

When Products Come Alive: Interpersonal Communication Norms Induce Positive Word of Mouth for Anthropomorphized Products

FANGYUAN CHEN
JAIDEEP SENGUPTA
JIANQING (FRANK) ZHENG

Across five experiments, this research finds that product anthropomorphism enhances consumers' intention to share positive thoughts in their word-of-mouth (WOM) communication about such products, in the hope of creating a favorable interpersonal impression about themselves. Our theorizing suggests that the effect occurs because consumers apply a norm that originates in human-related communication—namely, that speaking positively of other people creates a more likable impression of speakers by making them seem more kind and polite—to their WOM for anthropomorphized products (study 1). As a result, when an impression management motive is salient, consumers display greater overall positivity in their WOM for an anthropomorphized product than for its non-anthropomorphized equivalent (study 2). Support for this prediction is found across various measures of WOM positivity. Furthermore, in line with this conceptualization, anthropomorphism-induced positivity diminishes (a) when consumers are less concerned about impression management, such as when talking to a close friend (study 3), (b) when an opposing accuracy motive overpowers the impression management motive (study 4), or (c) when the underlying belief that positivity will yield favorable impressions is itself challenged (study 5). Our conceptualization and findings inform and extend research on consumer WOM communication, product anthropomorphism, and impression management.

Keywords: consumer word of mouth, interpersonal communication norms, product anthropomorphism, impression management

Whether it is about a store discount, a creative advertisement, or a delayed flight, consumers routinely share information and opinions about market offerings with one another; the rapid growth of social media has

made word-of-mouth (WOM) communication more common (Berger 2015; Moore and Lafreniere 2020). Not only is WOM communication ubiquitous, it is also impactful. Favorable WOM has been shown to enhance marketer

Fangyuan Chen (fangyuan.chen@polyu.edu.hk) is an assistant professor of marketing at the Faculty of Business, Hong Kong Polytechnic University, Hung Hum, Kowloon, Hong Kong, China. Jaideep Sengupta (mkjaisen@ust.hk) is a chair professor of marketing and Synergis-Geoffrey YEH professor of business at the School of Business and Management, Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong, China. Jianqing (Frank) Zheng (frankzheng@utexas.edu) was a doctoral student in marketing at the McCombs School of Business, University of Texas at Austin, Austin, TX 78712, USA. Please address correspondence to Fangyuan Chen. This research was supported by the research grants from the Hong Kong Research Grants Council (GRF 15504619) and Hong Kong Polytechnic University (G-YZBR) awarded to the first author, and the research grant from the Hong Kong Research Grants Council (GRF 16501920) awarded to the

second author. The authors thank the editors, the associate editor, and the anonymous reviewers for their constructive comments and guidance throughout the review process. The authors also thank Susan Broniarczyk, Adrian Ward, and Hao Shen for their insights on the early version of this research. [Supplementary materials](#) are included in the [web appendix](#) accompanying the online version of this article

Editor Linda L. Price and Bernd H. Schmitt

Associate Editor L. J. Shrum

Advance Access publication June 16, 2022

revenues across a wide range of domains such as restaurants (Godes and Mayzlin 2009; Packard and Berger 2017), beauty products (Moe and Trusov 2011), and movies (Liu 2006).

Given the clear benefits of favorable WOM, it is important to identify factors that shape WOM positivity (Berger 2014). The current research identifies a novel factor that enhances the overall positivity of consumer WOM: the extent to which a product is imbued with humanlike characteristics. The conceptual framework underlying our prediction merges the WOM literature with insights from two other fields of inquiry: research on anthropomorphism (Aggarwal and McGill 2012; Wan, Chen and Jin 2016) and research on interpersonal communication norms (Ames, Bianchi, and Magee 2010; Wyer and Gruenfeld 1995). We propose that talking about an anthropomorphized product makes salient a particular interpersonal norm—speaking positively of other people makes the speaker likable. Therefore, in situations where the speaker wishes to present the self favorably and be liked, this norm will induce more positive WOM for anthropomorphized products (vs. their non-anthropomorphized equivalents).

