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Attention, Memory, and Evaluation of Schema

Incongruent Brand Messages:

An Empirical Study

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Attention, Memory, and Evaluation of Schema Incongruent Brand Messages: An Empirical Study

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ABSTRACT

A widely held conception in the marketing literature is to develop consistency and relevancy when communicating brand meaning to consumers. The underlying idea behind traditional theories of persuasive communication suggests that matching the message to consumers' perceptions and experiences increases the effectiveness of communication. Based on the implications of schema theory in cognitive psychology, the present research challenges the above hypothesis and proposes that moderately incongruent brand messages may lead to more favorable results. An empirical study was conducted that investigated consumers' cognitive and affective responses to advertising information that varied in terms of incongruity (i.e., *congruent*, *moderately incongruent*, and *extremely incongruent*) with their existing brand schemata. As predicted, the results supported a non-monotonic, inverted-U relationship across the degree of incongruity. Advertisements featuring moderately incongruent brand information resulted in more ad processing, better recall and recognition memory, as well as more favorable ad and brand attitude, compared to congruent and extremely incongruent advertisements. The practical implications and the theoretical relevance of these findings for future consumer research are discussed.

INTRODUCTION

A widely held conception in the marketing literature is to establish consistency and relevancy when communicating brand meaning to consumers (Keller 2003; Percy and Elliott 2005; Rossiter, Percy, and Donovan 1991). Research on branding has documented that consistent and relevant brand communication ensures the brand image will appeal to consumers and enhances the brand's value over time (Aaker 1991). The empirical and conceptual research on the brand concept consistency is substantial (Park, Jaworski, and MacInnis 1986; Keller 1993; Lange and Dahlén 2003). Along this vein, positioning and advertising models emphasize the importance of identifying and managing consumers' brand and product schemata in order to develop effective communication (Gutman 1982; Reynolds and Gutman 1984; Ratchford 1987; Rossiter et al. 1991). The basic premise behind traditional approaches to marketing communications suggests that persuasive messages that correspond to consumers' knowledge and perceptions are more likely to be relevant, comprehensible, and appealing (Rossiter et al. 1991; Keller 2003; Brannon and Brock 2006; Petty and Wegener 1998). In essence, any persuasion situation can be thought of as consisting of three main components: (a) the recipient (e.g., the consumer), (b) the attitude object (e.g., the brand), and (c) the content of communication (e.g., the advertising) (Brannon and Brock 2006). Message persuasiveness is believed to be an increasing function of the fit between the attributes of these three components (Brannon and Brock 2006, 1994).

However, theories from cognitive psychology challenge the above hypothesis and propose that schema incongruent information may lead to more favorable responses (Mandler 1982; Fiske 1982; Fiske and Pavelchak 1986). Schema-based research indicates that incongruent stimuli may attract more of recipient's attention, increase the cognitive arousal, and may finally elicit more positive judgements (Mandler 1982; Thompson and Hamilton 2006; Fiske et al. 1987; Meyers-Levy, Louie, and Curren 1994; Meyers-Levy and Tybout 1989). In contrast to traditional theories of marketing communication, directly matching the brand message to consumers' mind may not always be the most effective communication strategy. A number of studies have examined information incongruity under several marketing situations, providing insightful, yet inconclusive findings (Lee and Mason 1999; Goodstein 1993; Wansink and Ray 1996). Besides, with a few exemptions (Lange and Dahlén 2003; Dahlén et al. 2005), only limited attention has been given by researchers to the investigation of brand schema incongruity.

Drawing on schema research in cognitive psychology, we present an empirical study that builds upon existing literature by exploring consumers' cognitive and affective responses to advertising information that varies in terms of incongruity (i.e., *congruent*, *moderately incongruent*, and *extremely incongruent*) with established brand schemata.

