



The effect of ad smiles on consumer attitudes and intentions: Influence of model gender and consumer gender

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ABSTRACT

Firms widely use smiling models to create a positive background setting for advertisements. This study assesses the various effects of smiling in print advertisements across different stages of consumer decision-making, while also considering interaction effects between the genders of models and viewers. Empirical evidence comes from 175,647 consumer evaluations of 421 real advertisements across a broad spectrum of product categories (22). Beyond gender, a smiling model not only effects a positive attitude change but also influences a product's integration into a relevant set and a consumer's purchase intention. For female consumers, a smiling model of the same gender exerts a greater influence on positive brand attitude change and on purchase intention. Advertisers should avoid using non-smiling male models when targeting female consumers. In contrast, smiling models of both genders can positively influence male consumer reaction, while use of a female model should be avoided during the early stages.

1. Introduction

Smiling is a congruent and expected part of the human face schema (Baudouin, Gilibert, Sansone, & Tiberghien, 2000) and generally signifies a positive emotional experience (Elfenbein & Ambady, 2002). Marketers frequently use smiling models in their marketing communications, ranging from advertising to packaging, in an effort to positively influence consumer emotions. Emotional contagion theory suggests that the receiver feels the same emotions manifested by the sender when exposed to emotionally charged facial expressions such as smiling (Weißhaar & Huber, 2016). In addition, inferential processes may lead to even more far-reaching effects of smiling on consumer actions (Reis et al., 1990). In services marketing, a myriad of studies indicates that the mantra “service with a smile” is a frequently used tool to influence consumers' perceptions of service encounters (Andrzejewski & Mooney, 2016; Barger & Grandey, 2006; Keh, Ren, Hill, & Li, 2013) and end-gender consumer satisfaction (Söderlund & Rosengren, 2010).

In marketing communication research, few studies have systematically investigated the effects of smiling models on consumer actions. To our knowledge, only three recent studies in the field of marketing communications provide empirical evidence that exposure to a smiling endorser creates positive attitudes towards advertising and influences consumer actions. Berg, Soderlund, and Lindstrom (2015) found that pictures of smiling models increased consumer joy and improved

attitudes towards advertising. Kulczynski, Ilicic, and Baxter (2016) reported that advertisements with a smiling model resulted in increased feelings of pleasantness among consumers. Finally, Ilicic, Kulczynski, and Baxter (2016) showed that exposure to a smiling celebrity significantly increased consumer perceptions of that celebrity's genuineness. These studies provide initial managerial recommendations for employing endorsers in different media (Berg et al., 2015; Ilicic et al., 2016); however, they ignore any moderating role of model or consumer gender in the relationship between displayed smiling and consumer reactions. This lack is in stark contrast to the broader advertising literature, which provides robust empirical evidence of gender effects across various modes of marketing communication contexts (Eisend, Plagemann, & Sollwedel, 2014; Jain, Trivedi, Joshi, & Daswani, 2015).

Psychologists stress gender effects in the expression of emotions, especially non-verbal expressions (Tucker & Friedman, 1993). Broader behavioural research shows that gender differences exist in terms of smiling, as women tend to smile more often than men (LaFrance, Hecht, & Paluck, 2003) and also smile more at men than men smile at women (Henley, 1977). We find widespread evidence of gender-specific differences in the use and effects of smiling in personal communication (Zuckerman & Larrance, 1979). Therefore, the effect of model gender and consumer gender should be examined to further differentiate empirical insights (Berg et al., 2015; Kulczynski et al., 2016). This study systematically investigates the effectiveness of a smiling model in print

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advertising at different stages of consumer reaction, moderated by both model gender and consumer gender.

Advertisements are used to achieve a range of marketing objectives, from creating initial product awareness to initiating purchase action (Barry, 1987). However, previous studies measuring the effect of smiling on advertisement effectiveness (e.g., Berg et al., 2015; Ilicic et al., 2016) using laboratory-based experimental research settings have focused primarily on attitude towards advertisement and purchase intention. The effects on other intermediate, but nonetheless critical, steps in the consumer action journey, such as knowledge acquisition, brand preference and conviction, have received limited attention so far (Patti, Hartley, van Dessel, & Baack, 2017). This study aims to disentangle the effects of a smiling model in triggering different marketing objectives through the five steps of consumer response: awareness, comprehension, attitude change, conviction and action (Hansen, 2005; Scholten, 1996). This fine-grained differentiation of evoked consumer responses is needed to align scientific impact analyses of advertising effects with advertisers' underlying goal diversity (Vakratsas & Ambler, 1999). We thus differentiate five outcome variables according to the stages that consumers go through as they form brand or ad attitudes and intentions: (1) closer ad examination intention, (2) information search intention, (3) positive brand attitude change, (4) integration of brand into a relevant set, and (5) brand purchase intention.

