Perceived Deception in Advertising: Proposition of a Measurement Scale

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Abstract

This paper suggests and tests a scale to measure perceived deception in advertising based on the recommendations of Churchill (1979) and Gerbing and Anderson (1988). A literature review and a qualitative study allowed us to generate a set of items. The results of two studies, based on a sample of Tunisian consumers, allowed us to identify a two-dimensional structure. Reliability and validity were confirmed.

Keywords: deceptive advertising, perceived deception, ethic, measurement scale.

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Introduction

Deception has been the focus of many researchers in different disciplines such as psychology (Ekman and Friesen, 1969), psychiatry (Ford, 1996), human communication (McCornack, 1992) and more recently Internet (Grazioli and Jarvenpaa, 2003; Román, 2007). In marketing, and particularly in the field of advertising, deception is widely practiced by advertisers. It is justified by the positive impact it could have on sales volume (Estrada, 2006) and its effects on the evaluation of product attributes (Olson and Dover, 1978).

Deception is considered as one of the major ethical issues to be raised in advertising (Hyman, Tansey and Clarc, 1994). Indeed, it influences consumers' beliefs in a dishonest way and can have negative consequences on their financial resources and their health (Boush, Friestad and Wright, 2009). It also affects competition by the influence of consumer choice (Lord and Kim, 1995) and results in an increase in market transaction costs (Gao, 2008).

Today, consumers are increasingly warned against such practices especially by consumers' protection agencies, which leave them less vulnerable and increase their perception of deception. So, even if companies and advertisers may obtain some benefits of deception, their losses can be enormous. According to Darke and Ritchie (2007), the feeling of being duped influences the present and the future behaviour of the consumer. Romani (2006) has studied consumers' reactions to advertisements containing misleading information about price. Results show that levels of trustworthiness towards the source of information and willingness to buy decreased in the presence of deception.

The objective of this research is to develop and validate a scale to measure the perception of deception in advertising. Starting from the limitations of the existing measures, we will develop a measurement scale based on the paradigm of Churchill (1979) and Gerbing and Anderson (1988).

Literature Review

Deception has been studied in many disciplines. To reach a better understanding of this concept, a review of the literature in interpersonal communication and in advertising will be elaborated.

Deception in the Field of Interpersonal Communication

Research in social psychology argues that deception is a phenomenon that is a part of the daily life of man (Vrij et al., 2010 ; DePaulo et al., 2003). Some think it is even necessary in life (Kerr, 1990) because it plays an important role in man's coping and survival in society (Serban, 2001). Masip, Garrido and Herrero (2004, p.148) describe interpersonal deception as "*the deliberate attempt, whether successful or not, to conceal, fabricate, and/or manipulate in any other way factual and/or emotional information, by verbal and/or nonverbal means, in order to create or maintain in another or in others a belief that the communicator considers false*".

Despite the large number of definitions developed in the field of interpersonal communication, they all agree on certain characteristics of deception:

➤ Deception Is an Intentional Act:

As noted by Buller and Burgoon (1996), deception is "*a deliberate message conveyed to a sender to create a false belief or conclusion at the receiver*". That is, the presence of a deliberate intention to deceive is considered essential for the realization of deception. It is in fact a way to distinguish between false information intended to mislead other persons and false information provided because of problems of memory or incompetence (Massip and al., 2004). Indeed, false information provided involuntarily is described as an "honest error" (Miller, 1983), "unconscious and unintended" (Köhnken, 1989).

However, the criterion of intentionality poses some problems which are mainly related to the difficulty of detecting the true intentions of the communicator. Thus, past studies have examined several methods of deception detection. The theory of Deception Cues (Ekman and Friesen, 1969) is one of the first that focused on signs that can betray a liar such as facial expressions (Ekman and Friesen, 1969) or emotions (Ekman, 1992).

➤ The Communicator Considers the Information Transmitted as False:

The perception that the sender has of reality is important. In fact, he must believe that the false information provided is different from the reality. Otherwise, it will be considered as a persuasive communication not deception (Massip et al., 2004).

