

Anthropomorphism and Advertising Effectiveness: Moderating Roles of Product Involvement and the Type of Consumer Need

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Abstract. The goal of this study is to explore that whether using anthropomorphism in ads stimulates active information processing by increasing attention paid to the brand and creates some positive results on brand recall and attitude toward the brand. In this context, moderating roles of involvement level and product type were also investigated. Using experimental design, hypotheses were tested in two product groups. Offering important insights to practitioners to build an effective advertising message, results not only support that anthropomorphism could increase attention in advertisements but also emphasize the significance of context-specific factors in consumer perceptions.

Keywords. Anthropomorphism, Advertising, Product involvement, Consumer need, Turkey.

JEL. M37, M31, M30.

1. Introduction

Anthropomorphism refers to a relatively invariant and automatic psychological process of a tendency to perceive nonhuman forms as human by attributing them humanlike characteristics, intentions, and behavior (Guthrie, 1993; Epley et al., 2007; Waytz et al., 2010).

Generally, people have a tendency to anthropomorphize everything around them from cars to plants in pots and to even (Waytz et al., 2010) gods. This tendency is a result of humankind's three basic needs: to understand the world around them (Gutrie, 1993), to affiliate with others or to maintain a relational connection as an effective and competent social agent (Waytz et al., 2010) and belongingness (Baumeister & Leary, 1995).

Since people have a tendency to anthropomorphize everything around them, including products and brands; understanding and using this tendency is important for marketers. So, as parallel to widely used anthropomorphic marketing applications the number of academic research within this area has been increasing. Findings of the current researches generally support that anthropomorphism has some practical effects on consumer judgments and behavior. However, the efficiency of anthropomorphism as an advertising tool (that helps to attract attention and creates desired results) still limitedly understood and rarely investigated. Although Delbaere et al. (2011) and Gelbrich et al. (2012)

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demonstrated positive effects of anthropomorphism under specific conditions of ad exposure, in which situations anthropomorphism will be effective, are still needed to be examined.

In this context; the purpose of the study is (1) to explore that whether using anthropomorphism in ads stimulates active information processing by increasing attention paid to the brand and creates some positive results on brand recall and attitude toward the brand and (2) to explore the role of some moderator factors (that determine the effectiveness of anthropomorphism on producing brand recall and positive attitude toward the brand).

As the main contribution of the study, this will be the first study that has empirically explored the role of involvement level and product type that determine the effectiveness of anthropomorphism on strengthening brand recall and creating more positive attitude toward the brand.

2. Literature Review

Although marketers have long used anthropomorphism widely to create awareness or to maintain a relational connection and belongingness, the effects of anthropomorphism on consumer behavior have attracted academic attention only since the last eight years.

As one of these, Nan et al. (2006) examined effects of Web-based anthropomorphic agents on consumer responses to the Web site, and the brand featured on the Web site. They found that the presence (versus absence) of an anthropomorphic agent on a commercial product Web site had a significant positive impact on consumers' attitudes toward the Web site but had minimum influence on attitudes toward the brand. They also demonstrated that two psychological consequences of perceiving the anthropomorphic agent as a real person are increased perceived credibility of the Web site and greater experienced positive effect.

Despite their study does not directly address to consumer behavior, Schmitz et al. (2006) discussed the usability of anthropomorphic representations such as talking products on the shelves by offering an intuitive interface to services that support users, e.g. in shopping malls to accomplish their shopping tasks. They argued that instead of sales representatives using anthropomorphic products (or the technological system required for implementation) will not only enrich the user experience but also has the potential to increase the efficiency of interactions and problem-solving abilities of the user.

Aggarwal & McGill (2007) investigated the efficiency of anthropomorphism on product perception and based their study on schema congruity theory. Introducing anthropomorphism as a determinant of consumers' evaluations of products, Aggarwal & McGill (2007) found that the extent to which participants saw the product as human to mediate their liking of the product.

Sivaramakrishnan et al. (2007) tested the role of an anthropomorphic information agent (a humanlike chat bot that acts as an interactive online information provider) in an online retail environment on consumers' attitude toward the Web site, product, and their purchase intentions. They found that anthropomorphic information agent has a positive impact primarily when the amount of static information available on the Web site is limited. However, the impact of anthropomorphic information agent turns negative when consumers are driven by a utilitarian consumption motive.

Different from other marketing scholars, Brown (2008) discussed the anthropomorphic marketing applications from a critical viewpoint and signaled

that inappropriate usage of marketing metaphors may adversely affect marketing's development and damage the current situations.

Drawing on schema congruity theory, Puzakova et al. (2009) suggested a theoretic background for an anthropomorphized brand and introduced effectance motivation and sociality motivation as the moderators of it.

Brown (2010) also conducted a content analysis of brand icons and revealed popularity of anthropomorphic brands is directly related to the species' physiological and psychological similarity to humankind. Furthermore, he discussed possible life cycles of brand icons and also identified four mascot strategies that are match, mix, mystify and multiply.

Kniazeva& Belk (2010) examined anthropomorphism of brands through packaging stories in order to understand the ways in which brands are rendered humanlike. Using in-depth interviews with nine consumers, and illuminating how brand storytelling can be used in marketing research, they showed that food packages can exploit both rational and emotional approaches, offering consumers necessary tools for anthropomorphizing their brands. Main finding of their study is that multiple brand personalities peacefully cohabiting in the same brand as seen by different consumers, despite marketer attempts to create more singular brand personalities.

Testing how anthropomorphic thought affects consumers' product replacement intentions Chandler & Schwarz (2010) illustrated that priming anthropomorphic beliefs about a product shifts attention away from pragmatic considerations such as its functionality and makes consumers sensitive to information that figures prominently in the interpersonal realm.

Delbaere et al. (2011) provided evidence that as a kind of anthropomorphism, personification in print advertising appears to lead to more positive emotions, more positive attributions of brand personality, and greater brand liking that in turn, led to increase liking for the brand.

Suggesting an interactive effect between object and person, Kim & McGill (2011) examined how anthropomorphism effects risk perceptions and behavior. They (2011) found that the object is more likely to be anthropomorphized if the person's experiences with it align with expectations and experiences for how other people tend to interact with that person. In addition, they suggest that consumers' feelings of power moderate the effect of anthropomorphism.

As an indication of automatic anthropomorphizing of products, Miesler et al. (2011a) revealed that processing of faces and car fronts in human mind is similar. Moreover, they found that car fronts not only brought to mind the human schema more than car sides, but they also brought to mind the human schema more than the actual product category schema.

Extending previous study, Miesler et al. (2011b) revealed that anthropomorphic (face-like) products not only have an impact on how products are perceived by consumers but also may even influence processes that are involved in consumer judgment formation through creating a shift -from an analytic to a holistic mode- in consumers' perceptions. So, anthropomorphic product designs can induce holistic perception strategies.

By integrating biologically significant features to both humans and anthropomorphized products (cars) Miesler et al. (2011c) also found the moderating effect of visual cuteness on automatic responses towards anthropomorphizing of products. This finding supports the idea that "visual cuteness" might be applicable to all product categories for which a deep emotional consumer-product relationship is part of the marketing strategy.