Theoretically, this article contributes to several streams of research. Of most importance, our findings advance knowledge of consumer WOM by identifying a new antecedent of WOM positivity: product anthropomorphism. Past research on WOM positivity has looked at the characteristics of communicators and recipients (Akpınar, Verlegh, and Smidts 2018; Barasch and Berger 2014; Chen 2017); characteristics of the product have gone largely unstudied. By examining anthropomorphism-related product features, the current work addresses this gap while also uncovering a novel mechanism for greater WOM positivity that has not been identified by extant research. In so doing, it also adds to the recent discussion of how conversational norms play a role in consumer WOM communication (Kim, Moore, and Murray 2021; Kronrod and Danziger 2013).

Our investigation also advances knowledge in the growing area of product anthropomorphism by examining a novel consequence. Past research has examined a variety of consequences of product anthropomorphism (see Yang, Aggarwal, and McGill 2020 for a review). However, little is known about how such anthropomorphism affects the way consumers talk about the product, the issue addressed here. Furthermore, by showing that communication norms from the interpersonal context apply to the product context as well, we provide fresh evidence for consumers treating anthropomorphized products in humanlike ways (Aggarwal and McGill 2012; Wan et al. 2016).

Finally, this research possesses applied implications. Given the prevalence and great impact of consumer WOM, it is clearly important for practitioners to understand the drivers of positive WOM. The product-anthropomorphism driver identified in our research possesses particular

applied relevance, considering the rising tendency by marketers to imbue their products with humanlike features and the ease of doing so without actually changing product functionality (e.g., via package design or advertising communications; Yang et al. 2020).

In what follows, we first develop our theoretical framework. Then, we present five experiments that yield insights into when and why product anthropomorphism enhances consumer WOM positivity. We conclude with a discussion of the theoretical and practical implications of the current work and potential directions for future research.

THEORETICAL FRAMEWORK

Consumer WOM and Impression Management

In considering likely influences on consumers' WOM, an obvious set of factors affecting WOM positivity involves the product's inherent quality—the higher the quality, the more likely that consumers will like the product, thereby enhancing positive WOM (Richins 1983; Singh 1988). Interestingly, however, research in this area has found that product quality or liking is by no means the only factor affecting the positivity of consumer WOM. A particularly important theoretical perspective, of relevance to the current research, argues that consumer WOM is also shaped by the speaker's motive to create a favorable impression on the WOM recipient (Berger and Iyengar 2013; Chen 2017; De Angelis et al. 2012). The reason that the impression management motive is often salient in this context is that WOM communication is more than simply information diffusion; rather, it is social interaction. The wish to present oneself favorably and be liked is a fundamental human motive and an overlearned tendency in social interaction (Goffman 1959; Leary 1995).

It is not surprising, therefore, that impression management motive affects the content and positivity of WOM (Berger 2014). Indeed, an important stream of research in this area has shown that given a salient impression management motive—as compared to when this motive is less salient—consumers are generally more likely to share their positive consumption experiences and less likely to share their negative experiences (Barasch and Berger 2014; Chen 2017). This occurs because good (vs. bad) personal consumption experiences signal that the speaker was capable of making good choices, showing them in a favorable light (Chen and Lurie 2013).

Compared to this extant research, which examines how the salience versus non-salience of the impression management motive affects WOM positivity, the current investigation examines when and why WOM positivity can be affected by a particular product characteristic (product anthropomorphism) when the impression management motive, which is so fundamental in human interactions, is salient across conditions. We posit that when the target

product is anthropomorphized, consumers motivated to create favorable impressions will be more likely to talk positively about that product than when it is not anthropomorphized, because of a positivity communication norm that applies when discussing actual human beings.

Product Anthropomorphism: Antecedents and Consequences

Product anthropomorphism refers to the practice of endowing products with human characteristics that enhance consumers' tendency to treat the products in a humanized way (Aggarwal and McGill 2007). In recent years, consumer scholars have made significant strides in understanding product anthropomorphism (a term we use here to refer to the anthropomorphism of either brands or products). One stream of research focusing on antecedents finds that consumers are particularly likely to anthropomorphize products when humanlike characteristics are made accessible—for instance when a financial app talks in first person (“I can suggest what to spend your money on”; Kim and McGill 2018) or when a snack package depicts humanlike facial features (Huang, Wong, and Wan 2019).