➤ Deception Has an Instrumental Purpose:

Deception is not an end in itself but a means to achieve goals that can benefit to the deceiver himself or to another person (Buller and Burgoon, 1996) and result from desire to gain esteem, respect or to obtain material gain.

Deception in Advertising

The conceptualisation of deception in advertising has been the subject of disagreement (Gao, 2008) drawn predominantly from a confusion between the jurisprudential, scientific and ordinary meanings of deception (Russo, Metcalf et Stephens, 1981). Indeed, researchers have examined deception, deceptiveness and legal deception. In fact, deception is a practice sanctioned and regulated by law. In the United States, where the majority of works on deception has grown, the Federal Trade Commission (FTC) defines deception as any "representation, omission or practice that is likely to mislead the consumer acting reasonably in the circumstances, to the consumer's detriment" (FTC, 1983). From a legal perspective, the claim must be important to the consumer's purchase decision to be considered as deceptive. Regulators observe the capacity of a claim to deceive (*deceptiveness*) rather than actual deception (Richards, 1990).

Definitions adopted by academic researchers were based on the cognitive effects of being mislead from the consumer's standpoint. In this sense, Gardner (1975) considers that deception is a behavioural construct which occurs "if an advertisement leaves the consumer with an

impression(s) and/or belief(s) different from what would normally be expected if the consumer had reasonable knowledge, and that impression(s) and/or belief(s) is factually untrue or potentially misleading, then deception is said to exist". In the same reasoning, Olson and Dover (1978) stated that "deception occurs when consumers acquire demonstrably false beliefs as a function of exposure to an advertisement".

Hyman (1990) proposed a unique definition that can be adopted by researchers, lawyers and regulators. He considers that an advertisement is misleading "if it (i) contains a believable claim that is blatant or an unconscionable lie, (ii) encourages a discrepancy between what purchasers or purchase influencers believe to be claimed in the advertisement and what is fact and (iii) encourages the purchaser or purchase influencer to build upon previously held erroneous beliefs, so that their viewing of the advertisement interacts with these prior beliefs to produce (or reinforce) one or more erroneous beliefs".

From a social perspective, Aditya (2001) defined deception in marketing as "any act, claim or message that (a) causes at least some consumers acting reasonably to make decisions that they would not otherwise make, (b) leads at least some consumers acting reasonably to believe something about the product, brand or manufacturer that is not verifiably true or (c) has the potential to foster distrust of any kind, general or specific, or in other ways causes an erosion of ethical values deemed desirable in society".

Despite differences in the conceptualization of deception in advertising, some common features can be identified:

- Deception can be observed after exposure to an advertisement.

- It creates beliefs and interpretations about the product or service being advertised that are false.

- Unlike deception in the context of human communication, the element of intentionality is not necessary for the realization of deception in advertising.

Types of Deception in Advertising

Several classifications can be observed in the literature (Armstrong and McLennan, 1973; Grdner, 1975; Armstrong and Russ, 1981; Richards, 1990). Mainly, two forms of deception in advertising can be identified:

- **Explicit Deception:** the message contains expressly false information. In this case, deception can be detected by comparing the actual characteristics of the product and the message content.

- **Implicit Deception:** it occurs when the advertising message contains information that is literally true but leads the consumer to draw erroneous inferences about the product or the service attributes. Hastak and Mazis (2011) proposed a typology of truthful but misleading claims that integrate psychological theories with a legal framework. Five types were identified: omission of material facts, semantic confusion, intra-attribute misleadingness, inter-attribute misleadingness and source-based inference.

This form of deception is more difficult to detect because it requires a comparison between consumers beliefs formed from the message and the actual product or service attributes.