Landwehr et al. (2011) investigated how people decode emotional "facial" expressions from product shapes and how this affects liking of the design. They

found that when judging the meaning of the expression of a product conducive to anthropomorphizing, people use the same facial elements in the same combination that they do in judging human faces.

Examining automatic behavioral effects of priming brands that are anthropomorphized, Aggarwal & McGill (2012) found anthropomorphized brands trigger people's goals for a successful social interaction, resulting in behavior that is assimilative or contrastive to the brand's image.

Gelbrich et al. (2012) examined the anthropomorphism as a form of absurdity and studied the effect of anthropomorphic advertising on memory and persuasion (brand recall and attitude toward ad) across cultures used cultural dimensions as blocking dimensions. They suggested a positive effect of absurdity on recall and also claimed that the effect on attitude toward the ad is contingent on the recipients' cultural orientation.

With the increasing importance of the subject, the Journal of Marketing Management published a special issue "Anthropomorphic Marketing" for the topic. Within this issue, Hart et al. (2013) examined the relationship between consumer anthropomorphism and personal values. Results demonstrate that anthropomorphism can account for the personal value of a product beyond the influence of purchase price, frequency of use, and self-acquisition. Additionally, they suggested that consumer anthropomorphism may depend upon what product is being anthropomorphized, and magnitude of consumers' anthropomorphism is greater for more complex products.

Also Payne et al. (2013) examined design antecedents and consumer responses to ascriptions of anthropomorphic features for logos within this special issue. They adopted a structural equation modeling approach to experts' and consumers' evaluations of 120 college sports logos and revealed that universities could benefit from brand management informed by anthropomorphic ascriptions to their sports logos.

Developing a 21-item scale to measure childlike anthropomorphism in products Hellén&Sääksjärvi (2013) showed that consumers react positively to childlike anthropomorphic characteristics in products. Across samples, men perceived such characteristics to be more sympathetic than women did. These findings suggest that childlike anthropomorphic characteristics are liked by consumers but that their appeal is based on different factors for men and women.

As can be seen, the amount of literature about the effects of anthropomorphism on consumer behavior has steadily grown, and general findings support that using anthropomorphism in different contexts can influence consumers' perceptions and attitudes in a desired way. However, when compared the widespread use of anthropomorphism in advertising by practitioners, the research on the effects of anthropomorphizing the product/brand in ads is relatively rare. Two exceptions are recent works by Delbaere et al. (2011) and Gelbrich et al. (2012) which investigates the effects of anthropomorphism on positive attitudes toward the brand by the mean of print advertisements. Although they demonstrated positive effects of anthropomorphism under specific conditions of ad exposure, they also emphasized that still we need to know specifically in which situations we can utilize the potential of anthropomorphism on stimulating attention toward ads. So the question still remains whether consumers actually pay attention to the ads that using anthropomorphism and whether they respond to these ads as both cognitively and emotionally in the same way in every situation. Thus, future research that investigates some moderating factors on efficiency of anthropomorphized ads is needed. Within this context, aiming to contribute to a better understanding for anthropomorphism and ad, this study examines the boundaries of anthropomorphism's efficiency on advertising by investigating some moderator

factors on ad perception. With a more detailed explanation the purpose of this study is to explore that whether using anthropomorphism in ads stimulates active information processing (by increasing attention paid to the brand) and create some favorable results on brand recall and attitude toward the brand. Moderator roles of product involvement level and product type in this relationship were also explored.

3. Conceptual Background

The theoretical roots of the anthropomorphism's efficiency on advertising are mainly based on the automatic recognition created by anthropomorphic agents. As it can be seen within the framework that presents the current theory on information processing from advertisements (Figure 1) attention is one of the essential parts of information processing from ads, and when it was created automatically by anthropomorphic agents, it enhances the effectiveness of marketing communication.

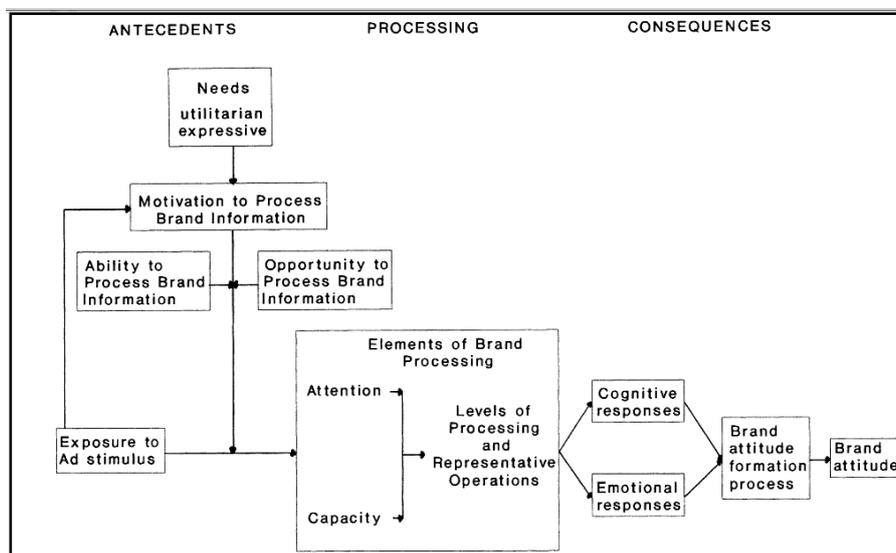


Figure 1. Theoretical Framework of Information Processing from Advertisements
Source: MacInnis & Jaworski (1989:3)

Going beyond of creating an automatic recognition, today we know that anthropomorphized objects can trigger cognitive, affective or motivational responses in individuals (Miesler et al., 2011d; Kim & McGill, 2011; Landwehr et al., 2011). In this context, using anthropomorphism in advertisements can have a rich potential creating an automatic attention and evoking strong emotions toward the ad/brand.

However, besides the anthropomorphism used in advertisements, there are also two important antecedents of information processing from advertisements (See Figure 1): the level of motivation (thus involvement) and type of the need (MacInnis & Jaworski, 1989). Within this context, anthropomorphism's efficiency on advertising should be addressed from a holistic perspective and the type of need and the involvement level should be also considered within the scope of the research.

Based on the past research, the type of consumer needs that influence processing motivation can be classified under two categories: utilitarian (functional, cognitive, informational) and hedonic (symbolic, affective, expressive) (Rossiter & Percy, 1985, 1987; Park & Young, 1986; MacInnis & Jaworski, 1989). Utilitarian and expressive needs assume varying degrees of preeminence in the