An even richer stream of inquiry has focused on the consequences of product anthropomorphism. This ranges from research on self-control (anthropomorphizing tempting cookies makes consumers eat more; Hur, Koo, and Hofmann 2015) and social consequences (engaging in product anthropomorphism reduces the desire to interact with real humans; Mourey, Olson, and Yoon 2017) to product evaluations, on which anthropomorphism can exert positive, neutral, and negative influences. For example, Aggarwal and McGill (2007) find that product anthropomorphism affects attitudes depending on the nature of the human quality made salient: thus, consumers liked an anthropomorphized car more when the car was given a smiley face (vs. a frowning face). On the other hand, Puzakova and Aggarwal (2018) find that consumers evaluate anthropomorphized products less favorably if such products are seen as having their own minds and identities, thereby hindering consumers' sense of agency in identity expression.

Of importance to the current research, many of the consequences of product anthropomorphism follow from a common premise: the act of anthropomorphism leads to the activation and application of human-related schemas (Epley, Waytz, and Cacioppo 2007). Accordingly, consumers' reactions toward anthropomorphized (vs. non-anthropomorphized) products are guided to a greater degree by these schemas, which include norms and beliefs that are relevant for interacting with other humans. An interesting example of the application of such schemas to the product context manifests in the use of a classic person judgment heuristic of “what is beautiful is good” to judge anthropomorphized products (Wan et al. 2016). Consumers

in this study evaluated an anthropomorphized washing machine more favorably when it had a superior appearance rather than superior functional attributes; this was not the case for the non-anthropomorphized equivalent (see Aggarwal and McGill 2012 and Huang et al. 2019 for more examples of the application of social beliefs to anthropomorphized products). Neuroscientific evidence also converges on the premise that consumer reactions to anthropomorphized objects are governed by human-related schemas, finding that the same neural regions involved in perceiving humans get activated when people anthropomorphize nonhuman objects (Castelli et al. 2000). Applying these insights to WOM communication, we argue that when talking about an anthropomorphized product, people are likely to follow the same norms that they do when they communicate about another *person*—including the norms for creating a favorable impression on the recipient of the communication.

Product Anthropomorphism, Impression Management, and WOM Positivity

A norm that is particularly relevant to the present research is that speaking positively about another human being creates a likable impression of the speaker. Support for this norm has been obtained in prior research on person judgment and professed impressions, which examines contexts in which one individual is sharing thoughts with another individual about a third person (Ames et al. 2010; Gawronski and Walther 2008; Wyer, Budenheim, and Lambert 1990; Wyer et al. 1994). Research in this domain has reliably shown that what the speaker professes about the third person (known as “professed impressions”) shapes not only listeners' view of the third person but also their view of the speaker. This happens because even when listeners are explicitly told to evaluate the third person being discussed by the speaker, they also spontaneously form an impression of the speaker, based on the speaker's descriptions of the third person, as an integral part of the social interaction (Wyer et al. 1990, 1994). Thus, in one early study, participants listened to a recording of two individuals discussing a third person in opposing ways—either favorably or unfavorably—and were instructed to form an impression of that target person. When unexpectedly asked to report how much they liked the speakers, participants indicated a greater liking for the speaker who had discussed the target person favorably than the one who had done so unfavorably (Wyer et al. 1990; see also Wyer et al. 1994). Similarly, in a workplace context, speakers who evaluated another colleague positively (vs. negatively) were themselves liked more by listeners (Gawronski and Walther 2008).

This effect of professed impression valence on speaker likability is held to arise from listeners making more positive personality inferences about a speaker who describes a third person favorably (vs. unfavorably; Wyer et al. 1994).

In particular, research in this area suggests that people who say nice things about a third person are generally considered to be more kind (Ames et al. 2010; Wyer et al. 1990) and polite (Goffman 1981; Wyer, Swan, and Gruenfeld 1995) than those who say negative things about the third person, producing more favorable overall evaluations in the former case. Of importance, this literature also indicates that the professed impression effect holds whether the target person being discussed is connected to the speaker or not, noting a tendency to speak positively of the target even when the target is an anonymous stranger or a hypothetical stimulus person (Feather and Armstrong 1967; Greenberg and Miller 1966; Folkes and Sears 1977).

The professed impression effect, conjoined with the tenet that human-related schemas are likely to be applied in communications involving anthropomorphized products, forms the basis for our central prediction. To the extent that impression management concerns are salient in the communication context, consumers should discuss an anthropomorphized product more positively than the non-anthropomorphized equivalent because WOM in the former case, but not in the latter, will be influenced by the norm that speaking well of other humans creates favorable impressions of the speaker. Furthermore, following the professed impressions literature, this prediction should hold even when the speaker does not share a personal connection to the product being discussed.