Perceived Deception in Advertising: Definition and Existing Measurement Tools

In this research, we are interested in the perception of deception in advertising defined as the extent to which a consumer believes that the ad in which he was exposed tends to mislead him.
According to Maddox (1982), perceived deception is based on whether the consumer can identify an ad that contains a claim that has been classified as misleading, deceptive or distorted

(Maddox, 1982). In the domain of e-commerce, Román (2007) defined perceived deception as the extent to which the consumer believes that the online retailer use deceptive or manipulative practices with the intent to persuade consumers to purchase the website's offerings. In the same context, Xiao and Tan (2006) argued that perceived deception refers to "the consumer's belief, held without sufficient evidence to warrant certainty, that the product recommendation agent is being deceptive".

Two measures of perceived deception in advertising have been identified in the literature:

- A three-item, seven-point, bipolar scale from Maddox (19982). These items were tested by Newell et al. (1998) in the field of advertising and Grazioli and Jarvenpa

(2000) in the domain of e-commerce. Reliability and validity have been demonstrated through these two studies.

- A four-item Likert-type taken from the scale developed by Román (2007) to measure consumers' perceptions regarding the ethics of online retailers. The first item utilized in this measure "the site exaggerates the benefits and characteristics of its offerings" reflects a specific situation where deception is achieved through exaggeration. Therefore, it is not suitable for describing other forms of deception.

On the other hand, these measures offer a one-dimensional conceptualization of deception. Recent studies in the context of interpersonal communication have identified several facets of perceived deception (table 1).

Table 1: Themes Identified in Interpersonal Communication

Concept	Authors	Dimensions
Customer perception of employee deception	Jhen and Scott (2008)	Four themes were identified: **- The players involved in the deception** **- The type of perceived deceit**: deception about beliefs, intentions and emotions. **- The beneficiaries of deceit.** **- The harm done by the perceived deceit.**
Beliefs about deceptive communication (from deceiver perspective)	Scholl and O'Hair (2005)	**- Intentionality**: it is defined as the extent to which one lacks a sense of self-awareness and personal agency when engaging in deception. **- Ethic**: it represents the extent to which one believes deception is unacceptable and unethical communicative behavior. **- Acceptance of deception**: it represents the extent to which deception is viewed as normative behavior. **- Upbringing**: it refers to the extent to which upbring and formation has any bearing on how one views deception as an acceptable and useful communication tool.

Scale Development and Validation

We propose in what follows to construct a multi-item scale to measure perceived deception in advertising based on the paradigm of Churchill (1979) and updated by Gerbing and Anderson (1988).

Item Generation

Items were generated on the basis of an exhaustive review of the literature completed by an exploratory qualitative study. Face to face semi-structured interviews were conducted with 42 Tunisians with diversified demographic

profiles. The main topics discussed were linked to perceptions and the reactions of respondents to advertising deception (table 2).

Table 2: Interview Guide
• What do you think about advertising in general?
• Have you recently met ads you have judged to be misleading?
• What forms of deception are there in these ads? Are they always easy to identify? Why?
• For what type of products advertising seems more misleading?
• What do you think about the use of deception in advertising for professionals and consumers?
• What are your reactions to these deceptions?
• Do you think it is possible to accept deception in advertising? To what extent can the use of deception be considered as tolerable?

After the elimination of the redundant propositions, a list of 25 items (Appendix 1) were selected and inserted in the questionnaire for data collection.

First Study and Purification of Measure

➢ Choice of Advertising Stimuli and Data Collection

For the selection of advertising stimuli, nine ads were submitted for evaluation by 20 respondents regarding the level of deception found in each. In this research, our interest is around consumer perceptions of advertising deception rather than actual deception. So it is important that the selected ads are deemed deceptive on the part of persons who are exposed on these ads.

Four advertisements were finally selected for this study taken from two Tunisian magazines "Livret Santé" and "Magalogue Tendance" (Appendix 2). Following the same procedure adopted by Sabri (2007) and De Pelsmacker and Van Den Bergh (1996) in the selection of stimuli, we have retained for each type of deception two ads reflecting each a low or high perception to generate variance.