individual's need hierarchy and may be activated by factors in the ad. Advertisers thus may use utilitarian or expressive appeals to stimulate consumers' utilitarian or expressive needs (McInnis & Jaworski, 1989, p. 3). Utilitarian needs are defined as the requirements of products that produce some real solutions to the current or possible problems. On the contrary, expressive needs are defined as the requirements of products that provide some aesthetic and imagery utility reflecting users' actual and ideal self-images (McInnis & Jaworski, 1989, p. 2). From this perspective, products have been categorized in the same vein (Hirschman & Holbrook, 1982). McInnis & Jaworski (1989, p. 3) stated that *because products can be arrayed on an experiential-functional continuum (Batra, 1986; Batra and Ahtola, 1987; Batra and Ray, 1985; Hirschman and Holbrook, 1982), the product category represented in the ad may stimulate the type of need (Vaughn, 1980).* However, as Park & Moon stated whether a particular product is utilitarian or hedonic is decidedly based upon consumers' subjective judgement about the products' value (2003, p. 980). Accordingly, the place of a product on the utilitarian- hedonic continuum may be different depending upon consumers. Nonetheless, in consumer research, knowing the type of the need and therefore, the type of the product is strategically important for two reasons. First, it helps to direct consumers' attention to the specific ad cues. Second it also may determine the type of information processing. Providing evidence to this claim Thompson & Hamilton (2006) demonstrated that matching ad format to a consumer's mode of information processing enhances advertising effectiveness. MacInnis & Price (1987) described information-processing mode as the way in which information is represented in working memory. Much of previous research from psychology (Adler, 2008; Bruner, 1986) and consumer research (Brooks, 1978; Kemler & Nelson, 1984; Alba & Hutchinson, 1987; MacInnis & Price, 1987) focused on differences in consumers' information processing had proposed that there are two distinct way of information-processing modes, analytical and imagery (holistic), that both influence persuasion through different mechanisms (Nielsen & Escalas, 2010). Presenting data-driven attributes of objects, analytic information processing is typically contrasted with imagery processing that based on non criterial information and the whole of the picture instead of evaluating information on an attribute by attribute basis. Although imagery and analytical processing are not mutually exclusive processes (MacInnis & Price, 1987), generally one mode of information processing tend to be dominating another (Thompson & Hamilton, 2006). For example, a consumer who perceives the product in a utilitarian way may attend to information about product attributes (McInnis & Jaworski, 1989) and should draw on analytic information processing. Therefore, it is expected that when consumers use analytical processing, presenting attribute-based information should enhance ad effectiveness. In contrast, consumers for whom expressive needs are salient attend to cues related to the symbolic or experiential value of the brand (Park & Young, 1986; McInnis & Jaworski, 1989). In such a situation, consumers should use imagery processing and expressive value of the ad message will be more important than attribute-based information. These expectations are based on an assumption from the literature that consistency between ad format, and the consumer's processing mode enhances the processability of ad information and improves ad effectiveness (Thompson & Hamilton, 2006, p. 531).

On the other hand, we know that anthropomorphic elements tend to be processed on imagery mode rather than analytic, regardless of the type of the need toward the product (Farah et al., 1998; Lee 2010). Similarly, Miesler et al. (2011b, p. 26) provided evidence that it might be possible to change the consumers' perception style from an analytic to an imagery mode when presenting anthropomorphic (face-like) designed products to consumers. These claims raise

sharply the broader question of just what kind of effect we could reasonably expect when using anthropomorphism on ads of products that are perceived specifically utilitarian. Although Miesler (2011b) found that anthropomorphic product designs are perceived holistically rather than analytically, to our knowledge, there is not any study that tested the relationship between the type of the need (utilitarian and hedonic) and the effect of anthropomorphism on ad efficiency in a comparative way. Hence, aiming to contribute a better understanding of the boundaries of anthropomorphism' efficiency on advertising we tested whether using anthropomorphism in ads stimulates active information processing (by increasing attention paid to the brand) with regard to every type of consumer need.

Since the level of involvement (MacInnis&Jaworski, 1989) is also expected to affect attention toward add cues, efficiency of anthropomorphic ads should not be analyzed without reference the role of involvement level. Product involvement can be described as an ongoing commitment on the part of the consumer with regard to thoughts, feelings, values, and behavioral response to a product category (Gordon et al., 1998; Quester & Lim, 2003). Moderating effect of product involvement on advertising efficiency is mainly based on The Elaboration Likelihood Model (ELM) and Heuristic-Systematic Model (HSM) in the psychology literature (Chattalas et al., 2008; Laroche et al., 2005; Lee et al., 2005; Verlegh et al., 2005). Both models primarily claim that a consumer utilizes either a central or a peripheral route to persuasion (Petty et al., 1983). In the peripheral route, consumers have the tendency to use more salient and easily accessible cues such as anthropomorphic agents. Contrarily, the central route to persuasion requires cognitive effort by consumers in product evaluation. Consequently, both models imply that consumers will use a central route in high-involvement and a peripheral route in low-involvement circumstances (Petty et al., 1983). Based on these allegations, we can expect that anthropomorphic elements are especially useful in low-involvement circumstances. Additionally, in terms of motivation to process advertising information, we already know that the higher the involvement level of the product, the more attention is focused in ad (MacInnis&Jaworski, 1989, p. 5). Based on these assumptions, in understanding the ways in which anthropomorphism used in ads enhance the efficiency of ad; we tested the level of involvement as another moderator factor.

Consequently, while previous researchers have shown that the presence of anthropomorphism has some positive effects on consumer perceptions and so judgments (Aggarwal & McGill, 2007; Chandler & Schwarz, 2010; Delbaere et al., 2011; Kim & McGill, 2011; Landwehr et al., 2011; Miesler et al., 2011a, b; Aggarwal & McGill, 2012; Gelbrich et al., 2012; Hart et al., 2013; Payne et al., 2013) relatively few studies have examined the perceptual and intentional consequences of this concept with regard to advertising context.

In this context, by going to a step further to understand if anthropomorphism in ads stimulates active information processing by increasing attention paid to the ad and creates some positive results on brand recall and attitude toward the brand, this study extends and integrates previous studies by investigating the interaction effects of two situational factors, the type of the need and product involvement level.

4. Methodology and Research Design

Based on the two findings mentioned above (1) anthropomorphism could increase attention and trigger cognitive, affective or motivational responses in individuals paid to ad and thus to the brand, and (2) two antecedents of information processing from ads; the type of the consumer need and product involvement level

may moderate anthropomorphism's efficiency on advertising; our hypotheses are the following:

H1: Using anthropomorphism in visual ads (versus not using anthropomorphism) will create better results in attitude toward the brand and brand recall.

H1a: Using anthropomorphism in visual ads (versus not using anthropomorphism) will create better results in attitude toward the brand.

H1b: Using anthropomorphism in visual ads (versus not using anthropomorphism) will create better results in brand recall.

H2: The type of consumer need has a moderator role in the effectiveness of anthropomorphism used in ads.

H2a: For utilitarian products, consumers are less likely to be affected by the availability of anthropomorphism in their attitude toward the brand than for the hedonic products.

H2b: For utilitarian products, consumers are less likely to be affected by the availability of anthropomorphism in their brand recall than for the hedonic products.

H3: Product involvement level has a moderator role in the effectiveness of anthropomorphism used in ads.

H3a: Consumers with high involvement are less likely to be affected by availability of anthropomorphism in their attitude toward the brand than those with low involvement.

H3b: Consumers with high involvement are less likely to be affected by availability of anthropomorphism in their brand recall than those with low involvement.

A 2x2x2 (anthropomorphized ads versus non anthropomorphized ads, utilitarian need versus hedonic, high involvement versus low) experimental design was used to test three hypotheses. Before the main study, two preliminary studies were conducted to determine the name of the brand and to select products that will not only represent each kind of consumer needs (utilitarian /hedonic) but also vary highly according to involvement levels of subjects.

