

Animal and Human Models in Advertising:

How can we influence the consumer decision making journey?

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Abstract

For decades, animals have been widely used in advertisements, and yet little is known about the effects on consumer reactions along the entire purchase decision process. This study disentangles the effects of using animal stimuli in isolation or jointly with a human model in print advertisements. Empirical evidence is derived from 126,220 consumer evaluations of 302 actual print advertisements across 18 product categories. Animals do not only support a positive attitude change, they also influence how products integrate into consumers' relevant set and the purchase intention by itself. By comparison, female consumers react more pronounced than their male counterparts on animal stimuli. However, it should be avoided to combine an animal stimulus with a human model to preserve a better influence over consumer reaction.

Keywords: animal, advertisement effectiveness, meaning transfer, human model, consumer gender, animal-human relation

Management Slant

1. Advertisers should use animal stimuli only after careful consideration of specific advertising objectives and gender of the target audience.
2. Animals in advertisements can help to steer positive attitude change, integration of brand into the evoked set and augmenting purchase intention.
3. Animal stimuli have limited effects in the early stages of decision making, they should even be avoided for creating awareness or influencing information search intention.

4. Comparing gender, animal stimuli exert a higher positive effect on female consumers than their male counterparts.
5. Advertisers should use animal stimuli without presence of a human model, especially if the objective is to trigger the later stages of consumer decision-making.

INTRODUCTION

According to the old adage, “If the ad campaign is not working, first show the kid, then show the dog” (Spears, Mowen, and Chakraborty, 1996, p. 87), marketers have used animals in different advertisement settings to influence consumer reaction (Lancendorfer, 2014). It is commonly believed that animals are effective communication stimuli, because they are inherently likable and communicate a culturally pronounced meaning to consumers (Burton and Collins, 2015; Spears, Mowen, and Chakraborty, 1996). Accordingly, advertisers have used animal stimuli since long. Prominent examples are the dog “Spuds MacKenzie” in an advertising campaign for Bud Light beer in the late 1980s or a chimp testimonial for sport shirts, which has been used for decades by Trigema, Germany’s largest manufacture of sports wear. More recently, a Super Bowl commercial of Chobani featuring a furry friend hit the charts in Youtube. Based on the wide-spread usage of animals, specialized online agencies emerged that provide animal casting for advertising and promotional productions (Roue, 2017).

Despite the widespread use of animals in advertising (Dessart, 2018), there is a clear lack of robust empirical evidence that unravels how the use of animal stimuli affect consumer reactions. Long ago, Aylesworth, Chapman, and Dobscha (1999) suggested that the “effect of using animals in advertising ... are areas in which both researchers and practitioners should have a keen interest,” and yet we are aware of only two prominent studies that examined the extent to which animal usage in advertisements affected consumer reactions. The first study of Lancendorfer, Atkin, and Reece (2008) has limited generalizability,

because it derives its findings from a relatively small sample size of student participants, a fictitious advertisement concerning a well-known credit card brand, different visual cues for the treatment and control groups, respectively, and only a single animal stimulus (a dog). Only recently, a second study of Dessart (2018) highlights a specific aspect of animal usage – the integration into a richer storyline context – by an analysis of Youtube videos in two different experimental settings.

Advertisements do not only use an animal on its own, but often combine it with a human model to influence consumer reactions. There are no empirical studies that describe and compare the effects of using only animal stimuli versus using animal stimuli together with a human model. Past studies also ignored any moderating role that consumer gender can play in the relationship between animal stimuli and consumer reactions (see e.g. studies conducted by Lancendorfer, Atkin, and Reece (2008) and Dessart (2018)). This is in stark contrast to the broader advertising literature, which offers robust empirical evidence of gender effects across various marketing communication contexts (Alreck, Settle and Belch 1982; Brunel and Nelson 2003; Wolin 2003).

This study systematically investigates the effectiveness of using animal stimuli—by themselves or together with a human model in print advertising—at five different stages of the consumers' decision-making process and moderated by consumer gender. This fills the vacuum in advertising research, which Aylesworth, Chapman, and Dobscha (1999) identified two decades ago and echoed recently by Dessart (2018). Empirical data originate from a major German print media's (Ad Impact Monitor) large-scale market research initiative. The large-scale sample, which consists of real advertisements, offers unique empirical advantages in terms of external validity and generalizability. The results also help to measure the effects of using animal stimuli in print advertisements at five different stages of the consumers'

decision-making journey, facilitating advertisers to use animal stimuli to achieve desired responses from their target group (Vakratsas and Ambler, 1999).