Data collection was conducted among a convenience sample composed of 118 individuals (Appendix3). They were invited to observe one of four ads selected and express their degree of agreement with the 25 items on the basis of 5 point Likert-type scale from "1 = strongly disagree" to "5 = strongly agree".

➢ Factor and Items Analysis

To make an initial purification of the selected items, exploratory factor analysis was conducted by means of spss 19. This aims at summarizing the data collected and examining the dimensional structure of the measurement scale. Principal components factor analysis using an oblique rotation (*oblimin direct*) was made. Conditions of the application of this analysis were performed by examining the correlation matrix, the Kaiser-Meyer-Olkin (KMO) index and Bartlett's Test of sphericity. The KMO measure of sampling adequacy was 0.856 indicating the extent to which variables selected form a coherent set and adequately measure the concept (Carricano et al., 2010). The Bartlett's test of sphericity was also significant ($p = 0.000$). Items that were eliminated are those whose communality is lower than 0.5 and those that do not saturate on a single factor (Evrard et al., 2003).

The final structure emerged from our exploratory analysis revealed two factors (table 3):

- The first factor "**perceived veracity**" consists of four items accounting for 52.82 % of the variance. These items describe the extent to which consumers believe that the content of the ad does not reflect the veracity. The first item was taken from the scale used by Román

(2010) to measure perceived deception in online shopping.

- The second factor "**ethic**" explains 14.41 % of the variance. It consists of four items that refer to the extent to which consumers believe that deception is an unethical act that may harm their interests and those of competitors.

Table 3: Results of the Exploratory Factor Analysis after Items Purification
(Study 1; N = 118)

Factors	Formulation of items	Loading	Communality	% of explained variance	Cronbach's alpha
F1	- This ad is not entirely truthful about its offerings.	0.879	0.702	52.823	0.830
	- This ad shows to individual what he wants to see and not the reality.	0.802	0.604		
	- I think that the reality is different from what it is mentioned in the ad.	0.739	0.639		
	- This ad misleads consumer about the actual performances of the product.	0.739	0.736		
F2	- This ad harms consumer' interests.	0.873	0.714	14.415	0.831
	- This ad is contrary to the principles of fair competition.	0.837	0.636		
	- This ad is dishonest.	0.746	0.656		
	- This ad is trying to dupe the consumer.	0.678	0.692		
KMO		0.856			
Bartlett's Test of sphericity Approx. Khi-Square Sig.		416.006 0.000			

Second Study and Confirmatory Analysis

In order to validate the factor structure of the scale, a new data collection was conducted among 203 individuals on the basis of the same advertisements. Confirmatory factor analysis (CFA) was carried out using AMOS 20. The method of estimation mobilized is Maximum Likelihood estimation which requires verification of certain conditions including the size of the sample and the respect of multi-normality. This is tested through the coefficient of symmetry (Skewness) which must not exceed 3 in absolute value and the kurtosis coefficient which must not exceed 8 in absolute value (Roussel et al., 2002). Values obtained in this research turn out to be applying to the standards. However the

value of Mardia's coefficient is 15,662 > 3 (Roussel et al., 2002).

Hence, we carry out the re-estimation of the measurement model with the bootstrap procedure by setting the number of bootstrap samples to 250 as suggested by Nevitt and Hancock (2000) (cited by Akrout, 2010). The results before and after the procedure of bootstrap are very close. In fact, the test of bias is not significant for most variables. So, there is a weak effect of the deviation of variables of the normal distribution on the estimates.

➤ Assessing the Model Fit

In order to assess how well the model matches the observed data, we use several

fit indexes that can be classified into 3 categories:

- Absolute fit indices: they measure the ability of the model to fit the data. The indices examined are chi-square, chi-square/ddl, GFI, AGFI, RMR and RMSEA.

- Incremental fit indices: they evaluate the improvement of the fit of a model by comparing it to a more restrictive model called "baseline model" (Bentler, 1990 cited by Roussel and Wacheux, 2005). The indices utilised are NFI, CFI and TLI.