Note that this is contrast to past research on impression management and WOM positivity, which argues that consumers tend to talk more positively about products or experiences that are highly self-connected—because “a good product/experience” reflects well on them (Barasch and Berger 2014; Chen and Lurie 2013; De Angelis et al. 2012). Consistent with that view, Akpınar et al. (2018) show that as the self-relevance of the target product diminishes, as evidenced by lower purchase frequency, people’s tendency to share positive information about that product decreases, presumably because such positivity is no longer self-serving.

Different from these past findings, which identify an effect of impression management salience on consumer WOM positivity, the novel mechanism proposed here holds impression management salient across conditions and posits an effect of product anthropomorphism on WOM positivity—even for products that are relatively unconnected to the speaker. Hence, to better isolate the anthropomorphism-induced positivity effect, this research focuses on products for which the connection to the self is likely to be relatively low, such as products that one is exposed to but does not own.

Boundary Conditions

Our conceptualization enables us to identify theoretically derived moderators for the basic effect. If, as we

argue, consumers speak more positively of an anthropomorphized product because they expect such behavior to produce a favorable impression, this effect should attenuate when: (a) impression management is not salient; (b) impression management is offset by competing motives in the WOM context; and (c) impression management can be achieved by means other than speaking positively about the target product.

Regarding the first moderator (reduced salience of impression management concerns), prior research has shown that when the WOM recipient is personally close to the speaker—for example, when the recipient is a close friend as opposed to a new friend, a casual acquaintance, or a stranger—these concerns are reduced because close others are less likely to change their impressions based on a single conversation with someone they know well (Clark and Lemay 2010; Leary 1995). Accordingly, we predict that the greater overall positivity in WOM for the anthropomorphized versus non-anthropomorphized version of the same product is more likely to manifest when consumers are communicating with a casual acquaintance (study 1), a stranger (study 3), or a new friend (follow-up to study 3), as compared to a close friend.

Another moderator lies not in reducing the impression management motive but in highlighting competing needs that can be at play in social interaction. One such competing motive is that of accuracy—namely, the need to minimize bias and error in one’s communication (Aarts and Dijksterhuis 1999; Chen, Shechter, and Chaiken 1996; Thompson et al. 1994). Indeed, one of the fundamental Gricean maxims governing communication is the maxim of “quality,” which involves providing truthful information to the recipient (Grice 1975). Past research finds that a strong accuracy need can override impression management concerns (Dauenheimer et al. 2002; Sedikides and Strube 1997). Accordingly, we argue that the predicted positivity effect in consumer WOM for anthropomorphized products should diminish when the desire to create a favorable impression is offset by a situationally induced need for accuracy (study 4).

A final moderator suggested by our theorizing lies in diluting the belief that positivity constitutes effective impression management. To reiterate, our predicted effect rests on the lay belief that speaking positively about a person, or a humanlike entity, creates a likable impression of the speaker being kind and polite. If this belief were to be challenged, however, such that consumers were led to believe that speaking positively about another person does not necessarily create likable impressions, the predicted positivity in consumer WOM for anthropomorphized products should attenuate.

Collectively, these theoretically derived moderators seek to inform the process underlying our basic effect: greater overall positivity in WOM for anthropomorphized versus non-anthropomorphized products, in service of a salient

impression management motive. A set of five studies examines our predictions, illuminating both the effect and the underlying process.

STUDY 1: SPEAKERS' BELIEFS REGARDING POSITIVE WOM

Our conceptualization rests on a key tenet: WOM speakers believe that saying positive things about a humanlike entity will create a favorable impression of themselves as being kind and polite. Past research on professed impressions has shown that listeners indeed form such impressions. However, whether speakers harbor the corresponding belief, and whether this belief will guide their impression management behavior for anthropomorphized products, is not known. Therefore, study 1 directly tests this premise by examining whether speakers are more likely to believe that being kind and polite about an anthropomorphized (vs. a non-anthropomorphized) product will create more favorable impressions on the recipient of the communication.

Method

Design and Participants. One hundred and ninety-three adults ($M_{\text{age}} = 37.1$ years, 40.4% male) took part in this study on Prolific for a small payment and were randomly assigned to one of the 2 (anthropomorphism of the product: yes vs. no) \times 2 (WOM positivity: positive vs. negative) between-subjects conditions.

Procedure and Materials. Participants first read a consumer report on a pair of sunglasses, purportedly as part of a product evaluation task, containing both a picture and a brief description. Across conditions, the product was described as having a mix of strengths (e.g., “replaceable lens”) and weaknesses (e.g., “heavy frame”); [web appendix A](#)).