LITERATURE REVIEW

Human-animal relationships

Animals play diverse roles, ranging from a friend or a family member to an effective medical cure (Belk, 1996; Hirschman, 1994). Various disciplines, such as psychology (Berryman, Howells, and Lloyd-Evans, 1985; Crossman, 2017), sociology (Fox, 2006; Sanders, 1990; Sanders and Arluke, 1993), and veterinary medicine (Gazzano et al., 2013) have investigated human-animal relationships from several perspectives, thereby showing that animals are often an important life companion (Aylesworth, Chapman, and Dobscha, 1999; Hills, 1993) and are considered by many people as an extension of the self (Belk, 1988; Jyrinki and Leipamaa-Leskinen, 2005; Sanders, 1990). Holbrook et al. (2001) reported that animals enrich the lives of humans by offering deep and involved experiences—not only about care and playfulness, but also about learning, altruism, parenting and strengthening bonds with other humans.

As a result, it appears that quite often, a person goes the extra mile to strengthen the bond with an animal by, for example, spending large sums of money on the animal's well-being or ignoring the animal's destructive behavior (Brown, 2004). It also appears that animals help build social connections and facilitate entrance into a new group (Robins, Sanders, and Cahill, 1991). Brickel (1986) even suggests that a human-animal relationship is more consistent and reliable than the relationship between humans. Certain studies also suggest that animal owners often have, by comparison, a less healthy relationship with other humans than with their pet (Cameron and Mattson, 1972) and view an animal as a substitute for children, siblings, or friends (Serpell, 2002). A deep association with animals results in

pet owners deeply mourning the death of a beloved animal, which is similar to the feeling of grief associated with the death of a person (Gerwolls and Labott, 1994).

Animals in advertising and emotional contagion

Prior marketing studies have investigated the attitude of consumers towards specific animals (e.g., Amyx, 2017; Cicchirillo and Jhih-Shyan, 2011; Pashupati, 2009), animal protection and welfare promotion (e.g., Feng and Morris, 2016; Waller, 2010), human-pet relationships (e.g., Dotson and Hyatt, 2008) and pet owners' consumption behavior (e.g., Cavanaugh, Leonard, and Scammon, 2008; Hill, Gaines, and Wilson, 2008; Mosteller, 2008).

Within the advertising literature, scholars have paid attention to the type, as well as the number of times, that various animals are used (Bush, Hair Jr, and Bush, 1983; Mayo, Mayo, and Helms, 2009; Spears, Mowen, and Chakraborty, 1996;). They have also paid attention to the representation of animals (Burton and Collins, 2015; Kennedy and McGarvey, 2008; Lerner and Kalof, 1999), the anthropomorphic characterization of animals (Brown, 2010; Callcott and Lee, 1994; Connell, 2011), and the various ways in which specifically dogs in advertisements influence the consumers' reactions (Lancendorfer, Atkin, and Reece, 2008). Burton and Collins (2015) argue that marketers do not only use animals as advertisement stimuli; advertising also shapes the discourses about animals and human-animal relations.

Animals are often used in various advertisements either in their real form, or as a cartoon, to positively influence brand association (Phillips and Gyoeirick, 1999). An early example reaches back to the Song Dynasty (960-1127) in China, where an animal symbol, the White Rabbit, was used by a manufacturer of sewing needles as a brand symbol with mythic properties to facilitate brand recognition in settings of limited literacy (Eckhardt and Bengtsson, 2010). Nowadays, the Super Bowl advertisers in the USA use animals extensively as animals are expected to be a significant predictor of advertising likeability (Kim, Freling,

and Grisaffe 2013; Yelkur et al. 2013). Emotional contagion is a key mechanism that brings about this process of emotional transfer (Berg, Soderlund, and Lindstrom, 2015; Hatfield, Cacioppo, and Rapson, 1993). Research shows that emotional contagion occurs at both conscious and unconscious levels (Howard and Gengler, 2001); even exposure to a photo or a video can induce receiver emotions that correspond with the emotions displayed in the stimuli (Hatfield, Cacioppo, and Rapson, 1993; Neumann and Strack, 2000). Animals are deeply embedded in human development, thus a strong emotional contagion in the exchange between humans and pets has been documented (Sümeği, Oláh, and Topál, 2014). A mere exposure to pictures of fearful wild animals like bears and wolves elicits strong physiological responses in humans (Flykt et al., 2013) and cause feeling of fear and negative reaction (Waters and Lipp, 2008). On the contrary, the presence of happy household animals easily evokes positive emotional reactions, spreading out to the overall mood (Barker and Wolen, 2008) and specific feelings (McConnell et al., 2011). Accordingly, various brands, such as Budweiser in the USA and Trigema in Germany, successfully used animals in marketing communication campaigns to generate consumer interest and influence consumer reaction via emotional contagion.