- Parsimony fit indices: these indices are used to evaluate the fit of each estimated parameter and to avoid overestimating a model with parameters that would provide a marginal gain to the adjustment (Roussel and Wacheux, 2005). We examined in our research the following indices: ECVI, PNFI, AIC and CAIC.

The results of the confirmatory factor analysis for the second-order model (Appendix 4) demonstrate the significance of the indices and a good fit of the model (table 4). Key values are from Roussel et al. (2002). Indeed, the use of a second-order factor analysis will help to highlight the structural relationship between the dimensions (Hair et al., 1998). It is justified by a theatrical framework demonstrating the existence of dimensions of perceived deception and an important correlation (in our research it is equal to 0.681) between the factors (Roussel et al., 2002).

Table 4: The Fit Indices of Structural Equation Model of the Scale

Type of indices	Name of the indices	Key values	Values obtained
Absolute fit indices	Chi-square	None (p associated)	29.824 (0.054)
	Chi-square/ddl	Between 1 and 2	29.824 /19 = 1.570
	GFI	> 0.9	0.967
	AGFI	> 0.9	0.937
	RMR	Nearest to 0	0.055
	RMSEA	< 0.08 and if possible <0.05	0.053
Incremental fit indices	NFI	> 0.9	0.967
	CFI	> 0.9	0.987
	TLI	> 0.9	0.982
Parsimony fit indices	ECVI	The lowest possible (comparison with the independent model)	0.316 (<4.503)
	PNFI	The highest possible (comparison with the independent model)	0.656 (>0.000)
	AIC	The lowest possible (comparison with the independent model)	63.824 (<909.695)
	CAIC	The lowest possible (comparison with the independent model)	137.148 (<944.201)

> *Scale Reliability*

To assess the reliability of the measurement scale, we used Cronbach's alpha and Jöreskog's rho. The later is less sensitive to the number of items analysed (Fornell and Larker, 1981). A rho value greater than 0.7 or 0.8, depending on the authors, is considered as acceptable (Fornell and Larker, 1981). The results presented in table 5 show that the value of Cronbach's alpha is greater than 0.8 for the two axes. The value of Jöreskog's rho is equal to 0.786 for the first factor and 0.819 for the second factor. We can then attest the reliability of our scale.

> *Scale Validity*

We are interested in the trait and the predictive validity of the scale developed to measure deception in advertising.

- **Trait validity** allows the verification of whether the indicators created are a good representation of the phenomenon studied (Evrard et al., 2003). Two forms are examined:

⇨ **Convergent Validity:** it determines the extent to which the measures for the same concept by two different methods are convergent (Akrout, 2010). Convergent validity was assessed by calculating the rho of convergent validity which must be greater than 0.5 (Fornell and Larker, 1981). The results presented in table 6 show an acceptable value for the second factor ($\rho vc_{F2} = 0.533$) and a value slightly lower than the recommended threshold for the first factor ($\rho vc_{F1} = 0.480$).

Table 5: Reliability and Convergent Validity

Factors	Reliability		Convergent validity
	Cronbach's alpha	Jöreskog's rho	Rho of convergent validity ρ_{vc}
F1	0.867	0.786	0.480
F2	0.870	0.819	0.533

⇨ **Discriminant Validity:** it was tested by verifying that the average variance extracted (ρvc) by each construct ($\rho vc_{F1} = 0.480$ et $\rho vc_{F2} = 0.533$) was greater than the squared structural link between the two constructs ($\Phi 2A1A2 = 0.463$) (Fornell and Larker, 1981).

Table 6: Discriminant Validity

	Factor 1	Factor 2
Factor 1	ρ_{vc} 0.480	
Factor 2	Φ^2_{A1A2} $(0.681)^2 = 0.463$	ρ_{vc} 0.533

- **Predictive Validity:** it aims at checking whether the relationship between the measures of a concept and those of other concepts are consistent with the predictions from the theory (Evrard et al., 2003). In this research, predictive validity was examined by studying the relationship between perceived deception and attitude toward the ad. In the literature, a negative relationship was shown between the two concepts (Newell et al., 1996). The results of the new confirmatory analysis revealed that the fit indices were satisfactory (Table 7).