The empirical data come from a large-scale market research initiative of a major German print media initiative (Ad Impact Monitor). Whereas previous studies measuring the effectiveness of smiling on consumer reactions draw their conclusions from small sample sizes (e.g., Ilicic et al., 2016), mostly consisting of student participants (e.g., Berg et al., 2015), and from a limited number of fictitious advertisements (e.g., Berg et al., 2015; Kulczynski et al., 2016), the current study benefits from a sample of 175,647 consumer evaluations of 421 real ads. Such a large-scale sample consisting of real advertisements offers unique empirical advantages in terms of external validity and generalisability and aids in the measurement of the advertising effectiveness of smiling models on the five types of consumer reactions.

2. Theoretical basis and hypotheses

2.1. Smiling, emotional contagion and inferential processes

People smile during a state of joy or happiness (Andrzejewski & Mooney, 2016; Puccinelli, Motyka, & Grewal, 2010) or when they are following a specific rule or norm (Rafaeli & Sutton, 1987). Smiling individuals appear more favourable in multiple communication dimensions (Krys et al., 2015). Smiling faces are recognised rapidly (Pixton, 2011) and are more closely linked to the feeling of joy than other facial expressions (Wallbott, 1991). A smile also positively influences interpersonal judgement (Wang, Mao, Li, & Liu, 2016); for example, other people tend to rate a smiling person higher in terms of sense of humour and to perceive him or her as more competent and honest (Hess, Beaupré, & Cheung, 2002), friendlier and warmer (Lau, 1982), happier (Otta, Lira, Delevati, Cesar, & Pires, 1994), more sociable (Matsumoto & Kudoh, 1993), more attractive (Reis et al., 1990), more trustworthy and communal (Krumhuber, Manstead, & Kappas, 2007), less dominant (Edinger & Patterson, 1983; Keating et al., 1981), and more optimistic, calm, and reliable (Hess et al., 2002; Otta et al., 1994). Conversely, smiling can also mask negative feelings, such as discomfort, embarrassment, or anxiety (LaFrance et al., 2003).

In summary, smiling serves an important communicatory function in social interactions. Senders' positive emotional experiences influence receivers' emotional responses (Doherty, 1997). Exposure to a smiling face engenders positive impressions and emotions among consumers (Kulczynski et al., 2016; Small & Verrochi, 2009). Emotional contagion is a key mechanism underlying this process of emotional transfer (Berg et al., 2015; Hatfield, Cacioppo, & Rapson, 1993) and refers to the process by which one person influences another person's behaviour

through conscious or unconscious induction of emotions (Schoenewolf, 1990, p. 50). Research shows that emotional contagion happens at both the conscious and subconscious levels (Kelly & Barsade, 2001; Totterdell, 2000); even exposure to a stranger's photo can induce receiver emotions congruent with the emotions the stranger displays (Hatfield et al., 1993; Neumann & Strack, 2000). Exposure to an image, video, or audio recording, as well as direct interactions, can also induce emotional contagion (Wild, Erb, & Bartels, 2001). According to Hatfield et al. (1993), expressed mood affects recipients through an automatic process that denotes a subconscious transfer of emotions from one person to another. Prior studies indicate that positive emotions such as happiness, and thereby, smiling, can be successfully transmitted across different cultures (e.g., Hsee, Hatfield, Carlson, & Chemtob, 1990; Surakka & Hietanen, 1998).

Moreover, empirical evidence suggests that smiling behaviour is not only emotionally contagious but also affects broader perceptions and attitude formation (e.g., Berg et al., 2015; Bertrand, Karlan, Mullainathan, Shafir, & Zinman, 2010; Pugh, 2001; Söderlund & Rosengren, 2003). Research finds that smiling positively affects attitude towards a service provider or stimuli in various contexts (e.g., Andrzejewski & Mooney, 2016; Barger & Grandey, 2006; Hennig-Thurau, Groth, Paul, & Gremler, 2006; Pugh, 2001). In marketing communications, several studies link the effect of feelings or emotions displayed by non-verbal expressions on consumer reactions, establishing direct and congruent relationships (Lewinski, Fransen, & Tan, 2014; Yoo & MacInnis, 2005). In addition, a smile positively affects attitude towards a service provider or an otherwise marketed stimulus in various contexts (e.g., Andrzejewski & Mooney, 2016; Barger & Grandey, 2006; Hennig-Thurau et al., 2006; Pugh, 2001).