CONCEPTUAL FRAMEWORK

Schema Theory

Schema theory has its foundations in cognitive psychology (Crockett 1988) and assumes that cognitive processing is guided by prior knowledge and experiences (Fiske and Linville 1980). According to Fiske and Taylor (1991), instead of storing one-by-one every individual experience and piece of information in its raw form, people tend to simplify reality by organizing and storing all available knowledge about their social surroundings in memory-based cognitive structures called *schemata*. In essence, a cognitive schema represents people's accumulated knowledge about an attitude object, including its attributes as well as the interrelations among these attributes (Fiske and Taylor 1991). Over time, people develop sets of expectations about the social stimuli encountered (Sujan 1985). These expectations depend on a number of assumptions and hypotheses about the attributes of these stimuli as specified by their relevant schema (Sujan and Bettman 1989; Fiske and Taylor 1991). Thus, schemata can be alternatively viewed as organized patterns of expectations about the social phenomena (Sujan, Bettman, and Sujan 1986). In social and cognitive psychology, the schema concept has been employed to study memory processes, objects/instances categorization, and to explain how people organize past experiences into patterns that facilitate understanding of subsequent behaviors and phenomena (Crockett 1988; Fiske and Taylor 1991). It has been demonstrated that schematic knowledge provides cognitive economy, guides the perception of information, and allows us some sense of prediction and control that is essential to cope with the environment (Fiske and Taylor 1991). As Smith and Medin (1981) argue, if people did not have schemata many environments would be perceived as complex and chaotic.

Given that consumers' knowledge about the market can also be perceived through relevant cognitive structures (e.g., product schema, brand schema, ad schema), schema theory has been applied in the marketing research, to study several aspects of consumer behavior (Sujan 1985; Stayman, Alden, and Smith 1992; Goodstein 1993; Boush and Loken 1991; Park, Milberg, and Lawson 1991). Regardless of the perspective followed, it has been revealed that consumers' schemata greatly affect the way they process product information and respond to persuasive communication (Sujan and Bettman 1989; Meyers-Levy and Tybout 1989; Goodstein 1993). In a highly competitive market environment, replete with advertising and brand messages consumers use their schemata to integrate incoming with existing data, retrieve information from memory, draw inferences, and facilitate purchase decisions (Sujan and Bettman 1989). Out of the wide repertoire of consumers' schemata, the brand schema has been identified as the most relevant schema for the processing and the evaluation of persuasive communication (Rossiter et al. 1991; Gutman 1982; Sjödin and Törn 2006; Boush and Loken 1991). Brand schemata mediate both product and ad schemata and incorporate the most essential information for consumers' final choice (Gutman 1982; Sjödin and Törn 2006; Boush and Loken 1991). They represent knowledge about all the brand attributes, functional as well as symbolic, in relation to their ability to satisfy various consumer needs (Wansink and Ray 1996; Brannon and Brock 1994, 2006). In essence, the brand schema is an organized network of all the beliefs, the emotions, and the associations consumers attach to a specific brand and its attributes (Aaker 1991; Brannon and Brock 2006; Sjödin and Törn 2006).

Conceptualizing Schema Incongruity

Schema incongruity theory (also referred to as congruity theory) looks into the effects of information that are incompatible with existing knowledge and do not conform to some predefined pattern (Stayman et al. 1992). Alternatively, it can be perceived as trying to describe how confirmation or disconfirmation of expectations influences individual responses (Fiske and Taylor 1991; Stayman et al. 1992; Mandler 1982). Schema incongruity is defined as the extent to which semantic correspondence is achieved between the attributes of a stimulus object and the attributes specified by its relevant schema (Areni and Cox 1994; Halkias and Kokkinaki

forthcoming). Heckler and Childers (1992) suggested a two-dimensional conceptualization of schema incongruity, in which the *relevancy* and the *expectancy* of the stimulus' content are hypothesized to determine the presence and the degree of incongruity. Relevancy refers to the degree to which a piece of information is useful to produce meaning and contributes to the identification of the primary message communicated by the stimulus object. Expectancy, on the other hand, refers to the degree to which a piece of information conforms to expectations and falls into some predefined pattern evoked by the stimulus object (Heckler and Childers 1992; Lee and Mason 1999). Following Heckler and Childers' (1992) approach, schema (in)congruity in this paper refers to brand information and cues that conform to or conflict with what is expected and what is perceived as relevant by consumers with regard to their experience with the brand. In more detail, brand schema congruity is represented by a match, in terms of relevancy and expectancy, between the content of an advertisement and the content of consumers' schema for the advertised brand, whereas brand schema incongruity involves some degree of mismatch (Sujan 1985; Meyers-Levy and Tybout 1989).