Table 7: Indicators of Model Fit of the Effect of Perceived Deception in Advertising on the Attitude toward the Ad

x^2	$x^2/$ddl	GFI	AG FI	RM R	RMS EA	NFI	CFI	TLI	ECVI	PNFI	AIC	CAIC
90.8 73	1.74 8	0.9 32	0.8 98	0.0 75	0.06 1	0.9 39	0.9 73	0.9 66	0.707 (<7.5 45)	0.740 (>0.0 00)	142.873 (<1524. 145)	255.016 (<1575. 904)

In addition, the model results presented in Figure 1 confirm the negative impact of deception on perceived attitude toward the ad.
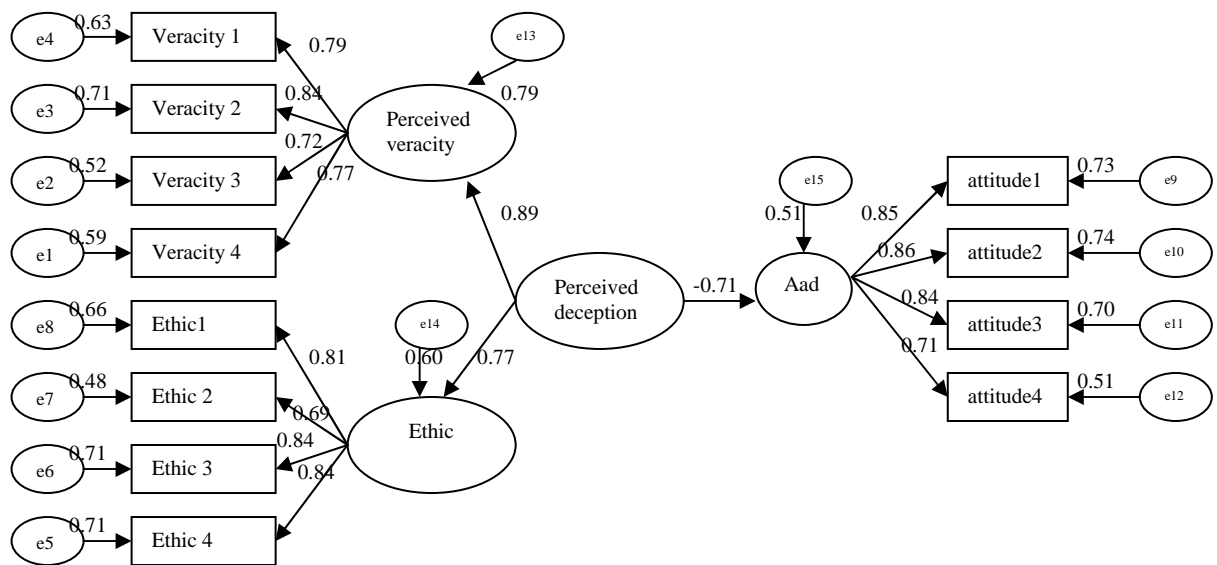
Figure 1: Structure of Perceived Deception and Its Effect on the Attitude toward the Ad

Conclusion

This research has the advantage of reaching a better conceptualization of deception in advertising. Referring to the literature in social psychology and advertising, characteristics and forms of deception were identified. Subsequently, a measure of perceived deception has been proposed and validated, based on the recommendations of Churchill (1979) and Gerbing and Anderson (1988).

From a theatrical viewpoint, this work provides a better understanding of the concept of deception. It offers the first multi-dimensional measurement scale of perceived deception in advertising. The first dimension "perceived veracity" is related to the degree of truthfulness estimated by the person exposed to the ad. The second dimension "ethic" reflects the extent to which deception in advertising is seen as an unethical practice that may harm consumers and competitors.