Braunsberger (2014) measured the initial and carry-over effects of a video advertisement, which was developed by an animal welfare organization to educate the public about seal hunting in Canada. The results show that the respondents' level of opposition, as well as their willingness to join a Canadian seafood boycott, were significantly higher after being exposed to the advertisement and sustained—even after two months. Lancendorfer, Atkin, and Reece (2008) used a dog in a fictitious print advertisement of a well-known credit card brand and found that the dog's presence caused a positive feeling towards the advertisement. Drawing from this body of research, we hypothesize that using an animal in a

print advertisement (without human presence) will result in positive consumer reactions at the early stages of decision-making.

H1: The use of animal stimuli in print advertisements have a positive effect on the early stages of the consumers' decision-making journey (i.e., closer ad examination and information search intentions).

Animals in advertising and meaning transfer

Mythologies across cultures, ranging from China to Scandinavia, use animals as symbols (Robin, 1970) and this appears to be highly effective in various contexts to transmit culturally nuanced meanings (Morgado, 1993). Since the dawn of human civilization, humans drew pictures of animals on cave walls and rocks as symbols to transmit cultural meanings (Spears, Mowen, and Chakraborty, 1996). In fact, many brands (e.g., Jaguar, Puma, Playboy, Redbull, Lamborghini etc.) used characters based on animals to construct a specific meaning for the brand and to thereby influence the consumers' decision-making (Callcott and Lee 1995).

According to McCracken (1989) meaning transfer theory, cultural meaning—which is embedded in stimuli (e.g., a person, place, or event)—is transferred to the brand, thereby helping create a unique brand personality with its specific set of meanings. Subsequently, consumers identify the brand with those symbolic properties (Byrne, Whitehead, and Breen, 2003; Keller, 1991). Advertising is an especially powerful meaning-transfer mechanism, because it helps a product acquire a specific meaning (O'Mahony and Meenaghan, 1997). Advertisers, thus, often pair their brands with stimuli so that a specific positive meaning, which is associated with a stimulus, becomes part of a brand meaning, thereby strengthening brand equity (Campbell and Warren, 2012). In marketing, animals and animal characters are frequently used to transfer meanings to products and brands (Lloyd and Woodside, 2013). In the past, researchers explored the symbolic meaning of animal-human relations by studying how the relationship was portrayed in television programming (Paul, 1996), print media

(Alexander and Quinn, 2011), film (Hirschman and Sanders, 1997), and comic strips (Carmack, 1997).

Animals convey specific meanings (e.g., a lion for power or a bird for freedom) to consumers (Irvine and Arluke, 2017) and advertisers can rely on such meanings to evoke consumer response (McCracken, 1986; Phillips, 1996). For instance, advertisers frequently use animals, such as a tiger, to signify a meaning of strength across certain categories or communication contexts—whether it is human strength in cereal advertisements or the power of a car in gasoline advertisements (Stern, 1988). Gill and El Gamal (2014) using a sample of the US population reported that pet owners were more likely to own Puma brand of sports shoes, whose logo is conceptually related to the cat family. Lancendorfer, Atkin, and Reece (2008) accordingly reported that using an animal in advertisements is not only able to evoke positive emotions; it can also result in a positive attitude towards the brand, as well as the purchase intention of the respondents. Therefore, we hypothesize as follows:

H2. The use of animal stimuli in print advertisements have a positive effect on the later stages of consumer decision-making (i.e., a positive attitude change, integration into a relevant set, and purchase intention).

Animals, gender, and consumer reaction

With a few exceptions (Stevens, 1990), researchers found that the gender of the respondents plays an important role in determining the human-animal bond (Herzog, 2007). Although both male and female persons generally show the same proportion of animal ownership or zoo visits (Herzog 2007; Poresky and Daniels, 1998), most studies point out that females have a higher level of emotional intimacy and a stronger relationship with animals than males (e.g., Gerwolls and Labott, 1994; Holcomb, Williams, and Richards, 1985). For example, Dotson and Hyatt (2008) found that, compared to their male counterparts, females embrace dog-companionship significantly more on multiple experiential dimensions. Pifer, Shimizu,

and Pifer (1994) conducted a study in fifteen countries and found that - in respect of all the countries - females were more opposed to the idea of using animals in research than males. Gage and Holcomb (1991) surveyed couples whose animal companion died in the recent past and found that, compared to their husbands, the wives were more disturbed by the pet's death.