The effects of non-verbal emotional expressions can be over and above automatic affective reactions to the (smiling) actor and can trigger inferential processing among receivers (Sundar, Dinsmore, Paik, & Kardes, 2017). Research shows that smiling can engender various impressions of intelligence, fairness, and compassion of an actor (Sutherland et al., 2015; Synnott, 1989) and even of virtual characters (Ochs & Pelachaud, 2012). Services marketing literature explores the inferential effects of smiling and various facets of smiling (e.g., Duchenne vs non-Duchenne smile) on consumer reactions (Andrzejewski & Mooney, 2016), finding that consumers give higher service quality ratings when the service provider smiles (Andrzejewski & Mooney, 2016; Hatfield et al., 1993; Hochschild, 2012). Smiling affects the service evaluation even in high-involvement settings – for example, smiling service personnel influence fan evaluations of sports events (Larson, Jensen, & Wang, 2016). Furthermore, a smiling service provider positively influences consumers' perceptions not only of a specific service encounter but also of the overall firm (Barger & Grandey, 2006; Hennig-Thurau et al., 2006; Söderlund & Rosengren, 2010). Gunnery and Hall (2014) find that a person deliberately producing a Duchenne (genuine) smile can be persuasive as well. Consumers tend to perceive a service provider expressing a Duchenne smile as authentic during a service encounter, which results in higher service quality ratings (Lechner & Paul, 2017; Totterdell & Holman, 2003). Thus, widespread evidence indicates that smiling leads to preference building and positive attitude change in personal (service) encounters.

Advertisement research studies have only recently adopted these ideas from service research. For example, Salgado-Montejo, Tapia Leon, Elliot, Salgado, and Spence (2015) find that subtle face-like smiling features can positively influence evaluations of and preferences for a product. Berg et al. (2015) show that advertisements and packaging displaying a smiling model positively influence consumers' attitudes towards the object. They also report that a smiling model induces more consumer joy and positive evaluations of the advertised stimuli than an identical advertisement with a non-smiling model. Söderlund and Rosengren (2003) find that a smiling face is more effective not only in creating a positive attitude towards the advertised stimulus but also in enhancing intentions to patronise an establishment or recommend a

firm.

Smiling may not only induce a positive attitude towards the displayed stimulus and increase its likability but also influence willingness to pay and increase repurchase likelihood (Gountas, Ewing, & Gountas, 2007). This assumption finds support in psychological studies on tipping behaviour that show that smiling service personnel receive significantly larger tips than non-smiling personnel (Davis, Schrader, Richardson, Kring, & Kieffer, 1998). These effects on payment behaviour occur even when the smile is not displayed by the service person him- or herself but is provided on the service check by way of an emoji (Rind & Bordia, 1996).

In the marketing communication research field, Kulczynski et al. (2016) show that use of an endorser with a smiling facial expression not only results in heightened feelings of pleasantness and positive attitudes towards both the advertisement and brand but also increases purchase intention. In a similar vein, Ilicic et al. (2016) report that a celebrity endorser displaying a Duchenne smile not only leads to positive consumer perceptions but also increases the purchase intention for the advertised brand.

Overall, limited literature from marketing communications, supported by findings from services marketing, psychology and nonverbal communication literature, suggests that smiling tends to positively influence consumer reaction. Therefore, we postulate a universal relationship between smiling and all stages that consumers go through as they form brand or ad attitudes and intentions:

H1. A smiling model positively influences all five stages of consumers' attitude and intention formation.

2.2. Gender effects of smiling

Gender is an important variable in the emotional contagion literature, in that it determines the magnitude and nature of emotional contagion for the receiver during non-verbal communications (Doherty, Orimoto, Singelis, Hatfield, & Hebb, 1995; Lundqvist, 1995). It is generally believed that women are facially more expressive than men when reacting to emotional stimuli (Dimberg & Lundquist, 1990; Zuckerman & Larrance, 1979). LaFrance et al.'s (2003) meta-analysis provides widespread support for the hypothesis that women smile more than men. Research also demonstrates that women are better encoders as well as decoders of non-verbal communication (Briton & Hall, 1995), especially of facial expressions, than men (Hall, 1978); women recognise emotions faster, regardless of whether they are expressed by men or women (Rotter & Rotter, 1988).

Hatfield et al. (1993) propose that women are more susceptible to emotional contagion than men and react with stronger facial expressions. According to Tybout and Cafferata (1989), women tend to be more easily persuaded and influenced by ad stimuli. Otta, Abrosio, and Hoshino (1996) investigate the effects of various forms of smiling and report that women gave higher ratings than men on sympathy, attractiveness, kindness, and intelligence. In their psychological study, Dimberg and Lundquist (1990) examine male and female participants' facial expressions in response to pictures of men and women posed with happy and angry expressions and find that the effects were more pronounced for women. Similarly, in a cross-cultural study on non-verbal behaviour, Kryś et al. (2016) establish a relationship between smiling and perceived honesty and show that women assess smiling people as more honest than men do. Thus:

H2. Smiling of a model in print advertisement exerts a greater positive effect on female consumers than on male consumers for all five stages of consumers' attitude and intention formation.

Although prior studies classify gender as an important variable in emotional expressions, and numerous studies examine gender differences in nonverbal communication (Hall, Carter, & Horgan, 2000), few studies investigate interaction effects of stimulus gender and participant

gender on consumer action. Instead, prior studies mostly focus on the accuracy and speed of identification of non-verbal facial expressions (e.g., Rotter & Rotter, 1988; Stanners, Byrd, & Gabriel, 1985; Wild et al., 2001), and thus rarely investigate the effects of non-verbal expressions on receivers' behaviour.