In relation to research on information incongruity at present, Mandler (1982) has offered one of the most insightful theoretical frameworks to understand the effect of schema incongruity (Meyers-Levy et al. 1994; Peracchio and Tybout 1996; Lee and Schumann 2004). Mandler (1982) postulates that increases in the level of incongruity between a stimulus and a predefined schema leads to heightened cognitive arousal that in turn increases the extremity of evaluations. Whether an evaluation becomes relatively more or less favorable depends on how easily the receiver can process the incoming data and satisfactorily resolve the incongruities. Therefore, evaluative responses are influenced by the resolution of incongruity and not by the mere presence of it (Meyers-Levy and Tybout 1989). More specifically, Mandler (1982) suggests that congruent stimuli bear a high degree of familiarity and acceptability that is positively valued by recipients. Yet, being easily predictable they do not stimulate some further interest and tend to result in mildly favorable responses. In contrast, schema incongruent stimuli attract attention and increase the cognitive arousal as people attempt to resolve discrepancies and produce meaning. According to Mandler (1982), people are likely to resolve moderate incongruities by implementing relatively minor revisions of existing knowledge (Meyers-Levy et al. 1994). The increased cognitive stimulation as well as the psychological reward produced by successfully resolving the incongruity is predicted to result in considerably more favorable responses than those produced

by congruent information. Finally, Mandler (1982) proposes that extreme incongruity will initially stimulate almost the same amount of processing as moderate incongruity. However, contrary to moderate incongruity, extreme incongruity is unlikely to be successfully accommodated. People are typically not willing to invest the significant amount of psychological resources necessary to accommodate extremely inconsistent pieces of information. Given that, processing is more likely abandoned and the favorability of evaluations is limited. If processing is not abandoned and people persist in spending time and effort seeking resolution, responses will be considerably more negatively influenced as a function of the increased frustration produced by the futile attempts and the inability to appropriately interpret information.

Research Hypotheses

Previous research suggests that novel and unexpected information attracts people's attention and stimulates cognitive processing (Lee and Schumann 2004; Törn and Dahlén 2008). Among the few empirical studies that have investigated this proposition, Goodstein (1993) has demonstrated that consumers generally attend more to atypical than typical ads, while Törn and Dahlén (2008) showed that consumers pay more attention, in terms of longer viewing time, to ads that mismatch with established brand beliefs. In a similar sense, Pieters, Warlop, and Wedel (2002) employed an eye-tracking technique and found that novelty and originality in the ad execution increases attention to the ad's elements, as indicated by an increased frequency of eye fixations, compared to typical and familiar ads. Following a threefold operationalization of incongruity, Ozzane, Brucks, and Grewal (1992) found support for a non-monotonic relationship between the degree of incongruity and consumers' information processing. They demonstrated that consumers exposed to products moderately incongruent with their associated category schema engage in deeper and more effortful processing of the available information than those exposed to either congruent or extremely incongruent new products. Along these lines, a non-monotonic relationship between the degree of incongruity and consumers' ad processing is anticipated. As incongruity increases, consumers are expected to attend more to the ad trying to reconcile discrepant information. However, as discrepancies become extreme and the resolution

of incongruity highly uncertain, consumers are more likely to ignore incompatible information and curtail the amount of attention paid to the ad. In summary, it is expected that:

H1: Consumers will pay more attention to advertisements featuring moderately incongruent brand information, compared to advertisements featuring either congruent or extremely incongruent brand information.