A recent meta-review (Herzog, 2007) found that females show higher levels of positive behavior and attitude towards animals (e.g., involved in animal protection), whereas males often exhibit negative attitudes and behaviors (e.g., hunting, animal abuse, and supporting animal research). Drawing from this body of research, we hypothesize that using animals (without human presence) in print advertisements will, compared to male respondents, trigger a higher positive consumer reaction in female respondents at all the stages of decision-making.

H3: Compared to male consumers, the use of animal stimuli in print advertisements have higher positive effects on female consumers at all stages of consumer decision-making.

Advertisements often use animals along with a human model—not only to portray the animal-human bond, but also to transfer the intended meaning of the relationship to a product or a brand. In this process, it generally appears that advertisers often combine an animal with a human model to demonstrate the animal-human bond and convey the desired meanings to the target audience in order to influence their behavior. For example, a dog or a horse is used together with a human companion to portray a strong emotional bond of love, companionship, and loyalty (Spears, Mowen, and Chakraborty, 1996). Then, the animal can become part of a larger storytelling context of the ad.

A very recent study in this area from Dessart (2018) found that the use of animals in such a context of richer storytelling can be dysfunctional for the advertised brand. She finds

that a convincing video advertisement narrative with animals can reduce brand identification and thus limit the positive attitude transfer toward the brand. Based on this recent counterintuitive finding and considering the lack of sufficient literature in print advertisement that compare the effects of advertising that display only animal stimuli with the effects of advertising that display an animal together with a human model, we propose the following, more exploratory hypothesis:

H4: The use of only an animal, as well as the use of an animal together with a human model in print advertisements, have similar positive effects at all the stages of consumer decision-making.

METHOD

Data collection and measurement

We evaluated the hypotheses by using secondary data received from Ad Impact Monitor, a market research initiative of major German print media companies. During 2013, Ad Impact Monitor assigned three market research agencies to survey between 4,000 and 8,200 consumers online, on a monthly basis. Each questionnaire showed the interviewees six actual print advertisements, which were taken from a pool of up to 120 advertisements placed in magazines during the previous month. A rotation of advertisements amongst the respondents prevented primacy and recency effects. Each respondent gave his or her evaluations of the six presented advertisements, as well as his or her resulting actions. The respondents were chosen on a per stratum basis of gender, age, degree, and residence to ensure an adequate population representation.

For this study, we selected—from 18 major product categories—advertisements, which displayed either animal stimuli, human models (control stimuli), or both, as empirical base. Although the advertisements covered a wide range of products and services, this analysis includes only advertisements that can facilitate a purchase. Non-profit associations

are therefore excluded from the sample. In total, we analyzed 126,220 consumer evaluations of 302 advertisements. Animals were used in 29 of these advertisements, of which 16 used only animal stimuli, while 13 used an animal along with a human model. The respondents, who consist of 52.3% male and 47.7% female persons, have an average age of 40 years, with 29.9% younger than 30 and 26.9% older than 50 years. Approximately one third of the respondents have a general qualification for university entrance or a university degree. The underlying sample therefore represents a broad spectrum of consumers.

The questionnaire-based research method is in accordance with prior research about advertising effectiveness and the use of questionnaires as an appropriate tool to identify intentions (e.g., Geuens, De Pelsmacker, and Fasseur 2011; Golden and Johnson, 1983). All in all, the data collection is based on actual advertisements, which cover a broad scope of product categories. It is also based on a large number of respondents with demographics that vary significantly. This setup, therefore, bestows a high external validity on this study.

The hierarchy of effects model, which was originally proposed by Lavidge and Steiner (1961), is used to measure how animals in print advertisements affect the five major steps of consumer decision-making, namely—in the following order—*awareness*, *knowledge*, *preference*, *conviction*, and *purchase* (Hansen, 2005). Variants of this hierarchy of effects model have not only helped clarify the consumers' decision-making journey; they have also helped deduce specific recommendations for marketing action (Barry, 1987; Jain et al., 2015). An advertisement is thus effectively designed if it supports the marketer in achieving any one, or a set of, the advertising objectives. For example, a marketer with a relatively new product can prefer to create awareness by disseminating information about its benefits among potential users, whereas a marketer of a well-established product, which enjoys higher consumer awareness and knowledge, can try to directly influence the purchase intention of the target audiences.