Since the brand name is an extrinsic cue about the brand, it may have an impact on information processing (Jacoby et al., 1977, 1978) especially when the consumer does not have adequate information about intrinsic product attributes (Zeithaml, 1988) - such as not having any experience with the product, not having enough interest and/or time to evaluate the intrinsic attribute; and not having any opportunity to evaluate the intrinsic attributes.

In our experimental design, consumers will not have adequate information about intrinsic product attributes. So in order to avoid any possible bias concerning the name of the brand as an extrinsic cue; first of all, a pre-test was conducted regarding the hypothetical brand name so that subjects' interpretations based on brand name would not interfere with experiments' manipulations. After a pilot study to create some fictitious brand names; these names were tested by publishing an online survey. Within this survey, respondents were asked to consider all of eight brands names and write all associations that come to their mind about each of the brand names. Moreover, for each of the brand names, participants were asked to guess the product category and country of origin that brands belong to. Data was gathered from respondents over following two weeks. So "arsi" and "alfa" were chosen as the names of our hypothetical brands not carrying any strong cognitive (such as country of origin) or affective associations.

Considering moderator variables of research, another preliminary study was conducted. In this pretest, for each of the utilitarian and hedonic product categories, a product was chosen that (1) does not significantly vary regarding respondents'

perceptions toward the type of consumer need the product will satisfy and (2) varies highly regarding to involvement levels of respondents toward the product. Using Vaughn (1986) five items scale, 50 university students invited to the pretest and were asked to answer the questions for six different products regarding to identify the dominant type of consumer need these products to satisfy. At the end of this research, ice cream and camera were chosen for the hedonic and utilitarian consumer needs respectively.

Based on these findings, main study was designed. Crossing anthropomorphized and non-anthropomorphized versions over two product groups, two scenarios were created for each of the product categories. In creating ad scenarios it is strictly considered that both anthropomorphized and non-anthropomorphized ads should contain identical descriptions about the basic product features and unique sales proposition. In one version of advertisement target product is anthropomorphized by manipulating its shape; in another version, a spokesperson is used to give the same message. The ads were prepared in a way that as far as possible the only information presented to respondents who will be differentiated the two alternative scenarios of each product category will be the availability of anthropomorphized version of the brand. Considering the financial limitations of the study; instead of real advertisements, story board advertisements were used in our study (See Appendix 1). Although story boards are commonly used by advertising agencies to offer advertising briefs; it will enable us to manipulate our study by simultaneously. On the other hand, these are not actual television ads with live action and a soundtrack (Escalas, 2004, p. 172). So although their ability to exhibit anthropomorphism will be limited in terms of movement and speaking of the anthropomorphized brands; also it can filter other audiovisual elements that can attract respondents' attention and thus distract attention from the focus of the study.

Considering the analyses and the number of the variables will be used, sample size was determined as 400 respondents. A student sample that is a relatively homogeneous subgroup which is stable on certain demographic characteristics (Calder et al., 1981) was deemed to be appropriate because of the objectives of the study. A total of 400 students at Ondokuz Mayıs University were invited and participated in the study.

Then, students were randomly assigned to the one of four conditions, which were measured in four different classrooms. Experimenters told the students that manufacturer of a new brand to be introduced in the market shortly needs their evaluations, and they will see a story board version of ad that company plans to use in TV ads. Additionally, it is emphasized that this is a complete scientific study, there is not any relation of interest between experimenters and manufacturers, and the honest answers are very significant (Freling & Forbes, 2005). Then, as a moderator variable of the study, participants' involvement levels toward the relevant product were measured by using a modified version of Zaichkowsky's (1985) personal involvement scale. In measuring personal involvement, four items – on a seven-point semantic differentials scale using the following bipolar adjectives: “important” vs. “unimportant”; “means a lot to me” vs. “means nothing”; “exciting” vs. “unexciting”; “worthless” vs. “valuable”- was used to avoid common method covariation. Then involvement items were aggregated to form a total involvement score for each respondent, and a median split was used to separate subjects into low- and high-involvement groups.

Before showing the starboards, type of the need that will be satisfied by the camera and ice cream was also measured in order to make sure once that selected products represent the type of need as intended. Using Park and Moon's scale (2003), respondents were asked to express to their degree of agreement with the

following five items by marking a number on the 7-point scale (anchored by “strongly disagree” and “strongly agree”):

1. My ice cream/camera buying decision-making is made logically and objectively.
2. My ice cream/camera buying decision-making is made primarily based on functional perspective.
3. My ice cream/camera buying decision-making is made primarily based on feelings.
4. My ice cream/camera buying decision-making reflects my personality.
5. My ice cream/camera buying decision-making is made based on appearance, taste (ice cream only), touch (camera only), smell (ice cream only), or sound.

Then the story boards were shown to respondents by using projectors. After seeing the story boards, respondents were asked to complete questionnaires regarding their evaluations of the advertisement and the brand offered in the story boards. First of all, students were given five minutes to describe their feelings and thoughts about the ad and the brand. After this open-ended question, for manipulation check purpose, attitude toward the ad was measured by offering respondents to complete the statement; I feel the advertisement is” using seven-point semantic differential scale using three items: good/bad, likable/not likable, pleasant/unpleasant (Bennett & Harrell, 1975; Dover & Olson, 1977; Smith & Swinyard, 1983; MacKenzie et al., 1986; Freling & Forbes, 2005). This measurement was used for manipulation check purposes only to determine if respondents’ attitudes toward the anthropomorphic ads were different from non-anthropomorphic ads. Finally, as the independent variable of the study, subjects’ attitudes toward the brand was measured by asking subjects to complete the statement: “I feel the brand is” followed by four seven-point semantic differential items: Favorable/unfavorable, good/bad, likable/unlikable, and pleasant/unpleasant.

One week after the completion of the main questionnaire, same students were invited to the same room in order to assess brand recall (the degree to which brand name was memorable and brand associations were enduring). An extra 10 points for related midterm exam was offered them for this action. Following the method of Freling & Forbes (2005), same students were asked to unaided recall question that asked them to provide the brand name of the product they had previously evaluated. In order to assess the strength of respondents’ brand associations, also respondents’ thoughts about the advertisement and brand were again collected through an open-ended question as parallel to main research. In other words, the first question of the questionnaire was replicated. Then the accuracy of responses to the memory question and consistency of cognitive responses across measurement times were used to measure the strength of respondents’ brand associations (Freling & Forbes, 2005, p. 407). After collecting data, both quantitative (multivariate and univariate analysis) and qualitative (content analysis) methods were applied for hypothesis testing.

5. Results

As mentioned before, a total of 400 graduate students participated in the study, and they were randomly assigned to the one of four conditions. The distribution of samples among four subsets (102, 101, 99 and 98 respondents) indicated no conspicuous biases. Table 1 shows the distribution of the demographic characteristics of subjects.