Increased cognitive activity and attention to an informational stimulus implies that the incoming information is encoded in a more sophisticated and elaborate manner that in turn facilitates memory performance (Hastie 1980; Friedman 1979). More specifically, congruent information typically receives only limited and superficial encoding, since it can be readily and effortlessly assimilated into existing knowledge. On the other hand, a greater amount of cognitive resources is required when people are dealing with schema incongruent stimuli. As people engage in more extensive encoding of the available information trying to successfully accommodate moderate incongruities into the activated schema, a larger number of associative linkages between the stimulus content and the knowledge stored in memory are developed (Houston, Childers, and Heckler 1987; Hastie 1980). The additional associative cues generated make new information more retrievable and easier to recall (Heckler and Childers 1992; Houston et al. 1987; Lange and Dahlén 2003). Furthermore, attending to a particular stimulus for a longer period of time also results in a more detailed representation of the stimulus material available in working memory, increasing the probability of recognizing specific features of its content (Goodman 1980; Houston et al. 1987). A different effect is hypothesized for memory under extreme schema incongruity. Extremely discrepant pieces of information cannot be successfully linked to schematic knowledge and discourage processing. As a consequence, both retrieval and discrimination processes are hindered, reducing the overall memory of the information presented. Overall, the following hypotheses are suggested.

H2: Advertisements featuring moderately incongruent brand information lead to better ad recall, compared to advertisements featuring either congruent or extremely incongruent brand information.

H3: Advertisements featuring moderately incongruent brand information result in better ad recognition, compared to advertisements featuring either congruent or extremely incongruent brand information.

According to Mandler (1982) the process of resolving incongruity is rewarding and may increase the favorability of evaluations. The positive effect of schema incongruity has been tested by a number of consumer studies, which however provide mixed results (Goodstein 1993; Lee and Mason 1999). For instance, Lange and Dahlén (2003) generally failed to identify significant differences in attitude toward the brand between congruent and incongruent with the brand schema ads, while Goodstein (1993) showed that ads that do not match the typical ad schema lead to a lower ad and brand attitude than schema congruent ads. Similarly, Dahlén and colleagues (2005) found that advertisements incongruent with consumers' brand perceptions result in a lower ad attitude and ad credibility, compared to congruent advertisements. Interestingly though, their study revealed a significant effect to the opposite direction for brand attitude that was enhanced under ad-brand incongruity. Lee and Mason (1999) followed Mandler's (1982) conceptualization and added an intermediate level (i.e., moderate incongruity) between congruity and incongruity. Their findings supported the positive effect of moderate incongruity on attitude toward the ad. The mean scores for attitude toward the brand also followed the predicted directionality yet, no significant differences between congruity and moderate incongruity were obtained (Lee and Mason 1999). Nonetheless, in line with Mandler's (1982) reasoning, a number of studies have provided full support to the inverted-U relationship between information incongruity and consumer evaluations. Meyers-Levy and Tybout (1989), for example, showed that when a new product proposition is moderately incongruent with the product category it supposedly belongs, it is evaluated more favorably than either congruent or extremely incongruent products (see also Peracchio and Tybout 1996). The same pattern has been evident in cases of incongruity between a parent brand and a brand extension (Meyers-Levy et al. 1994) or when product taste does not match with consumers' expectations (Stayman et al. 1992). We expect the same pattern for to occur for ad and brand evaluations across the degrees of schema incongruity. The arousal stimulated by ambiguous and unexpected, yet resolvable, brand information will produce additional affect toward the stimulus ad, compared to congruent information. However, this affect will disappear as information becomes extremely discrepant

and people cannot make sense of the ad. The same relationship is predicted for brand attitudes, with the most favorable effect being expected in response to moderately incongruent ads. In detail, it is predicted that:

H4: Advertisements featuring moderately incongruent brand information result in higher attitude toward the ad (A_{ad}), compared to advertisements featuring either congruent or extremely incongruent brand information.

H5: Advertisements featuring moderately incongruent brand information result in higher attitude toward the brand (A_b), compared to advertisements featuring either congruent or extremely incongruent brand information.

METHOD

An experimental study was conducted to investigate the above hypotheses. Advertising incongruity with consumers' schema for a real brand was operationalized as a between-subjects factor, analyzed in three levels, that is, congruity, moderate incongruity, and extreme incongruity. More specifically, the degree of brand schema incongruity was manipulated through the pictorial component of a print ad by means of information *expectancy* and *relevancy* with the associated brand schema (Heckler and Childers 1992; Halkias and Kokkinaki forthcoming). The ad format and verbal elements were held constant across conditions. Print advertisements are reader-paced allowing for differences in attention among participants and are thus appropriate for the research purposes (Lange and Dahlén 2003). Fifty-four undergraduate business students participated in the main study in exchange for extra course credit. Cell sizes were equally distributed across the experimental conditions. The hypothesized relationships were tested through analysis of variance (ANOVA) and covariance (ANCOVA) with polynomial trend analysis.