In order to empirically assess the effectiveness of animals in print advertisements, this study differentiates between five specific consumer actions in context of the hierarchy of effects model. The results are derived at the level of the single persuasion stage and therefore most of the reasoning applies regardless of the specific sequence that the consumers go through. *Closer ad examination intention* is specifically used as an indicator of advertising awareness. *Information search intention* serves as an indicator to measure the process of creating *knowledge* about the product among the target audience. *Positive attitude change* signifies the advertising goal, namely an increased *liking* of a brand. Creating *preference* and building *conviction* are assessed by using *integration into a relevant set* as an indicator. *Purchase intention* serves as a proxy to measure the advertising goal, namely *purchase*. Respondents were asked to specify which of these five possible actions, if any, they would pursue after exposure to the advertising stimulus. Respondents were asked to choose one categorical response alternative in reaction to the advertisement stimuli and they did so with very few exceptions. Results were derived at the level of the single persuasion stage (closer ad examination to purchase intention) with “no action taken” served as an overall reference value in the analyses.

Since the hierarchy of effects model is more of a conceptualization than a prescriptive model (Vakratsas and Ambler, 1999), the action steps at the early stages of consumer decision-making do not invariably precede the action steps at the later stages. As such, the action steps of the consumers are interpreted as a nominal, rather than an ordinal, variable, which is in accordance with Teichert et al. (2018) and Trivedi and Teichert (In Press). In total, 6.8% of advertisement viewings resulted in an intention to engage in closer ad examination, 15.1% resulted in an information search intention, 6.8% led to a positive attitude change, 12.3% led to an integration into a relevant set, and 4.9% led to purchase intention. Approximately 54.1% of advertisement viewings led to none of these five actions.

There were very few cases of multiple answers (only 1.8% of the consumers reported more than one action) and we excluded these from the analysis.

ANALYSIS AND RESULTS

Using animals: Overall effect on consumer reactions

We applied a multinomial logit model to simultaneously investigate how the use of animals in print advertisements affects the five stages of consumer decision-making. We use advertisements, which contain human models (only), as a reference basis. The model shows a significantly improved model fit (significantly lower -2 log-likelihood) than a baseline model, with an Akaike's information criterion of 72.819 and a Schwarz's Bayesian information criterion of 24.09 (see Table 1). The overall statistical measures therefore confirm the adequacy of the model.

< insert Table 1 here >

Table 2 describes the logit parameter estimates in relation to a shared baseline of no consumer reaction. We find that advertisements, which use animals (without a human model), exert a significant positive effect on the later stages of decision-making—specifically positive attitude change ($b = 0.345$, $p < .01$), integration into a relevant set ($b = 0.435$, $p < .001$), and purchase intention ($b = 0.664$, $p < .001$). The effect is, however, not significant for closer ad examination and information search intentions. These results lead to a rejection of H1 and an acceptance of H2. The use of animals in print advertisements (without a human model) therefore positively influences only the three later stages of consumer decision-making, thereby signifying that the meaning transfer of animal stimuli in advertising is especially relevant.

< insert Table 2 here >

Analysis differentiated according to consumer gender

In order to investigate the hypothesized effect of consumer gender, we divided the sample into two groups of female and male consumers, respectively. Table 3 shows the results for the female consumers only. The effects of using animal stimuli, which effects remain largely unchanged at the later stages of decision-making, are significant for positive attitude change ($b = 0.421, p < .01$), integration into a relevant set ($b = 0.599, p < .001$), and purchase intention ($b = 0.623, p < .001$). In addition, the use of an animal in print advertisements (without a human model) significantly increases information search intention ($b = 0.309, p < .001$). Thus, animals have a positive impact on the early stages of the female consumers' decision-making as well.

< insert Table 3 here >

Compared to the female consumers, the analysis of the male consumers shows a very different picture during the early stages of decision-making (see Table 4): Here, the use of animal stimuli have a negative influence on information search intention ($b = -0.220, p < .05$). A display of animal stimuli in advertisements is therefore detrimental when addressing the early stages of the male consumers' decision-making. However, and in accordance with the females, animals in advertisements (without a human model) exert positive effects on the later stages of the male consumers' decision-making. The effect of an animal is significant for positive attitude change ($b = 0.279, p < .05$), integration into a relevant set ($b = 0.284, p < .01$), and purchase intention ($b = 0.696, p < .001$).