Table 1. Demographic Characteristics of Respondents

	Sample 1		Sample 2		Sample 3		Sample 4	
	Camera Anthropomorphized		Camera Non-Anthropomorphized		Ice-cream Anthropomorphized		Ice-cream Non-Anthropomorphized	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Gender								
Female	51	50,5	40	40,4	43	42,2	68	69,4
Male	50	49,5	59	59,6	59	57,8	30	30,6
Total	101	100	99	100	102	100	98	100
Age								
<18	0	0	0	0	0	0	0	0
18- 22	89	88,1	75	77,8	80	78,4	86	88,7
23-27	8	7,9	16	16,2	16	15,7	11	11,2
28-32	4	4	6	6	5	4,9	5	5,1
32 +	0	0	2	2	1	1	0	0
Total	101	100	99	100	102	100	98	100
Monthly Income (Turkish Lira)								
<300 TL	60	59,4	30	30,3	49	48	68	68,7
301- 600 TL	26	25,7	53	53,5	31	30,4	15	15,3
601-900 TL	6	5,9	7	7,1	12	11,8	5	5
901-1200 TL	3	3	5	5,1	4	3,9	5	5
1201-1500 TL	3	3	1	1	4	3,9	2	2
1501 TL+	3	3	3	3	2	2	3	3
Total	101	100	99	100	102	100	98	100

*One U. S. dollar was approximately 2.26 Turkish Lira at the time of study.

External consistencies of two scales were evaluated by exploratory factor analysis to determine whether and to what extent the dimensions of the scales were consistent. This is a matter of construct validity (Hair et al., 1998). One factor was extracted for both scales with eigenvalues greater than one. Explained variances of both scales were greater than %81. Except one item (means a lot to me” vs. “means nothing” from the scale of attitude toward the brand), component loadings of all items exceed the acceptable range (0.70). Table 2 shows the results of the analysis.

Table 2. Results of Exploratory Factor Analysis (Principal Components Method Varimax Rotated Factor Loadings)

Scales	Number of items	Deleted items	Eigenvalues	% of common variance	Kaiser Meyer-Olkin	Barlett’s test of Sphericity (X ²)	Cronbach’s alpha
Product involvement	4	-	3.280	81.995	0.847	1315.928**	0.926
Attitude toward the brand	4	1	2.350	78.330	0.734	557.393**	0.860

**p< 0.01

Then, reliability coefficients (Cronbach’s alphas) of the scales were computed as an indicator of internal consistency. Cronbach’s alpha values of the scales were 0.926 and 0.860 respectively, thus were above the recommended 0.70 threshold suggested by Nunnally (1978). In addition, ranging from 0.786 to 0.937, item to total correlations verified high levels of internal reliability. Same analyses were also conducted among the camera and ice cream subgroups for both external and internal consistencies respectively, and resulting values were all above the recommended 0.70 threshold.

5.1. Manipulation Check

The main study was designed based on the assumption of anthropomorphism’s efficiency on advertising. Thus, before the hypothesis testing, a manipulation check was conducted to determine whether respondents’ attitudes toward the anthropomorphic ads were different from non-anthropomorphic ads as intended. The internal consistency of the scale (attitude toward the ad) was assessed using Cronbach's alpha coefficient. Verifying high levels of internal reliability, Cronbach’s alpha was calculated as 0.896.

Considering the dichotomous character of independent variable (availability of anthropomorphism), we conducted a one-way ANOVA. Verifying our expectations, respondents’ attitudes toward the anthropomorphic ads were significantly higher ($M_{\text{anthropomorphic}}= 5.09$) than the non-anthropomorphic ads ($M_{\text{non-anthropomorphic}}= 4.29$) [$F(3,396)= 18.465, p = 0.000$].

After that, the type of the need that was satisfied by camera and ice cream was tested. T-test results showed that the camera mainly satisfied the utilitarian type of need, whereas the ice cream satisfied the hedonic type of the need, as intended in research design [$t(398)= 3.629, p= 0.000 < 0.05; M_{\text{Icecream}}= 5.13; M_{\text{Camera}}= 4.68$]. Then, respondents’ attitudes toward the anthropomorphic and non-anthropomorphic ads were tested with regard to the different product groups. The results showed that attitudes toward the anthropomorphic ads ($M_{\text{Icecream}}= 5.35; M_{\text{Camera}}= 4.83$) was significantly higher than the non-anthropomorphic ads ($M_{\text{Icecream}}= 4.45; M_{\text{Camera}}= 4.15$) in both product categories [$t_{\text{Type}}(398)= 3.262, p= 0.000 < 0.01$ and $t_{\text{Anthropomorphism}}(398)= 6.475, p= 0.000 < 0.01$]. So, as can be seen from the Table 3, results indicate the manipulations operated in the intended manner.

Table 3. The Manipulation Check for Anthropomorphism

	Ice-cream	Camera	Total
Anthropomorphized	$M_{\text{Icecream}}= 5.35$	$M_{\text{Camera}}= 4.83$	5.09
Non-Anthropomorphized	$M_{\text{Icecream}}= 4.45$	$M_{\text{Camera}}= 4.15$	4.29
Total	$M_{\text{Icecream}}= 4.91$	$M_{\text{Camera}}= 4.49$	4.70

5.2. Hypothesis Testing

As can be seen in the research hypotheses, independent variable of this study is availability of anthropomorphism in ads, moderator variables are the product involvement level, and product type, whereas the dependents are attitude toward the brand and brand recall.

In this context we mainly investigated that whether using anthropomorphism in ads stimulates active information processing by increasing attention paid to the brand and creates some positive results on brand recall and attitude toward the brand. Additionally, we explored that whether and how product involvement and product type can moderate the importance of anthropomorphism when subjects evaluate attitude toward the brand and brand recall. To this end, we tested these hypotheses using two-way ANOVA with interactions both moderator variables. Before the main analysis, considering the equality of variances, Levene’s test for equality of variances was conducted. Test results showed no significant differences in variance between groups, [$F(7, 392)= 1.129, p= 0.344 > 0.01$] and so equal variances could be assumed.

Hypothesis 1a proposed that anthropomorphic ads (versus non-anthropomorphic ads) will create better results in attitude toward the brand. As can be seen in Table 4, it was found that there was a simple main effect of availability of anthropomorphism and product type on attitude toward the brand respectively [$F(1, 392)= 142.170$ and $F(T 1, 392)= 3.920, p < 0.01$] whereas, there was no direct

effect of product involvement on attitude toward the brand [F(1, 392)= 21.683, $p > 0.01$]. Moreover, when the same hypothesis was tested on two different product groups, test results show that attitude toward the brand that used anthropomorphic ads ($M_{Icecream} = 5.83$; $M_{Camera} = 4.79$) was significantly higher than attitude toward the brand that not used anthropomorphic ads ($M_{Icecream} = 4.17$; $M_{Camera} = 4.07$) in both product categories. Thus, H1a is supported. [F(3, 396)= 71.514, $p = 0.000 < 0.01$].