Pretest

In order to determine the product category from which the final brand would be selected, the first pretest ($n_1 = 9$) involved a consumer focus group session. The product category of "chocolate bars" was proven to be sufficiently familiar and relevant to the sample population and

was therefore chosen for the main study. The second pretest ($n_2 = 34$) was conducted to identify consumers' brand schemata within the selected product category. Participants were asked to indicate their level of knowledge (1 = not knowledgeable at all, 7 = very knowledgeable) for a series of chocolate brands (Sujan and Bettman 1989) as well as to list every associations they held for each brand (cf. Aaker and Keller 1990; Ratneshwar and Shocker 1991). The brand that met the requirements of the research was "Lacta", the leading chocolate brand in the market. Brand awareness was 100% and participants were knowledgeable enough ($M = 6.18$, $SD = .87$) to have established a discrete schema for the brand. A frequency analysis of participants' associations was realized to reveal the most typical attributes of the brand schema. Individual brand associations representing the same concept (e.g., "*a sweet little treat for my boyfriend or girlfriend*" and "*it's a chocolate for couples in love*") were collapsed under the same schema attribute, while idiosyncratic associations, i.e., associations listed by a single participant that could not be collapsed, were eliminated. In addition to the researchers, two independent coders categorized the same consumer associations to ensure reliability (intercoder reliability above 85%). The most frequently mentioned brand associations, listed by at least 76% of respondents, pertained to the attributes of *love*, *romance*, and *passion*.

Following, 37 new participants were recruited in a third pretest to confirm the configuration of the Lacta brand schema. The three most typical brand attributes above were quantified using nine-point, Likert-type scales. Respondents were asked to indicate how representative each attribute is with regard to their impression of the brand. The scale was anchored by 1 (not representative at all) and 9 (very representative). Attributes not mentioned to be part of the brand schema were used as control attributes. According to the results, schema attributes received consistently higher scores (mean ratings ranged from 7.03 to 7.49) than did control attributes (mean ratings ranged from 3.14 to 3.70). The least possible difference between schema and control attributes was statistically significant (*mean difference* = 3.32, $t(36) = 8.79$, $p < .001$), therefore the main theme of the brand schema was confirmed.

Stimulus Development

Based on pretest findings, 20 pictures were selected with the intention to be either congruent, moderately incongruent, or extremely incongruent with the Lacta brand schema. In a

fourth pretest ($n_4 = 26$) respondents were asked to rate each picture in terms of matching with their impression of the brand on a nine-point scale (1 = mismatch, 9 = match). The pictures were also tested for likeability (1 = dislike, 9 = like) to ensure that the affect produced in the main study is attributed to differences in the degree of schema incongruity and not to differences in picture liking. The order of the pictures was counterbalanced to avoid possible carryover and fatigue effects. Based on the mean ratings, we selected the three pictures that seemed to best represent the three levels of incongruity and that were similarly rated in terms of likeability. These were submitted to separate one-way repeated measures ANOVAs with picture matching and likeability being operationalized as within-subjects variables. The results provided a significant effect of the three pictures on perceived match ($F(2, 50) = 36.38, p < .001$) and a non-significant effect on likeability ($F(2, 50) = 2.78, NS$), indicating that the pictures correspond to a different degree of schema incongruity and are equally liked. These three pictures were used as the pictorial component of the final stimulus ads. The same brand logo, tagline, and format were used across all ad versions. An advertising agency was utilized to the designing of the experimental ads to ensure that they approximate real commercial print advertisements.