To create a strong manipulation of product anthropomorphism, following prior work ([Huang et al. 2019](#); [Kim and McGill 2018](#)), we combined two inductions. First, following [Kim and McGill \(2018\)](#), the anthropomorphic product was given a humanlike name, Mr. AMR (a fictitious brand name), and a humanlike visual cue, featuring a nose under the sunglasses. Second, participants in the *product-anthropomorphism* condition were told to imagine the product coming to life and to rate the product on five personality traits (e.g., introverted–extraverted; [Zhou, Kim, and Wang 2019](#); see [web appendix A](#) for details). In the *non-anthropomorphism* condition, the product was called AMR and contained no human-related visual cues; nor were participants asked the product personality questions.

After perusing the product description, participants were told to imagine that they were talking to a casual acquaintance about their thoughts on Mr. AMR/the AMR

sunglasses. Note that the recipient was deliberately specified as being a casual acquaintance, based on past research showing that communicating with such a person typically creates relatively high impression management concerns ([Dubois, Bonezzi, and De Angelis 2016](#))—this is the condition under which we predict heightened WOM positivity for the anthropomorphized product. Thus, participants provided the name of a casual acquaintance they felt they were not close to. They were then exposed to the message they were supposed to share about the sunglasses with this acquaintance. Depending on the condition, this WOM message emphasized either the speaker’s positive focus or negative focus (a pretest confirmed the efficacy of this manipulation; [web appendix B](#)):

Positive Condition: “While there are some negatives of Mr. AMR (the AMR sunglasses), such as the relative heavy frame and weak protection against glare, here I would like to focus more on his (its) positives: The replaceable lens and the sturdy frame of Mr. AMR (this product) are clearly two pluses. Besides, he (it) is a great fit for most faces. Both men and women would like him (it).”

Negative Condition: “While there are some positives of Mr. AMR (the AMR sunglasses), such as the replaceable lens and the sturdy frame, here I would like to focus more on his (its) negatives. The thick frame and weak protection against glare are clearly two shortcomings (drawbacks). Besides, Mr. AMR (this product) is very heavy and his (the) lenses get foggy sometimes.”

Participants then indicated their belief as to whether communicating that particular message to the recipient would create a favorable or unfavorable impression about themselves along two items (1 = *very negative/very unfavorable*, 7 = *very positive/very favorable*; $r = 0.76$, $p < .001$; averaged to form the overall impression index). Furthermore, to understand the specific types of impressions that different communications may create, participants reported the extent to which they thought that the message would make the recipient view them as being “kind,” “polite,” “sympathetic,” “honest,” “accurate,” “frank,” and “knowledgeable,” from 1 (*definitely no*) to 7 (*definitely yes*). The first three items sought to capture participants’ general propensity to try to appear polite (note that “politeness” in this context refers to the speaker being polite about the target, rather than being polite to the recipient—thus, we expected “polite” to load on to the same factor as “kind” and “sympathetic,” which clearly have the target as the referent. A subsequent factor analysis confirmed this expectation). The last four items, on the other hand, were expected to capture the wish to convey accurate information, which is another salient motive in interpersonal communications ([Grice 1975](#); [Higgins 1981](#)).

Our prediction centered on the “politeness” items: we argued that participants’ belief about WOM positivity making them appear politer is likely to hold in the context of

discussing anthropomorphized products rather than non-anthropomorphized products. The “accuracy” items were included to rule out the alternate possibility that consumers think of WOM positivity as making them look good on every dimension. On the contrary, we did not expect such a positivity effect on the accuracy dimension (indeed, if anything, there is reason to expect that across product anthropomorphism conditions, more negativity in communication is believed to create better impressions of accuracy; Herr, Kardes, and Kim 1991; Mackiewicz, Yeats, and Thornton 2016; Sen and Lerman 2007).