Table 4. Two-Way and Three-Way ANOVA Results for Attitude toward the Brand

Independent Variable	Dependent variable	df	Mean square	F	Sig.	Partial eta squared
Anthropomorphism (A)	ATB	1	126.564	142.170	.000	.266
Product Type (T)	ATB	1	19.303	21.683	.000	.053
Involvement (I)	ATB	1	3.490	3.920	.048	.010
A * T	ATB	1	12.713	14.281	.000	.035
A * I	ATB	1	10.592	11.898	.001	.029
A * T * I	ATB	2	1.488	1.672	.189	.008
Error	ATB	392	.890			

Note. ATB: attitude toward the brand; $R^2(ATB) = 0.369$

In hypothesis 2a we investigated whether and how the product type can moderate the importance of anthropomorphism when subjects evaluate attitude toward the brand. Thus the moderating effect of product type on the relationship between availability of anthropomorphism and attitude toward the brand was tested using a two way Anova. Results showed that (See Table 4) product type does not only predict attitude toward the brand alone, but also as an interaction term. In other words, two way interaction between availability of anthropomorphism and product type has a statistically significant effect on attitude toward the brand [F(1, 392)= 14.281, $p < 0.01$]. As expected, consumers were found to be more positively influenced by anthropomorphized ads for hedonic products in their attitude toward the brand perceptions ($M = 5.72$) than the anthropomorphized ads for utilitarian products ($M = 4.88$). Figure 2 provides a graphic presentation of product type interaction effects with anthropomorphism on attitude toward the brand using the slope analysis. As can be seen in Figure 2, the results of slope analysis indicate that regardless of product type, availability of anthropomorphism in visual ads contributes to the attitude toward the brand in a positive way. However, as consistent with our expectations, contribution of anthropomorphic ads to the attitude toward the brand is higher for hedonic products. Thus, H2a received support.

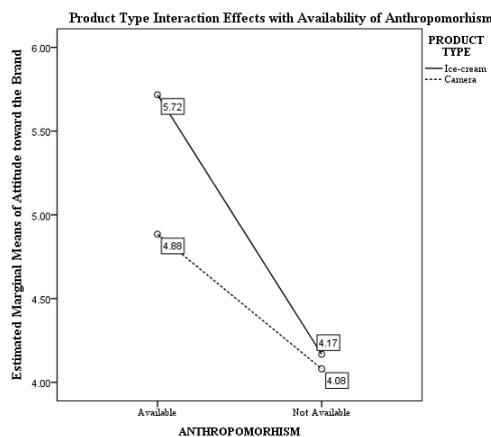


Figure 2. Moderation of Product Type on Availability of Anthropomorphism – Attitude toward the Brand Relationship

Then we tested whether product involvement negatively moderates the relationship between availability of anthropomorphism-attitude toward the brand. Research results showed that (See Table 4) for product involvement, no main effect was observed on attitude toward the brand. However, two-way interaction between the availability of anthropomorphism and product involvement level has a statistically significant effect on the attitude toward the brand [$F(1, 392)= 11.898, p > 0.01$].

In the follow up slope analysis, we compared attitudes toward the brand in response to the both anthropomorphic and non-anthropomorphic ads under high and low levels of product involvement. Results indicated that (see Figure 3) when product involvement is low, anthropomorphic ad has a stronger impact on attitude toward the brand. On the other hand, consumers with high involvement were found to be less influenced by the availability of anthropomorphic ad in their attitude toward the brand ($M=5.03$) than those with low involvement ($M= 5.57$). Moreover, these differences were statistically significant. Thus H3a is also supported.

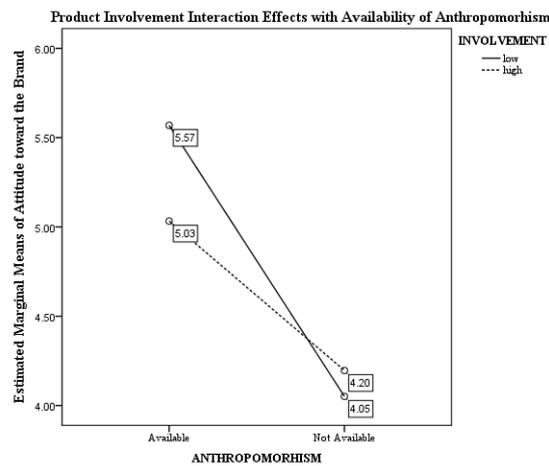


Figure 3. *Product Involvement Interaction Effects with Anthropomorphism on Attitude toward the Brand*

In order to explore the relationships in a holistic way, we also investigated interaction effects of product involvement, type of the need, and availability of anthropomorphism and conducted a three-way ANOVA. Results showed that contrary to the two way interactions, three way interaction was not statistically significant [$F(2,392)= 1.672, p > 0.01$]. Although three-way interaction is not statistically significant, in order to understand two way interactions better follow-up slope analysis results were also presented.

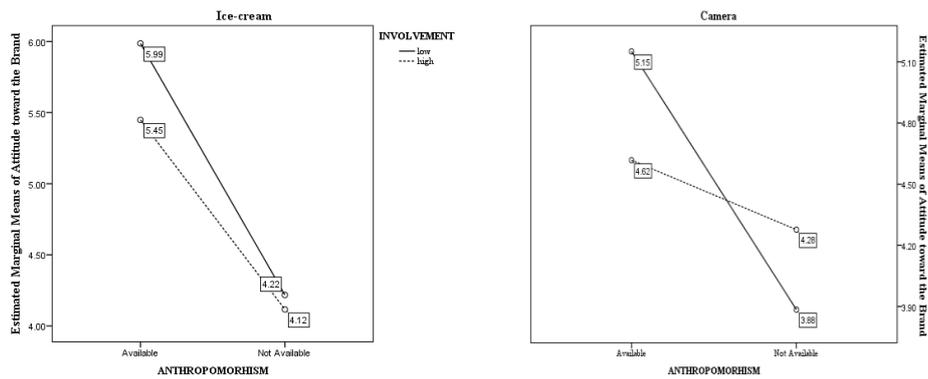


Figure 4. Interaction Effects of Product Involvement, Type of the Need, and Availability of Anthropomorphism on Attitude toward the Brand

As can be seen graphically in Figure 4, for ice cream, when product involvement is low, the slope representing the availability of anthropomorphism and attitude toward the brand relationship is steeper than when product involvement is high. That is, for the hedonic products when product involvement is low, the availability of anthropomorphic ad can create a stronger impact on attitude toward the brand. However, when the two different versions of the slope analysis (for hedonic and utilitarian need) were compared, it can be seen graphically that, for camera representing the type of utilitarian need, curves are flatter indicating that contribution of anthropomorphic ads to the attitude toward the brand is lower for utilitarian products. Additionally as parallel to the hedonic products, when product involvement is low, the availability of anthropomorphic ad has a stronger impact on attitude toward the brand for utilitarian products, However, when product involvement is high in utilitarian product, availability of anthropomorphic ad did not lead a statistically significant difference on attitude toward the brand. Consequently, verifying test results of H2a and H3a, results emphasizes the importance of involvement and the type of need on the efficiency of anthropomorphized ads.

Then same analyses were repeated for brand recall. As mentioned before, brand recall was measured after one week of the experiment with two open-ended questions. Brand recall was assessed by two variables: 1) the degree to which brand name was memorable and 2) whether the brand associations (which were also measured in the experiment time) were enduring. Following the method of Freling & Forbes (2005, p. 407), the accuracy of responses to the memory question and consistency of cognitive responses across measurement times were used to measure the strength of respondents' brand recall. Authors of this study independently converted the strength of respondents' brand recalls to a five-point scale. Then median levels of agreement between two researchers were explored in order to see the level of consistency among the two. Ranging from 89%-100% results mainly verified the reliability of the scale.