< insert Table 4 here >

Fig. 1 illustrates the 95% confidence intervals of odd ratios compared to the estimated effects that using animals (without a human model) in print advertisements have on the reactions of female and male consumers, respectively. The confidence intervals overlap in all the stages of consumer decision-making, except the stage of information search intention.

Here, the effect of displaying animal stimuli is positive for the female consumers and negative for the male consumers, thereby resulting in a partial acceptance of H3.

< insert Figure 1 here >

Comparing the effect of animals, with and without human models, on consumer response

Since advertisers can choose to either display only animal stimuli or to combine it with a human model, we enlarged the dataset and added advertisements that depict an animal together with a human model. Table 5 shows the results and it appears that the use of only animals in print advertisement has a significant positive effect on positive attitude change ($b = 0.348$, $p < .01$), integration into a relevant set ($b = 0.434$, $p < .001$), and purchase intention ($b = 0.674$, $p < .001$). The incremental effects of combining animal stimuli with a human model in print advertisements are of interest: This does not have any significant effect, because all the results are non-significant for the complete decision-making journey of the consumer.

< insert Table 5 here >

Fig. 2 shows the 95% confidence intervals of odd ratios compared to the estimated effects that using only animals or using animals with a human model in print advertisements will have on consumers' reactions. The figure illustrates that the confidence interval overlaps in both the initial stages of consumer reaction, that is closer ad examination and information search intention. Furthermore, compared to using a combination of animal and human stimuli in an advertisement, using only animal stimuli results in a significantly higher positive effect for positive attitude change, integration into consumers' relevant set, and purchase intention. This shows that advertisers should use animal stimuli without a human model, specifically when aiming to influence the later stages of the consumer decision-making process. This

results in a rejection of H4 and further illustrates the potentially problematic usage of animals in advertisement settings of elaborated storytelling (Dessart, 2018).

< insert Figure 2 here >

DISCUSSION, PRACTICAL IMPLICATIONS AND LIMITATIONS

The results of this study are, in numerous ways, insightful for practitioners and researchers. They reframe previous studies' findings about animal stimuli and advertisement effectiveness by differentiating between the effects of using only animal stimuli and combining it with a human model. Findings help advertisers to adjust their advertisement settings to better influence consumer reaction when using animal stimuli. Since gender of the target audience plays a key role, advertisers need to consider the gender of their target audience when designing print advertisements with animal stimuli. Whereas a previous study by Lancendorfer, Atkin, and Reece (2008) relied on a small sample size, student participants, and fictitious advertisements, this study benefits from a large sample of respondents with diverse backgrounds who evaluated actual advertisements across a broad spectrum of product categories. This signifies unparalleled external validity and generalizability.

Advertising effectiveness measured across five different stages starting from closer ad examination to purchase intention can guide practitioners and future studies that chart this avenue. The results clearly demonstrate that animal stimuli should not be used indiscriminately. They should rather be used for specific advertising objectives, while taking the gender of the target audience into consideration. It is important for an advertiser to first determine a campaign's advertising objectives, followed by the identification of the correct target audience. Then, the advertisers needs to decide whether or not animal stimuli will be used, followed by another decision, namely whether to use only animal stimuli or animal stimuli together with a human model.

The findings of this study do not concur with those of the study by Lancendorfer, Atkin and Reece (2008), and hints that animal stimuli displayed in print advertising having limited emotional contagion effects. Thus, advertisers will possibly not benefit significantly from using animal stimuli in print advertisements if they aim at creating product awareness or steering the information search intention of a target audience that consists of both genders. Animal stimuli appear to be a good medium when advertisers aim at influencing the later stages of consumer decision-making, beginning with positive attitude change and followed by integration into the relevant set, to the point of purchase intention. Through this, we can conclude that animal stimuli are effective in creating and transmitting a specific intended meaning to a brand (Callcott and Lee, 1995). In this regard, the findings of this study concur with those of previous studies (e.g., Campbell and Warren, 2012; Lloyd and Woodside, 2013; Phillips, 1996) and recommend using animal stimuli for creating a positive attitude towards a brand. Advertisers should select a specific animal that represents a culturally nuanced meaning (e.g. lion and strength or dog and trustworthiness) and use it consistently across campaigns to transfer the meaning to the brand, thus creating a strong bond with target audience seeking specific benefit from a product. The animal stimuli is also found to effectively influence purchase intention for both the gender, providing one more tool in advertiser's arsenal to augment sales and influence demand.