Results and Discussion

Overall Impression. Results from a two-way ANOVA on the overall impression index revealed a significant main effect of WOM positivity, $F(1, 189) = 29.18, p < .001, \eta_p^2 = 0.13$. That is, participants believed that positive WOM would create a more favorable impression of themselves ($M = 4.32, SD = 1.27$) than negative WOM ($M = 3.49, SD = 0.91$). More importantly and in support of our predictions, this effect was qualified by an interaction with product anthropomorphism, $F(1, 189) = 9.64, p = .002, \eta_p^2 = 0.05$. Planned contrasts showed that when the product was anthropomorphized, speakers believed that speaking positively (vs. negatively) of the product would produce a significantly more favorable impression of themselves ($M_{\text{positive WOM}} = 4.52, SD = 1.19$ vs. $M_{\text{negative WOM}} = 3.20, SD = 0.92; F(1, 189) = 35.58, p < .001, \eta_p^2 = 0.16$). When the product was not anthropomorphized, this effect attenuated ($M_{\text{positive WOM}} = 4.14, SD = 1.33$ vs. $M_{\text{negative WOM}} = 3.79, SD = 0.81; F(1, 189) = 2.69, p = .103$).

Specific Impressions. A factor analysis using Varimax rotation of the seven specific trait items yielded two factors with eigenvalues above 1.0 (3.39 and 1.52) that accounted for 70.18% of the variance. The first rotated factor, accounting for 28.97% of the variance, consisted of three items: “kind,” “polite,” and “sympathetic.” We averaged responses to these three items to form a “politeness” index ($\alpha = 0.72$). The second rotated factor, accounting for 41.21% of the variance, consisted of “frank,” “accurate,” “honest,” and “knowledgeable.” We averaged responses to these four items to form an index labeled “accuracy” ($\alpha = 0.87$). Results from two-way ANOVAs on these two indexes revealed participants’ belief that positive WOM would foster a greater perception of politeness ($M = 4.27, SD = 1.03$) than negative WOM ($M = 3.72, SD = 0.97; F(1, 189) = 15.15, p < .001, \eta_p^2 = 0.07$), whereas the latter was believed to foster a greater perception of accuracy ($M_{\text{positive WOM}} = 4.86, SD = 1.21$ vs. $M_{\text{negative WOM}} = 5.30, SD = 0.98; F(1, 189) = 7.65, p = .006, \eta_p^2 = 0.04$). More importantly, the effect on politeness perceptions was moderated by product anthropomorphism (two-way interaction: $F(1, 189) = 4.13, p = .044, \eta_p^2 = 0.02$). Planned contrasts

further showed that in the product-anthropomorphism condition, speakers believed that positive WOM would enhance politeness perceptions ($M_{\text{positive WOM}} = 4.38, SD = 0.91$ vs. $M_{\text{negative WOM}} = 3.53, SD = 1.11; F(1, 189) = 17.26, p < .001, \eta_p^2 = 0.08$). This effect attenuated in the non-anthropomorphism condition ($M_{\text{positive WOM}} = 4.18, SD = 1.12$ vs. $M_{\text{negative WOM}} = 3.91, SD = 0.75, F(1, 189) = 1.76, p = .186$). In contrast, the effect on accuracy perceptions was not influenced by product anthropomorphism (two-way interaction: $F(1, 189) = 0.36, p = .547$), arguing against a simple halo-effect account of the politeness results.

Discussion. Study 1 provided good support for a key aspect of our conceptualization. Communicators were found to believe that sharing positive WOM about a product would induce recipients to form more favorable impressions of themselves but, as we argue, this effect was more likely to hold for anthropomorphized products than their non-anthropomorphized equivalents. Further, results from this study indicated that the specific favorable impressions that “positive speakers” believed they were creating were that they were kind and polite.¹

Having established evidence for the crucial underlying lay belief—namely, speakers’ belief that positive (vs. negative) product communication is more likely to create favorable impressions about themselves being kind and polite in the context of anthropomorphized products as compared to non-anthropomorphized products—our subsequent studies examine (a) whether speakers consequently engage in more positive WOM for anthropomorphized (vs. non-anthropomorphized) products, as we predict, and (b) whether this effect is bounded by the theoretically derived moderators identified in our conceptualization.

STUDY 2: PRODUCT ANTHROPOMORPHISM INCREASES THE POSITIVITY OF CONSUMERS’ WRITTEN WOM FOR A SHOPPING CHATBOT

Study 2 sought to test our basic prediction regarding the positivity effect for anthropomorphized products. An increasingly prevalent application of anthropomorphism nowadays involves high-tech products and services that are powered by AI (Crolic et al. 2022; Schmitt 2019). Accordingly, in this study, participants first read about a virtual shopping assistant (a type of chatbot), which was made either humanlike or not humanlike. Then, they were

¹ We are not suggesting, of course, that only the adjectives used in this study can capture the specific favorable impressions that the speaker is trying to create; close synonyms—such as “friendly” and “agreeable”—might also apply. In our theorizing, we focused on the two particular words “kind” and “polite” based on the professed impression literature upon which we draw (Ames et al. 2010; Gawronski and Walther 2008; Wyer et al. 1990).

asked to discuss the virtual shopping assistant with someone they wanted to impress. Impression management concerns were thus made salient across conditions; however, it was in the product anthropomorphism condition that we expected participants to be more likely to satisfy their impression management motives by reporting positive thoughts about the chatbot.