Before hypothesis testing, homogeneity of variances was analyzed using the Levene's test, and results indicated that variances among the groups were homogeneous [$F(7, 392) = 2.016, p = 0.052 > 0.01$]. Results showed that (See Table 5) although the main effect of availability of anthropomorphism on brand recall was significant [$F(1, 392) = 10.346, p < 0.01$] there was no direct effect of product involvement and product type on brand recall [$F(I, 394) = 3.054, F(T, 1,394) = 7.777, p > 0.01$]. Moreover, when the same hypothesis was tested on two different product groups, results showed that brand recall of anthropomorphic ads ($M_{Icecream} = 4.66; M_{Camera} = 4.14$) was significantly higher than brand recall of non-

anthropomorphic ads ($M_{Icecream} = 3.81$; $M_{Camera} = 3.77$) in both product categories. [$F(3,396) = 61.397$, $p = 0.000 < 0.01$]. Thus H1b is supported.

Table 5. Two-Way and Three-Way ANOVA Results for Brand Recall

Independent Variable	Dependent variable	df	Mean square	F	Sig.	Partial eta squared
Anthropomorphism (A)	BR	1	34.730	129.275	.000	.248
Product Type (T)	BR	1	4.604	17.137	.000	.042
Involvement (I)	BR	1	.574	2.136	.145	.005
A * T	BR	1	3.430	12.769	.000	.032
A * I	BR	1	3.140	11.689	.001	.029
A * T* I	BR	2	.540	2.009	.136	.010
Error	BR	392	.269			

Note. BR: brand recall; $R^2(ATB) = 0.335$

With regard to Hypothesis 2b, two-way ANOVA results also suggested that product type moderates the relationship between availability of anthropomorphism and brand recall [$F(1, 392) = 12.769$, $p < 0.01$].

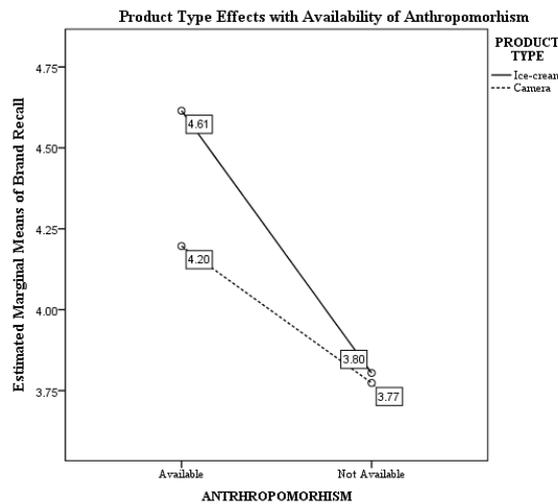


Figure 5. Moderation of Product Type on Availability of Anthropomorphism – Brand Recall Relationship

As can be seen in slope analysis on Figure 5, for the hedonic product ice cream, consumers’ brand recalls are stronger toward anthropomorphic ads ($M = 4.61$) than non-anthropomorphic ads ($M = 3.80$). On the other hand, for the utilitarian product camera, brand recalls are slightly stronger for anthropomorphic ads ($M = 4.20$) than non-anthropomorphic ads ($M = 3.77$). Since the results mainly supported that for utilitarian products, consumers are less likely to be affected by the availability of anthropomorphism in their brand recall than for the hedonic products, thus H2b is accepted.

In hypothesis 3b we investigated whether and how the product involvement can moderate the importance of anthropomorphism with regard to subjects’ brand recall. Research results showed that (See Table 5) for product involvement, no main effect was observed on brand recall. However, two-way interaction between the availability of anthropomorphism and product involvement level has a statistically significant effect on the brand recall [$F(1, 392) = 11.689$, $p < 0.01$]. Slope analysis (See Figure 6) also verified that product involvement negatively moderates the relationship between availability of anthropomorphism and brand recall.

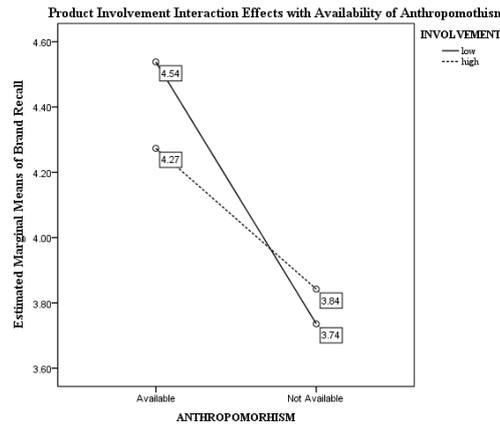


Figure 6. Product Involvement Interaction Effects with Anthropomorphism on Brand Recall

Results indicated that (see Figure 5) when product involvement is low, anthropomorphic ad has a stronger impact on brand recall (M= 4.54). As opposite, highly involved consumers were found to be less influenced by the availability of anthropomorphic ad in their brand recalls (M= 4.27). Moreover, these differences were statistically significant [F (1, 392)= 11.689, p< 0.01]. Results emphasize significance of involvement level besides anthropomorphism on brand recall. Thus H3b is also accepted.

When we tested interaction between product involvement, type of the need, and availability of anthropomorphism, ANOVA results showed that three way interaction was not statistically significant [F(2, 292)= 2.009, p> 0.01] on brand recall. Nonetheless, in order to understand two-way interactions better follow-up slope analysis result was also presented.

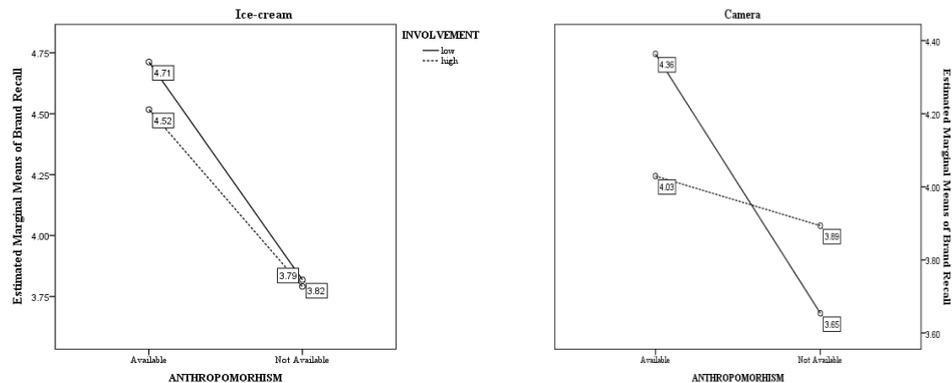


Figure 7. Interaction Effects of Product Involvement, Type of the Need, and Availability of Anthropomorphism on Brand Recall

As can be seen in Figure 7, for hedonic product, when product involvement is low, the slope representing the availability of anthropomorphism and attitude toward the brand relationship is steeper than when product involvement is high. This result implies that for the hedonic products when product involvement is low, the availability of anthropomorphic ad can create a stronger impact on brand recall. When we compared two different versions of the slope analysis for hedonic and utilitarian need respectively, we see that for utilitarian products, curves are flatter than hedonic products. This result may indicate that anthropomorphic ads can create better results in hedonic products than utilitarian with regard to advertising efficiency. Additionally, from slope analysis it can be seen that when product

involvement is low, the availability of anthropomorphic ad has a stronger impact on brand recall for utilitarian products. However, when product involvement is high in utilitarian product, availability of anthropomorphic ad did not lead a significant difference on brand recall when compared with the slope where product involvement is low. Although these results were not statistically significant, it helps to develop an understanding toward to way interactions between the variables.