Experimental Procedure

The study took place in a laboratory setting. Upon arrival, participants were randomly assigned to one of the three experimental conditions and were given a questionnaire that contained all the necessary manipulations and dependent measures. Initially, subjects provided their evaluations for several brands across different product categories to familiarize themselves with the answering process. Evaluations for the Lacta brand were also included to control for differences in prior affect toward the brand. Following, participants were told a brief cover story about the purposes of the study and were given additional guidelines on how to proceed. Immediately after, participants were exposed to two filler ads followed by the experimental ad. When finished, they completed the ad and brand evaluation scales as well as the manipulation checks. A 15-minute filler task followed to clear short-term memory and then participants completed the recall and the recognition test. After completing a short section of demographic questions, participants were debriefed and thanked for their participation.

Dependent Measures

Attention. The time consumers spent watching the ad was used to indicate the amount of attention (Goodstein 1993). A timer running on a computer screen was set at the beginning of each exposure. Participants were instructed to watch the ads at their own pace and record the number appearing on the screen after they had formed their overall impression.

Recall. Recall was measured with an open-ended question asking participants to write down as many of the features they could remember from the ad within a two-minute time limit. Recall protocols were coded so that each correct mention of a distinct ad item represented a hit. The total number of hits was summed up to form the overall recall score for each respondent.

Recognition. Recognition was measured using 12 ad related statements for which participants were asked to state whether they are true or false. The total number of correct answers formed the overall score for recognition.

Ad and Brand Evaluations. Attitude toward the ad (A_{ad}) and the brand (A_b) were measured on three, nine-point semantic differential scales anchored by dislike and like, bad and good, and unfavorable and favorable (Goodstein 1993). The Cronbach's α coefficient for the averaged index of A_b prior and after the exposure was .95 and .94, respectively, while for A_{ad} was .96.

RESULTS

Manipulation Check

The effectiveness of the manipulation was checked using the same perceived match scale reported for the stimulus pretest. In addition, participants were asked to rate the ads in terms of relevancy and expectancy with regard to their impression of the brand (Heckler and Childers 1992) on a nine-point scale anchored by irrelevant/unexpected and relevant/expected. The average ratings for perceived match, relevancy and expectancy were analyzed with a one-way ANOVA in a single factor, between-subjects design. According to results, statistically significant

main effects were obtained for perceived match ($F(2,51) = 33.97, p < .001$), relevancy ($F(2,51) = 25.52, p < .001$), and expectancy ($F(2,51) = 19.86, p < .001$). Mean ratings for all three dependent measures differed significantly across the three experimental conditions (see table 1), indicating that the manipulation of schema incongruity is successful.

TABLE 1
SUMMARY OF RESULTS FOR MANIPULATION CHECK

Experimental condition	Perceived match	Relevancy	Expectancy
Congruity	7.61 (1.14)	7.38 (1.46)	7.88 (1.32)
Moderate incongruity	5.66 (1.57)	4.66 (2.08)	4.94 (2.18)
Extreme incongruity	3.05 (2.12)	3.16 (1.79)	3.66 (2.49)
F-value	33.97*	25.52*	19.86*

* $p < .001$

Note. Standard Deviations (in Parentheses)

Hypotheses Testing

Analysis of variance revealed a significant main effect of the degree of schema incongruity on attention ($F(2,51) = 23.68, p < .001$). Participants spent significantly more time watching the moderately incongruent ad than the congruent (*mean* difference = 8.83 seconds, $p < .001$) or the extremely incongruent ad (*mean* difference = 7.16 seconds, $p < .001$). Trend analysis showed a highly significant quadratic trend for attention (*quadratic component*; $F(1,51) = 45.87, p < .001$), showing that attention follows an inverted-U across the experimental conditions. The mean values for recall and recognition were also proven to follow the inverted-U pattern and significant main effects were obtained in both cases (see table 2). In more detail, consistent with the second hypothesis participants recalled more ad features for the moderately incongruent ad ($M = 6.11, SD = 2.63$), compared to the congruent ($M = 2.61, SD = .98$) and the extremely incongruent ($M = 2.94, SD = 1.89$) ad version ($F(2,51) = 17.57, p < .001$). Similarly, a significant effect supported our prediction on recognition memory ($F(2,51) = 15.31, p < .001$), with participant demonstrating a much greater ability to successfully discriminate the content of the ad that is moderately incongruent with their brand schema. Mean differences in recognition between

moderate schema incongruity and the two other conditions (*mean difference* = 2.16 and 2.50 for congruity and extreme incongruity, respectively) were significant at the .001 level.