Our theorizing holds that this positivity in WOM for anthropomorphized products stems from the speaker's wish to be kind and polite when communicating about humanlike entities. If this is indeed the case, the WOM positivity predicted for anthropomorphized versus non-anthropomorphized products should be mediated by the increased importance of the wish to appear kind and polite for the former, a path tested in the current study. We also measured participants' attitudes toward the target product in this and subsequent studies. As noted earlier, product liking is strongly correlated with WOM positivity (Richins 1983; Singh 1988). Our results establish that product anthropomorphism exerts an enhancement effect on WOM positivity independent of product liking by either showing that product attitudes did not differ as a function of product anthropomorphism (e.g., studies 3 and 5) or, when they did, controlling for product attitudes did not affect the key results on WOM positivity (e.g., studies 2 and 4).

Method

Design and Participants. Three hundred adults ($M_{\text{age}} = 43.3$ years, 32.3% male) took part in this study on Prolific for a small payment and were randomly assigned to one of the two (anthropomorphism of product: yes vs. no) between-subjects conditions.

Procedure and Materials. Participants learned at the outset that the study consisted of several parts. The first task involved reading about a newly developed virtual shopping assistant. Each participant was told that as online shopping gets more and more common, people often need to chat with virtual shopping assistants. We mentioned both the positives of using virtual shopping assistants (i.e., they can be available 24/7 and handle requests immediately) and the negatives (i.e., they interact with multiple customers at the same time and only provide standard responses). With these general instructions, participants were presented with three screenshots of a conversation between a virtual shopping assistant (the prototype is H&M's online shopping bot) and a random customer. In the conversation, the virtual assistant first asked a few questions to understand the customer's preferences and needs; then it provided recommendations to the customer for the specific item the latter was looking for. In the *product-anthropomorphism* condition, the virtual assistant had a human name (Bella) and an avatar, and engaged in humanlike conversation in the dialogue.

In addition, after reading the conversation screenshots, participants rated the virtual assistant along eight human-related personality traits (e.g., introverted–extroverted). In contrast, in the *non-anthropomorphism* condition, no human-related name or visual cues were presented and the dialogue was written in a non-humanlike style. Also, we stated that the visual assistant was a software program, and participants rated it along eight nonhuman traits (e.g., cutting-edge–traditional). A pretest confirmed the effectiveness of the product anthropomorphism manipulation (web appendix C).

After examining the virtual assistant, participants read, “During social conversations, people often exchange thoughts on various topics. We would like to understand more about this behavior.” With this general instruction, participants were asked to imagine that they were discussing Bella (product-anthropomorphism condition)/the chatbot software program (non-anthropomorphism condition) with someone they wanted to impress (thus keeping the impression management motive salient across conditions; induction taken from Packard and Berger 2017). Participants then wrote down in an open-ended form what they would say.

This measure of actual WOM was followed by a filler item, with participants reporting how surprised they felt when reading the conversation between Bella (or the chatbot program in the non-anthropomorphism condition) and the other customer on a 7-point scale (1 = *not at all*, 7 = *very surprised*). No significant difference was found across conditions ($F(1, 298) = 1.00, p = .317$). Participants also reported their attitudes toward the virtual shopping assistant (1 = *very unfavorable/dislike very much/very negative*, 9 = *very favorable/like very much/very positive*; $\alpha = 0.98$; Puzakova and Aggarwal 2018). They then rated how important it was for them to appear kind and polite when commenting on Bella (product-anthropomorphism condition)/the chatbot program (non-anthropomorphism condition) on a 7-point scale (1 = *not important at all*, 7 = *very important*). Finally, participants reported their demographic details.

Results and Discussion

Product Attitude. Participants' attitudes differed by condition ($M_{\text{anthro}} = 5.99, SD = 2.00$ vs. $M_{\text{non-anthro}} = 4.75, SD = 2.15$; $F(1, 298) = 27.09, p < .001$). Hence, we controlled for attitudes when analyzing the effect of product anthropomorphism on WOM positivity.