Advertisers have to be particularly careful in their decision about using animal stimuli when the advertisement's objective is to trigger the consumers' information search intention. Here, an animal stimulus influences the female consumers positively, but the male consumers negatively. This signifies that male and female consumers use different information search mechanisms when they inspect advertisement cues. Advertisers are recommended to use animal stimuli to augment information search intention only when the target audience broadly

consists of female consumers. This finding does, however, require further research, for example by using neurocognitive methods or implicit cognition measurements.

Contrary to expectations, the results indicate that advertisers are better off when using animal stimuli without a human model. This holds, because the combination of an animal with a human model did not significantly enhance the responses of the consumers (neither the male, nor the female consumers) for any of the five advertisement objectives. We can conclude that depicting a human-animal bond or affinity in an advertisement is generally not effective for stimulating consumer reactions in favour of the advertised product. This again signifies limited emotional contagion effects in advertisements. Advertisers should even avoid using human models along with animal stimuli in print advertisement if the objective is to trigger the later stages of consumer decision-making. Here, an animal stimuli can clearly better transmit brand meaning and struck the chord with the target audience.

Our research is not without limitations. Although animal anthropomorphism is often applied in advertising (Callcott and Lee, 1994), we have not used such advertisements in order to maintain stimuli homogeneity and comparability of findings with previous studies. This study has also not separately investigated the effects of different types of animals (e.g., pet animals, farm animals, or wild animals) on consumer reactions. Pet ownership status or animal affinity can also influence the effects and, therefore, future researchers are advised to investigate on these avenues to improve insights. Finally, the sample is restricted to print advertisements and, therefore, different effects can occur in different media settings.

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Table 1: Model fit

Model-fitting criteria			
	<i>AIC</i>	<i>BIC</i>	<i>-2 Log-Likelihood</i>
Only Intercept	177.152	225.881	167.152
Animal	104.333	201.791	84.333

Notes: AIC = Akaike's information criterion, and BIC = Bayesian information criterion.

Table 2: Animal and overall consumer reaction

	<i>B (SE)</i>	95% CI for odds ratio		
		<i>Lower</i>	<i>Odds ratio</i>	<i>Upper</i>
<i>Closer ad examination intention vs. no reaction</i>				
Intercept	-3.402 (.017)***			
Animal	-.049 (.101)	.781	.952	1.161
<i>Information search intention vs. no reaction</i>				
Intercept	-2.518 (.011)***			
Animal	.047 (.064)	.925	1.048	1.187
<i>Positive attitude change vs. no reaction</i>				
Intercept	-3.565 (.019)***			
Animal	.345 (.091)**	1.182	1.413	1.689
<i>Integration into a relevant set vs. no reaction</i>				
Intercept	-3.188 (.016)***			
Animal	.435 (.073)***	1.339	1.545	1.783
<i>Purchase intention vs. no reaction</i>				
Intercept	-3.923 (.023)***			
Animal	.664 (.094)***	1.617	1.943	2.334

* p < .05; ** p < .01; *** p < .001; n.s. = not significant. Notes: Advertisements not using animal stimuli serves as the base category.

Table 3: Animals in print advertisements and female consumer reactions

	<i>B (SE)</i>	95% CI for odds ratio		
		<i>Lower</i>	<i>Odds ratio</i>	<i>Upper</i>
<i>Closer ad examination intention vs. no reaction</i>				
Intercept	-3.384 (.025)***			
Animal	-.012 (.145)	.744	.988	1.312
<i>Information search intention vs. no reaction</i>				
Intercept	-2.581 (.017) ***			
Animal	.309 (.086)***	1.152	1.362	1.611
<i>Positive attitude change vs. no reaction</i>				
Intercept	-3.622 (.028) ***			
Animal	.421 (.133)**	1.175	1.524	1.976
<i>Integration into a relevant set vs. no reaction</i>				
Intercept	-3.254 (.023) ***			
Animal	.599 (.103)***	1.488	1.820	2.226
<i>Purchase intention vs. no reaction</i>				
Intercept	-3.944 (.033) ***			
Animal	.623 (.141)***	1.414	1.865	2.459

* p < .05; ** p < .01; *** p < .001; n.s. = not significant. Notes: Advertisements not using animal stimuli serves as the base category.