TABLE 2
CELL MEANS, STANDARD DEVIATIONS, AND MAIN EFFECTS FOR ATTENTION AND MEMORY

Dependent variables	Degree of schema incongruity			F-value
	Congruity	Moderate incongruity	Extreme incongruity	
Attention (H1)	8.56 (3.50)	17.39 (5.04)	10.22 (3.54)	23.68*
<i>Quadratic component</i>				45.87*
Recall (H2)	2.61 (.98)	6.11 (2.63)	2.94 (1.89)	17.57*
<i>Quadratic component</i>				34.87*
Recognition (H3)	5.33 (1.45)	7.50 (1.58)	5.00 (1.37)	15.31*
<i>Quadratic component</i>				30.15*

* $p < .001$

Note. Standard Deviations in parentheses.

Preliminary data analyses detected significant differences in respondents' prior brand attitude ($F(2,53) = 9.78, p < .001$), with those participating in the extreme incongruity condition having more positive prior attitudes toward the experimental brand Lacta than those in the congruity (*mean difference* = 1.85, $p < .01$) or the moderate incongruity condition (*mean difference* = 1.91, $p < .001$). These differences would obscure the predicted effects related to the dependent variables of ad and brand evaluations. To eliminate this confounding factor and control for individual differences in prior affect stored in participants' brand schema, prior brand attitude was used as a covariate in the investigation of A_{ad} and A_b . According to the ANCOVA results, A_{ad} was affected by the degree of brand schema incongruity ($F(2,50) = 6.48, p < .01$), without being significantly influenced by prior brand attitude ($F(1,50) = 1.12, NS$). As predicted, the non-monotonic relationship was supported (quadratic effect significant at the .001 level), with participants' ad evaluations being the most favorable under moderate schema incongruity. Finally, as expected, it was found that participants' prior brand affect significantly influences their post-exposure A_b ($F(1,50) = 69.27, p < .001$). After statistically controlling for the effects of the covariate, a significant main effect of schema incongruity on brand attitude was detected ($F(2,50) = 8.58, p < .01$). As with ad evaluations, A_b followed an inverted-U pattern across the degrees of incongruity (quadratic effect significant at the .001 level). Pairwise comparisons (adjusted for the effect of the covariate) showed that moderate schema incongruity results in

more favorable brand attitude, compared to congruity and extreme incongruity. An overview of the ANCOVA results is provided in table 3.

TABLE 3
ADJUSTED AND UNADJUSTED MEANS FOR A_{ad} AND A_b USING PRIOR BRAND AFFECT AS A COVARIATE

Dependent variables	Degree of schema incongruity			F-value
	Congruity	Moderate incongruity	Extreme incongruity	
A_{ad} (H4)				
Unadjusted mean (SD)	4.98 (2.21)	7.11 (1.85)	5.29 (1.90)	
Adjusted mean (SE)	5.01 (.47)	7.31 (.51)	5.06 (.52)	6.48*
Covariate				1.12
A_b (H5)				
Unadjusted mean (SD)	6.31 (1.97)	7.00 (1.24)	7.48 (.93)	
Adjusted mean (SE)	6.45 (.22)	7.74 (.24)	6.61 (.25)	8.58*
Covariate				69.28**

* $p < .01$, ** $p < .001$

Note. Standard Deviations (SD) and Standard Errors (SE) in parentheses.

DISCUSSION & IMPLICATIONS

The results provide full support to the hypothesized relationships, indicating that Mandler's (1982) schema incongruity theory can be applied in persuasive communications to explain consumers' reactions to brand information that deviates from established beliefs and expectations. Moderate incongruity between an advertisement and consumers' schema for the advertised brand is found to most positively influence both cognitive and affective responses. In more detail, incompatible and unexpected brand information seems to attract consumer attention to the point that they contribute to make sense of the intended communication. As information becomes extremely discrepant, attention to the message declines, resulting in an inverted-U relationship across the degrees of incongruity. Resolution of extreme incongruity is a very effort-demanding and doubtful process. As such, it discourages consumers that seem to abandon the processing of the incoming information overwhelmed by a feeling of frustration, as they cannot derive coherent meaning from the stimulus content.