Studies suggest that people perceive male smiles as happier than female smiles (Shrout & Fiske, 1981). Lau (1982) finds that consumers perceive smiling men as more attractive than smiling women, while Hess, Adams Jr, and Kleck (2005) show that consumers view men's expressions of happiness as more intense than those of women. In service settings, Andrzejewski and Mooney (2016) examine the interaction between the type of smile displayed and the gender of the service provider, finding that participants perceive genuinely smiling male service providers as providing better service quality than smiling female service providers. Similar effects are likely to emerge for models in advertisements.

The few studies investigating gender-pair effects come to inconclusive results based on contradictory evidence. For example, in their study on facial expressions of fear and anger, Marsh, Ambady, and Kleck (2005) find that both male and female participants responded faster to female faces than to male faces. However, they report no significant interaction effect between stimulus gender and participant gender. In the field of personal psychology, Otta et al. (1996) and Dimberg and Lundquist (1990) show no support for interaction effects, with an indication of the homophily effect (Brechwald & Prinstein, 2011), as female participants are generally found to bond and react strongly to female stimulus (e.g., Cooper, 1997). Similar findings are also available for their male counterparts (e.g., Ibarra, 1997; McCroskey, Richmond, & Daly, 1975).

On the other hand, Stanners et al. (1985) find that males are better able than females to process female faces. Similarly, Lui and Hui (2010) report that female respondents perceive a male smiling agent as more competent than a female agent. Kryś et al. (2016) established a relationship between smiling, intelligence and perceived honesty and found a significant inter-gender interaction effect between a smile, the participant gender and the target gender. Krumhuber et al. (2007) investigate smiling behaviour in the context of flirtatiousness and find a significant encoder gender \times participant gender interaction, with male smiles rated as more flirtatious by female participants than by male participants. Thus, considering contradictory evidence, wherein few studies suggest the homophily effect (e.g., Dimberg & Lundquist, 1990; Otta et al., 1996) while the majority indicate a strong cross-gender effect (e.g., Krumhuber et al., 2007; Kryś et al., 2016; Lui & Hui, 2010; Stanners et al., 1985), as well as focusing more on the evidence from advertising research literature, we posit that:

H3. Smiling exerts a greater positive effect on consumers' responses if the model is of a different gender to that of the ad viewer.

3. Method: data collection and measurement

We tested the hypotheses using secondary data provided by Ad Impact Monitor, a market research initiative of major German print media companies. In 2013, Ad Impact Monitor contracted three market research agencies to survey between 4000 and 8200 consumers on a monthly basis online. Each questionnaire included six real print ads from a pool of up to 120 ads placed in magazines during the previous months. Rotation of advertisements across respondents prevented primacy and recency effects. Each respondent provided his or her evaluations of the six presented ads and his or her resulting actions. Respondents were chosen on a per stratum basis of gender, age, education level, and residence to ensure an adequate population representation.

For this study's empirical base, we selected advertisements from 22 major product categories displaying either smiling or non-smiling models. The evaluated advertisements covered a wide range of products

and services, although this analysis includes only advertisements that may facilitate a purchase; thus, non-profit associations are excluded from the sample. In total, we analysed 175,647 consumer evaluations of 421 advertisements displaying a model. Of these, 145 advertisements had a smiling model. Of the respondents, 52.2% are men and 47.8% women. The average age is 39 years, with 29.8% under age 30 and 26.9% over age 50. Approximately one-third of the respondents have a general qualification for university entrance or a university degree. The underlying sample thus represents a broad spectrum of consumers.

The questionnaire-based research method is in line with prior research on ad effectiveness regarding the use of questionnaires as an appropriate tool to identify intentions (e.g., Geuens, De Pelsmacker, & Fasseur, 2011; Golden & Johnson, 1983). Overall, the data collection is based on real advertisements covering a broad scope of product categories and includes a large number of respondents with widely varying demographics. This setup thus provides high external validity to the study.

To empirically assess the effectiveness of smiling in print advertisements, we differentiated the five stages outlined in the revised version of McGuire's information-processing model of advertising effectiveness (Scholten, 1996) to measure the effects of smiling on the formation of attitude towards the advertisement and purchase intention towards the brand. The information-processing model (IPM), originally proposed by McGuire (1968) and later revised by Scholten (1996), is one of the most influential hierarchy-of-effect models to focus on the role played by cognitive processes in consumer persuasion. Variants of this model have helped clarify the stages that consumers go through as they form their attitudes and intentions, thus providing specific recommendations for marketing action (Smith, Chen, & Yang, 2008). An advertisement is thus effectively designed if it supports the marketer in achieving any one or more of these pre-defined marketing objectives.