6. Discussion

Despite some limitations, the results of this study provide three important implications for both academicians and practitioners. First, consistent with the main body of past studies (Delbaere et al., 2011; Gelbrich et al., 2012) results confirmed that anthropomorphic ads can create significantly higher results than the non-anthropomorphic ads with regard to attitude toward the ad, attitude toward the brand and brand recall.

Second, the findings of this study validate the significance of the type of consumer need on anthropomorphism's efficiency on advertising. Results revealed that regardless of the type of consumer need, availability of anthropomorphism in visual ads contributes to the both attitude toward the brand and brand recall in a positive way. However, contribution of anthropomorphic ads to the brand is higher for hedonic products. In other words, for the utilitarian products, consumers are less likely to be affected by the availability of anthropomorphism in not only their attitude toward the brand but also their brand recall than for the hedonic products.

Finally, through this study it was revealed that, product involvement negatively moderates the anthropomorphism's efficiency on advertising. More specifically, results support that when product involvement is low, the availability of anthropomorphic ad has a stronger impact on both attitude toward the brand and brand recall. So as parallel to previous studies, we can conclude that both product involvement and the type of consumer need can influence the manner in which consumer process advertising information (Petty et al., 1983; Rossiter & Percy, 1985; MacInnis & Price, 1987; MacInnis & Jaworski, 1989; D'astous & Ahmed, 1999; Ahmed et al., 2004; Thompson & Hamilton, 2006).

To our knowledge, the roles of anthropomorphism, product involvement and the type of consumer need on advertising efficiency have not been simultaneously included in the same research model in previous empirical studies. So, as the original contribution of this paper, this study investigates the interaction effects of product involvement and the type of consumer need on the effectiveness of anthropomorphic ads in terms of strengthening brand recall and creating more positive attitude toward the brand.

However, the study has several limitations. First of all, our findings were based on an experiment run in a laboratory setting. Given the complexity of the actual environment, responses to a hypothetical brand's story board may not fully reflect all environmental settings. Thus, the magnitude of these findings may differ from those that exist in the actual media advertisements for actual brands. Moreover, we used story boards instead of actual visual ads and/or television ads with live action and a soundtrack. Thus future research using real advertisements instead of story boards is needed in exploring anthropomorphism's efficiency on advertising. Second, it should be noted that these results were drawn from a relatively small sample of student data. So future research should attempt to broaden the sample and thus achieve greater representation of the general population. Third, since we used only two products, the camera representing the type of utilitarian need and the ice cream representing the type of hedonic need. So before generalizing the results,

in future studies our analysis should be replicated for different products in other product categories to add further evidence to the moderator role of the type of consumer need. Finally, within this study, the roles of anthropomorphism, product involvement and the type of consumer need on advertising efficiency were tested with regard to only two dependent variables: attitude toward the brand and brand recall. Possible effects of these independent variables on other dependent variables (particularly attitude toward the ad, ad recall and also other favorable behavioral intentions toward the ad and brand) were not investigated. Thus, from a managerial point of view, it would be meaningful to explore the effects of anthropomorphism considering many other dimensions of the advertising effectiveness.

Managerial Implications

From managerial point of view, the paper has several implications. First, these findings in unison offer important insights to practitioners on their ways to build an effective advertising message. In this context, messages of anthropomorphic advertisements should be designed upon the targeted consumers' involvement levels and type of need that will be satisfied. As a result, maximum effectiveness of marketing communication can be achieved only if more proper segmentation can be performed with regard to these variables. Second, relatively for consumers who are not highly involved with a hedonic product category, anthropomorphic advertisements may operate best. In other words, marketing communications targeted at hedonic type of consumer needs for low involved consumers should especially utilize anthropomorphic agents in advertisements.

In terms of involvement regarding the marketing communication practices, several strategies can be discussed (Loudon & Bitta, 1993, p. 346-47). Exemplifying this, marketing communication practices can be differentiated according to involvement level of groups. In this context, market can be segmented into low and high involved consumers and a specific marketing program can be developed for each groups. For instance, marketing communication toward highly involved consumers necessitates more intensive and sometimes more complex information. Thus, printed media can be a more suitable medium of communication for such groups. In case of lowly involved consumers, visual messages, shorter and less informative expressions are favored. In such situations, visual media such as TV emerges as a more accurate medium of communication. Since our findings strongly imply that availability of anthropomorphic ad has a stronger impact on both attitude toward the brand and brand recall when involvement is low, visual media can be evaluated as the appropriate medium for anthropomorphic advertisements.

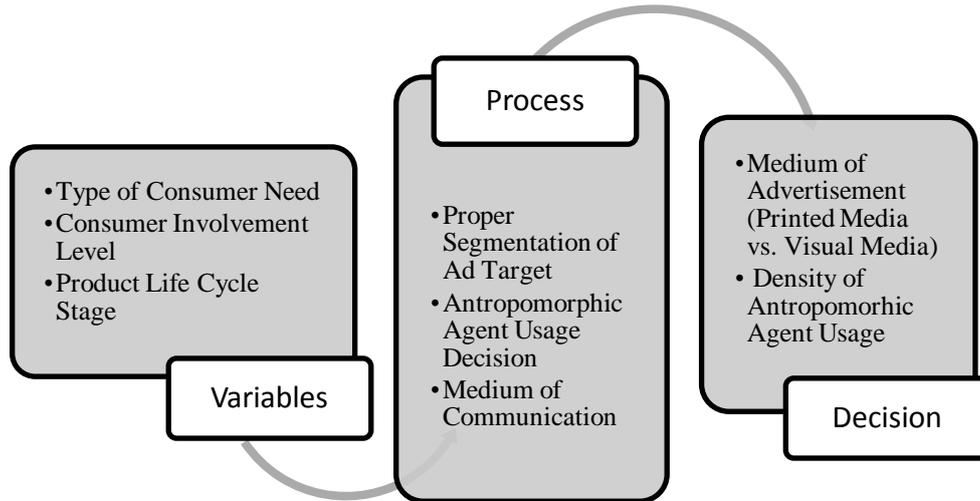


Figure 8. Managerial Implication Process

Considering the differences found with regard to low and high involvement, it would appear that marketers should determine the level of involvement consumers in the market for the existing product and/or the product class. Based on the results of the study presented in this paper, there will be significant differences on similarity judgments of products within these different segments also when new products are introduced into the market (Baker et al., 2002)

Implementers also should consider how and why they use anthropomorphic agents in their ad campaigns. Di Salvo et al. (2005) determine 4 types of anthropomorphic form as structural, gestural, character and aware anthropomorphic forms. These different types of anthropomorphic forms serve best for specific types of products and with specific advertisement messages. For instance, cosmetic products with a femininity feature should use structural anthropomorphic form as gestural anthropomorphic form may serve best for baby-care products.

Di Salvo & Gemperle (2003) also suggest a dual-structure according to the product feature emphasized by the anthropomorphic form used. Seductive anthropomorphic forms may be used for hedonic product types as they emphasize an enjoyable experience promise, fulfilling anthropomorphic forms may serve best for utilitarian products as they feature the purpose and function of a product or design.

From a general point of view, the results not only support that anthropomorphism could increase attention in advertisements but also emphasize the significance of context-specific factors in consumer perceptions.

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