The same non-monotonic pattern was reproduced in the results for memory performance. As anticipated, consumers' retrieval and recognition processes were significantly enhanced under moderate schema incongruity. Resolution of incongruity implies that discrepant stimulus information is successfully linked to the knowledge that is already stored in memory. To that end, consumers invest additional cognitive resources to revise schematic knowledge and try to develop new associations and nodes that will update the configuration of the relevant schema. As a result, under moderate schema incongruity a more elaborate and efficient network of associations between stimulus and memory information is developed that consequently, facilitates recall of the ad's content. In addition, increased attention to the moderately incongruent stimulus implies deeper encoding of its content, which is rehearsed more times during the exposure. Having the advertisement more finely represented in working memory, consumers are significantly more efficient in recognising specific features of its content.

Consistent with Mandler's (1982) proposition, moderate schema incongruity significantly enhanced consumer attitudes. The moderately incongruent ad was probably perceived to be more interesting and intriguing by consumers who formed more favorable evaluations, regardless of their prior brand attitudes. Not surprisingly, attitude toward the brand after the exposure was found to be significantly related to the affect already stored in the brand schema. After controlling for individual differences in prior brand affect the positive effect of moderate incongruity was supported. Accommodating discrepant advertising information can be thought of as solving a mental puzzle in which individual pieces or cues are assembled in some sort of logical pattern to finally reveal the answer. Successfully resolving incongruity seems to provide consumers a sense of satisfaction and fulfilment that is intuitively transferred to their evaluations. The findings indicate that consumer attitudes generated through more effortful and intellectually challenging processes are more favorable.

From a managerial perspective, the present findings challenge the normative recommendations put forward by traditional models of persuasive communication. Developing messages that conform to consumers' perceptions may not always be the most effective strategy. Marketing practitioners may use incongruity-based tactics to enhance their communication programmes. Schema incongruent messages can stimulate consumers' interest, make them actively participate in the communication process and increase the memorability of the ad. Moreover, they can be used as a brand rejuvenation and brand repositioning tool by introducing

additional or novel brand features. Yet, great caution is required in manipulating incongruity, since discrepancies that cannot be resolved may result in feelings of frustration and confusion, make consumers ignore the incoming information, and dilute the brand image. A careful consideration of the context in which brand communication appears is required. To avoid negative consequences, managers should make sure that consumers will have the ability and the opportunity to devote the necessary cognitive resources to process a message of this kind.

The evidence above provides considerable insight on how people deal with information that is incompatible with existing knowledge in a persuasive communication context. The hypothesized cognitive stimulation produced in response to incongruent stimuli has found support by various studies employing traditional social experimentation (Meyers-Levy 1988; Meyers-Levy and Tybout 1989; Goodstein 1993). Yet, even though the behavioral consequences have been investigated, very little is actually known about the physiological processes behind a specific behavioral pattern. Relevant literature would greatly benefit by the use of neuroscientific techniques and measurement methods, such as eye-tracking, EEG, or fMRI that may capture more closely consumers' response mechanisms. For instance, using such methods researchers will be more able to distinguish between the extent and the depth of processing, since more attention to a stimulus in terms of longer viewing time does not necessarily mean deeper processing. Significant differences in mental activity may be detected among equivalent time periods. In the same sense, memory performance could be more properly attributed to some more sophisticated mental process adopted as people try to resolve incongruity or merely to a longer exposure time. Most importantly, the exact processes followed to resolve incongruity still remain a mystery. Different alternatives are hypothesized, including assimilation of discrepancies within existing knowledge, subtyping, or complete restructuring of schematic knowledge (Lee and Schumman 2004; Mandler 1982; Meyers-Levy and Tybout 1989). Presumably, these incongruity resolution processes are associated with increasing requirements in cognitive resources. Neuroscientific consumer research can shed light onto the different processes utilized to deal with incongruent information and contribute significantly to research on schema incongruity.

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