The results are derived from the level of the single persuasion stage; thus, most of the reasoning applies independently of the specific sequence that consumers undergo. Specifically, *closer ad examination intention* serves as an indicator of advertising *exposure*, while *information search intention* serves as an indicator of the *reception*, which represents processes by which physical contact with an ad may result in full elaboration on all arguments presented in the ad. *Positive brand attitude change* represents the advertising goal of *persuasion*, while *integration of brand into a relevant set* serves as an indicator of *retention (of the new attitude)*. Finally, *brand purchase intention* serves as a proxy to measure the advertising goal of *behaviour* represented by willingness to purchase a brand. Thus, the five steps identified in the current study are broadly in line with the five-stage framework (exposure, reception, persuasion, retention and behaviour) proposed by (Scholten, 1996). 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” serving as an overall reference value in the analyses.

Because the revised information-processing model of advertising effectiveness is a robust conceptualisation that avoids firm claims of a prescriptive model, action steps of the upper funnel do not invariably precede those of the lower funnel (Scholten, 1996; Vakratsas & Ambler, 1999). Therefore, individual consumer reactions are interpreted as a nominal rather than an ordinal variable, and a multinomial logit model is used for analysing the effects of a smiling model in terms of evoking either of the five response categories (Teichert, Hardeck, Yong, & Trivedi, 2018). In total, 6.6% of the observed ad evaluations resulted in an intention to engage in closer ad examination, 16.2% resulted in an information search intention, 6.3% led to a positive attitude change, 10.1% led to an integration into a relevant set, and 5.4% led to a purchase intention. Approximately 55.4% of ad evaluations led to none of these five actions. There were few cases of multiple answers (only

2.1% of consumers reported more than one action), and we deleted these from the analysis. Comparing descriptive statistics of observed ad evaluations between male and female respondents for all the advertisements, there is not much difference between the two groups in the five steps of attitude and intention formation (6.6% of female responses and 6.5% of male responses depict an intention to engage in closer ad examination, 16.2% of female responses and 16.1% of male responses suggest an information search intention, 6.3% of both female and male responses suggest a positive attitude change, 10.3% of female responses and 9.9% of male responses show integration of a product into a relevant set, and 5.1% of female and 5.6% of male responses led to a purchase intention).

4. Analysis and results

4.1. Overall effect of smiling on consumer reactions

We applied a multinomial logit model to simultaneously investigate the main effects of using smiling models in print advertisements on the five stages of consumer action, whereby “no action taken” served as an overall reference value in the analyses. The model shows a significantly improved fit (significantly lower -2 log-likelihood) than a baseline model, with an Akaike's information criterion of 135,756 and a Schwarz's Bayesian information criterion of 89,568 (see Table 1). Therefore, the overall statistical measures confirm the adequacy of the model.

Table 2 reports the logit parameter estimates relative to a shared baseline of no consumer reaction. We find that a smiling model exerts a significant, positive effect on positive attitude change ($b = 0.245$, $p < .001$), integration into a relevant set ($b = 0.350$, $p < .001$), and purchase intention ($b = 0.414$, $p < .001$), but not on closer ad examination and information search intentions. These results partially support H1. Thus, the use of smiling models in print advertisements positively influences the three later stages.

4.2. Interaction effect analysis between smile and consumer gender

To investigate the hypothesised effect of consumer gender, we estimated interaction effects between smiling and consumer gender. Confirming the findings of the previous section for the overall effects of smiling on consumer reactions, Table 3 shows that a smiling model exerts positive effects on the three later stages of consumer reaction. The effect of smiling is significant for positive attitude change ($b = 0.233$, $p < .01$), integration into a relevant set ($b = 0.330$, $p < .001$), and purchase intention ($b = 0.348$, $p < .001$). Furthermore, the interaction effects between smile and consumer gender are non-significant across all stages. This indicates that the positive effects of using a smiling model for the three later stages are identical for male and female consumers. In contrast with H2, these results suggest that using a smiling model in print advertisements exerts significantly positive effects during the later three stages for both male and female consumers.

Table 1
Model fit.

Model-fitting criteria	Model fit		
	AIC	BIC	-2 Log-Likelihood
Only Intercept	244.082	290.270	234.082
Smile	108.326	200.702	88.326

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

Table 2
Smile and overall consumer reaction.

	B (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Closer ad examination intention vs. no reaction				
Intercept	−3.295(.035)***			
Smiling	−.005(.044)	0.913	0.995	1.085
Information search intention vs. no reaction				
Intercept	−2.630(.025)***			
Smiling	.058(.032)	0.996	1.059	1.127
Positive attitude change vs. no reaction				
Intercept	−3.793(.045)***			
Smiling	.245(.054)***	1.150	1.277	1.419
Integration into a relevant set vs. no reaction				
Intercept	−3.322(.035)***			
Smiling	.350(.042)***	1.306	1.418	1.540
Purchase intention vs. no reaction				
Intercept	−3.908(.047)***			
Smiling	.414(.055)***	1.357	1.513	1.686

p* < .05; *p* < .01; ****p* < .001; n.s. = not significant.

Table 3
Smiling and consumer gender – interaction effect.

