      | 7.8  | .0                     | .0    | 18.3  |
|                        | % vertical                       | 17.5                    | .3    | .0      | .5   | .0                     | .0    | 18.3  |
| Total                  | Spots                            | 1,115                   | 290   | 81      | 102  | 7                      | 69    | 1,664 |
|                        | %                                | 67.0                    | 17.4  | 4.9     | 6.1  | .4                     | 4.1   | 100.0 |
|                        | horizontal                       | 100.0                   | 100.0 | 100.0   | 100.0                                      | 100.0                  | 100.0 | 100.0 |
|                        | % vertical                       | 67.0                    | 17.4  | 4.9     | 6.1  | .4                     | 4.1   | 100.0 |

$\chi^2 (20, N=1664) = 809.130, p < .001$

Table 5  
 Misleading Advertising by Product Macro-Category, by Radio Station Type; residuals

| Product Macro-Category | Misleading advertising by action |      |        |       |      |      |         |      |      |  |      |      |                        |      |     |
|------------------------|----------------------------------|------|--------|-------|------|------|---------|------|------|--|------|------|------------------------|------|-----|
|                        | Characteristics of the product   |      |        | Price |      |      | Puffery |      |      | Nature and qualification of the advertiser |      |      | Misleading by omission |      |     |
|                        | To*                              | Ge** | The*** | To    | Ge   | The  | To      | Ge   | The  | To   | Ge   | The  | To                     | Ge   | The |
| House and Home         | -3.3                             | -5   | -3.9   | -4.2  | -2.8 | -3.0 | 1.4     | -6   | 1.8  | 4.9  | 5.5  | -2.6 | -2.1                   | -6   |     |
| Health and Beauty      | 21.9                             | 16.5 | 14.2   | -4.1  | -3.9 | -1.8 | 1.3     | 2.7  | -5   | -1.2                                       | -1.3 | 2.8  | 1.8                    | 1.6  |     |
| Leisure and Culture    | -3.6                             | -4.1 | .1     | 14.5  | 13.1 | 7.6  | -1.5    | -3.4 | .5   | -1.4                                       | -1.3 | 2.1  | 2.8                    | .2   |     |
| Finance                | -5.5                             | -5.1 | -3.7   | -2.8  | -2.6 | -1.8 | 1.7     | 2.5  | .4   | -1.3                                       | -1.5 | 1.8  | .9                     | .7   |     |
| Services               | -8.0                             | -6.6 | -4.7   | -4.4  | -3.7 | -2.2 | -2.8    | -1.3 | -2.7 | -1.3                                       | -1.2 | -4.0 | -3.7                   | -1.5 |     |

Generalist:  $\chi^2 (20, N=974) = 562.030, p < .001$   
 Thematic:  $\chi^2 (16, N=690) = 295.011, p < .001$   
 \*Total radio  
 \*\*Generalist  
 \*\*\*Thematic

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