Table 4: Animals in print advertisements and male consumer reactions

	<i>B (SE)</i>	95% CI for odds ratio		
		<i>Lower</i>	<i>Odds ratio</i>	<i>Upper</i>
<i>Closer ad examination intention vs. no reaction</i>				
Intercept	-3.419 (.024)***			
Animal	-.082 (.142)	.698	.921	1.216
<i>Information search intention vs. no reaction</i>				
Intercept	-2.464 (.016) ***			
Animal	-.220 (.096)*	.665	.803	.968
<i>Positive attitude change vs. no reaction</i>				
Intercept	-3.516 (.026) ***			
Animal	.279 (.125)*	1.034	1.322	1.690
<i>Integration into a relevant set vs. no reaction</i>				
Intercept	-3.130 (.021) ***			
Animal	.284 (.104)**	1.083	1.329	1.629
<i>Purchase intention vs. no reaction</i>				
Intercept	-3.904 (.031) ***			
Animal	.696 (.125) ***	1.570	2.005	2.562

* p < .05; ** p < .01; *** p < .001; n.s. = not significant. Notes: Advertisements not using animal stimuli serves as the base category.

Table 5: Using only an animal, and using an animal along with a human model in print advertisements—consumer reactions

	<i>B (SE)</i>	95% CI for odds ratio		
		<i>Lower</i>	<i>Odds ratio</i>	<i>Upper</i>
<i>Closer ad examination intention vs. no reaction</i>				
Intercept	-3.407 (.018)***			
Only animal	-.044 (.101)	.785	.957	1.167
Animal and Human model	.081 (.071)	.944	1.085	1.246
<i>Information search intention vs. no reaction</i>				
Intercept	-2.517 (.012) ***			
Only animal	.045 (.064)	.924	1.046	1.185
Animal and Human model	-.030 (.049)	.882	.971	1.068
<i>Positive attitude change vs. no reaction</i>				
Intercept	-3.568 (.020) ***			
Only animal	.348 (.091) ***	1.184	1.416	1.693
Animal and Human model	.037 (.078)	.890	1.037	1.109
<i>Integration into a relevant set vs. no reaction</i>				
Intercept	-3.187 (.016) ***			
Only animal	.434 (.073) ***	1.337	1.543	1.781
Animal and Human model	-.016 (.067)	.864	.984	1.122
<i>Purchase intention vs. no reaction</i>				
Intercept	-3.933 (.023) ***			
Only animal	.674 (.094) ***	1.633	1.962	2.358
Animal and Human model	.151 (.089)	.977	1.162	1.383

* $p < .05$; ** $p < .01$; *** $p < .001$; n.s. = not significant. Notes: Advertisements not using animal stimuli serves as the base category.

Figure 1: Comparing the effect that using only animals (without human presence) in print advertisements will have on female and male consumers, based on odd ratios.

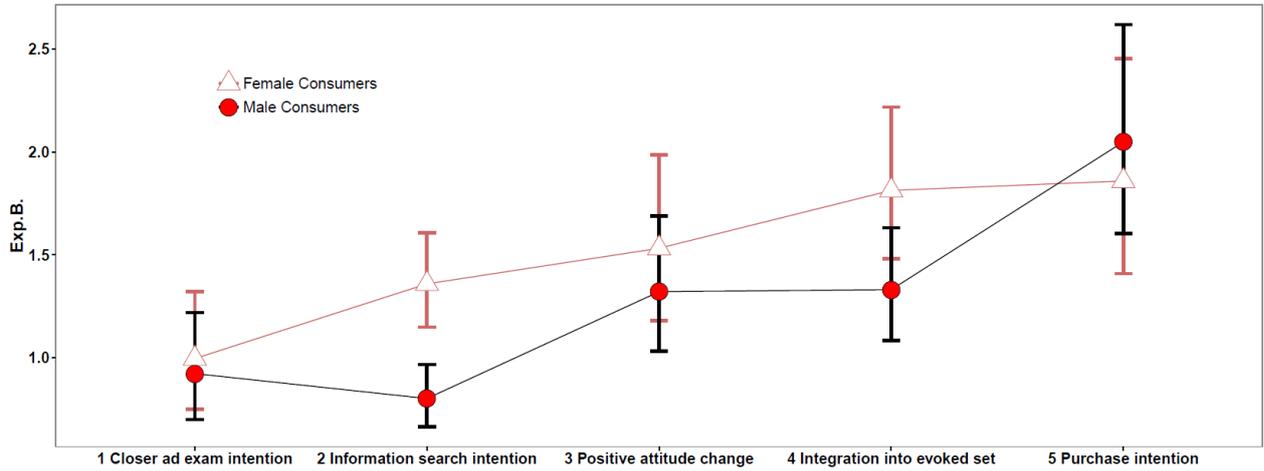


Figure 2: Comparing the effect of using only animals (without human presence) and animals with a human model in print advertisement, based on odd ratios.