	B (SE)	95% CI for odds ratio (OR)		
		Lower	Odds ratio	Upper
Closer ad examination intention vs. no reaction				
Intercept	−3.392(.050)***			
Smiling	−.055(.064)n.s.	0.836	0.947	1.072
Consumer gender (0 = Male, 1 = Female)	.195(.070)**	1.060	1.216	1.394
Smiling × consumer gender	.096(.088)n.s.	0.927	1.101	1.308
Information search intention vs. no reaction				
Intercept	−2.749(.037)***			
Smiling	.040(.046)n.s.	0.952	1.041	1.140
Consumer gender (0 = Male, 1 = Female)	.237(.051)***	1.147	1.268	1.401
Smiling × consumer gender	.034(.063)n.s.	0.914	1.035	1.172
Positive attitude change vs. no reaction				
Intercept	−3.851(.063)***			
Smiling	.233(.076)**	1.088	1.262	1.464
Consumer gender (0 = Male, 1 = Female)	.119(.089)*	1.015	1.127	1.342
Smiling × consumer gender	.025(.107)n.s.	0.831	1.025	1.265
Integration into relevant set vs. no reaction				
Intercept	−3.439(.051)***			
Smiling	.330(.061)***	1.234	1.391	1.568
Consumer gender (0 = Male, 1 = Female)	.236(.071)**	1.102	1.266	1.455
Smiling × consumer gender	.039(.084)n.s.	0.881	1.039	1.226
Purchase intention vs. no reaction				
Intercept	−4.028(.068)***			
Smiling	.348(.081)***	1.208	1.416	1.661
Consumer gender (0 = Male, 1 = Female)	.240(.094)**	1.057	1.272	1.530
Smiling × consumer gender	.123(.111)n.s.	0.910	1.131	1.406

p* < .05; *p* < .01; ****p* < .001; n.s. = not significant.

4.3. Interaction effect analysis between smiling and model gender

To investigate the interaction effects of smiling model gender and consumer gender in more detail, we differentiate the smiling variable by model gender. We use the split sample of male and female consumers to derive separate effect estimates for male and female consumers. Table 4 provides the results for female consumers. Contrary to expectations (H3), a smiling female model has a significantly positive

Table 4
Female consumers: smiling and model gender.

	B (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Closer ad examination intention vs. no reaction				
Intercept	−3.309(.046)***			
Non-smiling male model	.032(.032)n.s.	0.899	1.032	1.185
Smiling male model	−.063(−.063)n.s.	0.823	0.939	1.071
Smiling female model	.040(.040)n.s.	0.933	1.041	1.162
Information search intention vs. no reaction				
Intercept	−2.530(.032)***			
Non-smiling male model	−.259(.053)***	0.696	0.772	0.857
Smiling male model	−.057(.046)n.s.	0.863	0.945	1.035
Smiling female model	−.036(.039)n.s.	0.893	0.965	1.042
Positive attitude change vs. no reaction				
Intercept	−3.726(.056)***			
Non-smiling male model	−.170(.092)n.s.	0.705	0.843	1.010
Smiling male model	.171(.078)*	1.019	1.186	1.381
Smiling female model	.180(.067)**	1.049	1.197	1.365
Integration into a relevant set vs. no reaction				
Intercept	−3.174(.043)***			
Non-smiling male model	−.396(.075)***	0.581	0.673	0.780
Smiling male model	.039(.061)n.s.	0.922	1.039	1.172
Smiling female model	.271(.051)***	1.187	1.311	1.448
Purchase intention vs. no reaction				
Intercept	−3.748(.057)***			
Non-smiling male model	−.438(.101)***	0.530	0.646	0.787
Smiling male model	−.053(.083)n.s.	0.806	0.949	1.116
Smiling female model	.370(.066)***	1.271	1.447	1.648

p* < .05; *p* < .01; ****p* < .001; n.s. = not significant. Notes: non-smiling female model serves as the base category.

effect on positive attitude change (*b* = 0.180, *p* < .01), integration into a relevant set (*b* = 0.271, *p* < .001), and purchase intention (*b* = 0.370, *p* < .001) for female consumers. In contrast, a smiling male model has a positive influence only on positive attitude change (*b* = 0.171, *p* < .05).

Fig. 1 shows that the effects of a smiling female model (vs a smiling male model) increase sharply as female consumers advance to the later stages of integration of a brand into an evoked set and purchase intention. These results indicate that advertisers can use smiling female models in print advertisements to positively change female consumers' attitudes towards the advertised brand, help them integrate it into their consideration set, and increase their purchase intentions for the advertised brand.

By contrast, as Table 4 shows, a non-smiling male model negatively affects information search intention (*b* = −0.259, *p* < .001), integration of the advertised product into a relevant set (*b* = −0.396, *p* < .001), and purchase intention for the advertised brand (*b* = −0.438, *p* < .001). These results indicate that advertisers should avoid using non-smiling male models when targeting female consumers.