From a managerial point of view, this scale is useful for marketing practitioners. It can be used as an indicator of the degree of deception actually judged by consumers. It also allows managers to identify the message elements perceived as deceptive and make necessary corrections. Indeed, even if deception is unintentional, consumers may manifest a negative reaction when they perceive the ad as deceptive.

The main limitation of this research is that the scale was tested with forms of deceptive advertising practices. It would be interesting to carry out studies on other forms of deception by referring to other communication media. Moreover, it would be important to test the stability of the scale in other cultural contexts.

On the other hand, it is also interesting to identify the variables that can influence the perception of deception in advertising, test them in a conceptual model and test the effect of certain moderating variables such as the acceptance of deception, product implication and emotion.

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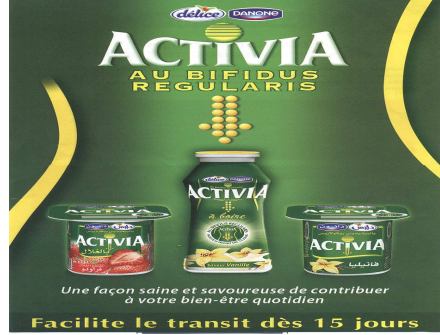
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Appendix 1: List of Items Selected for the First Data Collection

Dimensions	List of propositions
Perceived veracity	- This ad tries to convince the consumer by a lie. - This ad falsifies the actual characteristics of the product. - This ad is not entirely truthful about its offerings. - The information in this ad is not logically acceptable. - The information in this ad is exact. (-) - I think that the reality is different from what it is mentioned in the ad. - The quality of information is manipulated in this ad. - This ad uses deceptive tactics to convince consumers to buy the product. - This ad tries to convince consumers by exaggerating the benefits and characteristics of its offerings.
Consequences	- This ad leads to distort a perception of reality. - This ad led to a misinterpretation of the information presented. - This ad misleads consumer about the actual performances of the product. - This ad tries to persuade consumers to buy things he does not need.
Ethic	- This ad is unethical. - This ad is fraudulent. - This ad is trying to dupe the consumer. - This ad harms consumer' interests. - This ad is contrary to the principles of fair competition. . - This ad harms competing products. - This ad is dishonest.
Vulnerability	- This ad takes advantage of less experienced consumers to make them purchase. - This ad shows to the individual what he wants to see and not the reality.
Legal aspect	- This ad does not respect laws. - This ad should be judicially sanctioned. - This ad needs to be regulated.

Appendix 2: The Advertising Stimuli Used in the Two Surveys

Type of deception	Advertising stimuli	Description	Level of perceived deception
Explicit deception		The claim "weight loss and fat reduction by the massage in 20 days" is perceived by respondent as deceptive.	High
		The claim "Activia helps regulate the digestive system" is considered by the respondents as deceptive because there is no scientific evidence.	Low
Implicit deception		Important information are omitted to adequately judge the veracity of the claim "whiter teeth in two weeks".	High
		The percentages indicated in the ad led to believe that these indications are about the product' performance. While it is mentioned with illegible writing that it is the number of women who participate in the study and are in agreement with the product' performance.	Low

Appendix 3: Characteristics of the Sample

Criterion	Categories	Proportions (%)	
		Study 1	Study 2
Age	Less than 20	6,8	1.5
	From 21 to 30 years	50,8	64
	From 31 to 40 years	16,1	22.7
	From 41 à 50 years	12,7	8.4
	From 51 to 60 years	13,6	3.4
Profession	Senior executive	32,2	15.8
	Junior executive	20,3	10.8
	Employee	2,5	-
	Teacher	6,8	20.2
	Student	26, 3	48.3
	Liberal profession	10,2	4.9
	Housewife	1,7	-
Sexes	Man	46,6	43.3
	Woman	53,4	56.7

Appendix 4: Modelling Perceived Deception in Advertising as a Reflective Second-Order Factor