The analysis of male consumers, as summarised in Table 5, provides a different picture. Widely identical effects of smiling that are independent of the model gender reveal that advertisers can positively influence male consumers by using any gender of smiling models during the later stages, starting from positive attitude change. Smiling effects are especially significant for positive attitude change (smiling male model: *b* = 0.339, *p* < .01), integration of the advertised product into a relevant set (smiling male model: *b* = 0.289, *p* < .01; smiling female model: *b* = 0.242, *p* < .01), and purchase intention of the advertised brand (smiling female model: *b* = 0.278, *p* < .001).

These results and the data in Fig. 2 indicate that for male consumers, advertisers can use a smiling model of either gender to address marketing objectives related to later stages represented by positive attitude change, integration into a relevant set, and purchase intention.

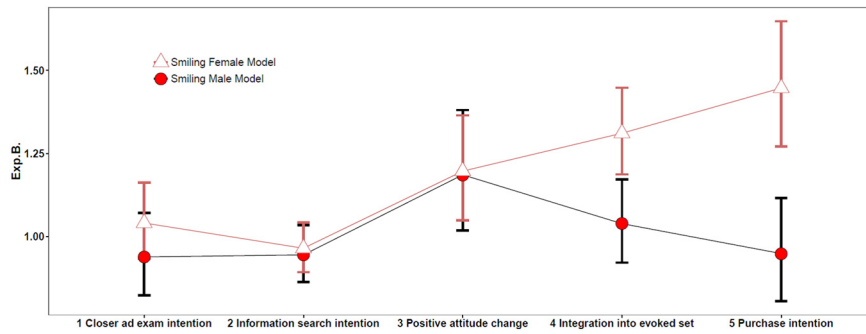


Fig. 1. Comparison of the effect of smiling female and smiling male models on female consumers, based on odd ratios.

Table 5
Male consumers: smiling and model gender.

	B (SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
Closer ad examination intention vs. no reaction				
Intercept	-3.149 (.070)***			
Non-smiling female model	-.446 (.101)***	0.526	0.640	0.779
Smiling male model	-.186 (.097)n.s.	0.687	0.830	1.004
Smiling female model	-.351 (.085)***	0.595	0.704	0.832
Information search intention vs. no reaction				
Intercept	-2.659 (-.056)***			
Non-smiling female model	-.155 (.074)*	0.740	0.856	0.991
Smiling male model	.143 (.072)*	1.002	1.153	1.328
Smiling female model	-.149 (.066)*	0.758	0.862	0.980
Positive attitude change vs. no reaction				
Intercept	-3.852 (.099)***			
Non-smiling female model	.002 (.128)n.s.	0.779	1.002	1.287
Smiling male model	.339 (.123)**	1.104	1.404	1.786
Smiling female model	.182 (.112)n.s.	0.963	1.200	1.495
Integration into a relevant set vs. no reaction				
Intercept	-3.366 (.078)***			
Non-smiling female model	-.125 (.104)n.s.	0.720	0.883	1.082
Smiling male model	.289 (.098)**	1.103	1.336	1.618
Smiling female model	.242 (.088)**	1.072	1.274	1.514
Purchase intention vs. no reaction				
Intercept	-3.922 (.103)***			
Non-smiling female model	-.185 (.138)n.s.	0.635	0.831	1.089
Smiling male model	.155 (.131)n.s.	0.903	1.167	1.510
Smiling female model	.278 (.115)*	1.055	1.321	1.654

* $p < .05$; ** $p < .01$; *** $p < .001$; n.s. = not significant. Notes: Non-smiling male model serves as the base category.

Regarding the earlier stages of male consumers' closer ad examination and information search intention (Table 5), different effects are observed: A smiling male model has a positive effect on information search intention ($b = 0.143, p < .05$), whereas a female model exerts significantly negative effects on closer ad examination intention,

independent of smiling (non-smiling female model: $b = -0.446, p < .001$; smiling female model: $b = -0.351, p < .001$), and on information search intention (non-smiling female model: $b = -0.155, p < .05$; smiling female model: $b = -0.149, p < .05$). Thus, advertisers should be careful in using smiling/non-smiling female models when specifically addressing the early stages of closer ad examination and information search intention for male consumers. The results in Tables 4 and 5 lead to partial acceptance of H3.

5. Discussion and implications

The results of this study aid both practitioners and researchers in multiple ways. Derived insights reframe and expand findings of previous studies on smiling and ad effectiveness that ignore the two-sided gender effects on consumer reactions (e.g., Berg et al., 2015; Ilicic et al., 2016; Kulczynski et al., 2016). Whereas previous studies rely on smaller sample sizes, mostly with student participants, and base their conclusions on small numbers of fictitious advertisements, the current study benefits from a large sample of respondents and from evaluations of real advertisements across broad product categories. This setting offers unparalleled external validity and generalisability. In addition, differentiated effect measurements across five different stages provide a framework for future studies that differentiate stage-specific effects of advertisement design. In particular, the findings inform advertisers about the effective application of smiling in print advertisements.

Although marketers have long used smiling models in print advertisements, they should not use them pervasively or indiscriminately but rather for pre-defined, specific marketing objectives, while taking into account the gender of both the model and the targeted consumers. Here, they should first determine the marketing objectives of a campaign and identify the target audience before deciding on a male or female model with or without a smiling expression.

Without considering interaction effects, a smiling model can influence the three later stages of consumer actions. In contrast with the findings of Kulczynski et al. (2016), the current findings imply that marketers may not benefit from using smiling models in print advertisements when the objective is to steer the early phases of consumer

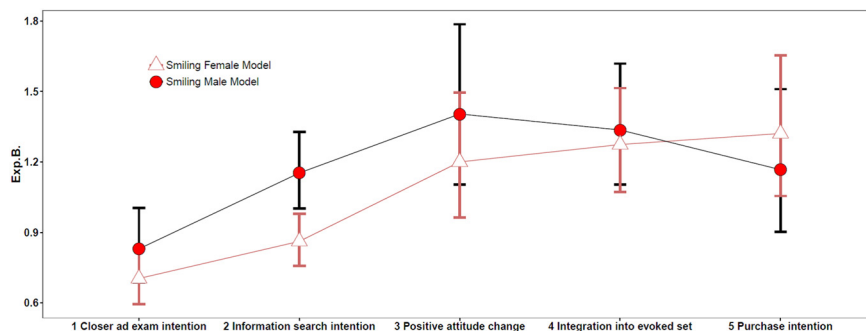


Fig. 2. Comparison of the effect of smiling female model and smiling male model on male consumers, based on odd ratios.

reaction. One explanation for this finding is that initial steps, especially in the context of new product introductions, often require some cognitive (rational) reflection (Krugman, 1965). As such, marketers might fail to evoke initial product awareness using highly emotional stimuli (in this case, smiling) designed to influence affective and conative stages of information processing (Zajonc & Markus, 1982).

Revealed interaction effects between smiling and model gender indicate that marketers are better off using a smiling female model to influence female consumers. Our results are in line with those of Stanners et al. (1985) and hint at homophily effects within the consumer persuasion process (DeShields, Ali, & de los Santos, 1999). Using a smiling female model may not only positively change female consumers' attitudes towards the advertised brand but also encourage them to integrate the advertised product into their favoured brand repositories, leading to higher purchase intentions. Conversely, advertisers should avoid using a non-smiling male model in print media when targeting female consumers because doing so can exert negative effects during later stages. As a limitation to this suggestion, advertisers' choice of model gender might be restricted by the advertisement setting (e.g., gender-specific products).

The effect analyses for male consumers offer different conclusions. In particular, use of either a smiling female or a smiling male model positively affects the later stages of consumer reaction. Advertisers can positively influence advertisement attitude change and integration of a product into a relevant brand set and foster purchase intentions of male customers by using a smiling model, regardless of model gender. However, advertisers should be cautious in using a smiling or non-smiling female model in print advertisements when addressing the early stages for male consumers (e.g., introduction of innovative product and service offerings), as doing so can negatively affect closer ad examination and (brand) information search intentions of these consumers. These phase-specific gender effects indicate that homophily effects may have an impact on ad effectiveness in various, but still undiscovered, ways (Brechtwald & Prinstein, 2011).

This work is consistent with previous research demonstrating the positive impact of a smiling model on consumer reaction (Kulczynski et al., 2016). Moreover, we extended prior research and found that consumers' gender is a key variable to be considered when designing print advertisements with smiling models of either gender. Overall, emotional contagion (Hatfield et al., 1993) and inferential processes (Sundar et al., 2017) are found to drive consumer reaction positively, especially during later stages of brand attitude and purchase intention formation, and with a strong homophily effect (DeShields, Ali, & de los Santos, 1999). The revealed moderating role of consumer gender and model gender in nonverbal emotional expressions requires further scholarly attention of marketing communication and reinterpretation of previous findings from the gender lens. This study contributes to the broader marketing literature concerned with exploring the effect of nonverbal facial expressions on consumer reactions triggered by emotional contagion and furthered by inferential processes.

This research is not without limitations. Data limitations prevented us from taking into consideration individual consumers' involvement with the 22 different product categories. The study focused on the human smile, while ignoring smiling virtual characters (avatars) or non-human smiling images (e.g., the "face" of a car; Purucker, Spott, & Andreas, 2014). The study also did not investigate different types or intensities of models' smiles. It is also difficult to measure internal validity in the current study settings due to the large number of consumer responses across multiple product categories and brands with more than 420 real advertisements. Therefore, future studies may build on these findings by conducting research in an experimental setting. The current study is based on secondary data from Ad Impcat Monitor (AIM), wherein consumer action is measured as a categorical variable, and future study may use another similar large-scale data set with measurement of consumer reaction in continuous variables to use linear regression models to confirm the findings of this study. Finally, the

sample was restricted to print advertisements and German consumers, and different effects might emerge in other cultural or media settings.

Compliance with ethical standards, disclosure and funding information

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Conflict of interest

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This article does not contain any studies with animals performed by any of the authors.

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