Overall WOM Positivity. Following recent consumer research (Baker, Donthu, and Kumar 2016; Chen 2017; Garcia-Rada et al. 2022; Kwak, Puzakova, and Rocereto 2015), we coded the degree to which participants' comments reflected a relatively positive view of the product by asking two independent judges blind to the study's purpose

and hypotheses to categorize each WOM response either as (a) mostly negative (assigned a positivity score of 1; e.g., “I find Bella to be too assertive. . . . I think Bella wants to sell above advising me. I’m not looking for that. Just be there when I need you, don’t be pushy. Bella is not for me, there are plenty of other sites I can use”); (b) neutral, such as when thoughts were largely descriptive of the product (assigned a positivity score of 2; e.g., “This software helps a user to find an item of clothing that potentially best suits their style, preference, and choice. However, it is limited, and only offers a small number of choices before a final selection is offered; however, it makes finding items within the online store easy to come across”); or (c) mostly positive (assigned a positivity score of 3; e.g., “Bella was very easy to use. I think it’s a new and innovative way to help people shop. I got an answer really quickly and what I liked the most was that it was very simple to reply with either number 1 or number 2. I would recommend using a virtual assistant”); or not applicable (e.g., irrelevant comments that misidentified Bella as the customer shopping for clothes rather than the virtual shopping assistant; 27 participants [18 from the product-anthropomorphism condition and 9 from the non-anthropomorphism condition] fell into this category and were excluded from the analysis, leaving a sample of 273 in later data analyses). The interjudge agreement was 82%, and disagreements were resolved through discussion.

Because product attitudes differed by condition, we conducted a one-way ANCOVA to demonstrate the effect of product anthropomorphism adjusted for product attitude. Consistent with our key prediction, consumers wrote more positive WOM for the anthropomorphized (vs. non-anthropomorphized) product, after controlling for the influence of product attitude, $M_{\text{anthro-adjusted}} = 2.60$ vs. $M_{\text{non-anthro-adjusted}} = 2.35$, $F(1, 270) = 9.50$, $p = .002$. [Web appendix L](#) presents the proportions of negative, mixed, and positive WOM and additional comparisons. Since the gender of the customer in the scenario was specified as a woman, we also examined the influence of participant gender, which did not influence results ([web appendix L](#)).

Importance of Appearing Kind and Polite as a Mediator. Regression analyses showed that product anthropomorphism was positively associated with concerns about politeness ($b = 0.74$, $SE = 0.19$, 95% CI [0.37, 1.11]); furthermore, both politeness concerns ($b = 0.18$, $SE = 0.03$, 95% CI [0.13, 0.23]) and product attitudes ($b = 0.14$, $SE = 0.02$, 95% CI [0.10, 0.18]) were positively associated with WOM positivity. Hence, to probe the process underlying the effect of product anthropomorphism on consumer WOM positivity, we included both product attitude and politeness concern as potential mediators in a parallel mediation model using PROCESS Model 4 (Hayes 2017). The indirect effect through product attitude was significant ($b = 0.18$, $SE = 0.05$, 95% CI [0.09, 0.28]). Consistent

with previous knowledge, the more people liked a product, the more positive their WOM was. More importantly and supporting our predictions, the indirect effect through politeness concern was also significant ($b = 0.08$, $SE = 0.03$, 95% CI [0.02, 0.14]), suggesting that people talk more positively about an anthropomorphized product partly due to a heightened desire to look kind and polite. Of note, the parallel mediation analysis establishes that the mediating effect of politeness concern is independent of that deriving from product attitudes (Bond, He, and Wen 2019; De La Rosa and Tully 2022).

Discussion. The results of study 2 support our key hypothesis: given a motivation to impress others, product anthropomorphism increases consumers’ overall WOM positivity, as manifested in this study by actual written WOM. The mediation analysis also provides support for the underlying mechanism: namely, the anthropomorphism-induced WOM positivity derives from the greater importance of wanting to appear polite when discussing humanlike (vs. non-humanlike) entities. This is consistent with the professed-impressions literature, which has shown that speaking positively about a third person conveys a favorable impression of the speaker as being kind and polite (Ames et al. 2010; Wyer et al. 1994).

It is worth noting at this stage that our research focuses on the overall positivity of consumer WOM, that is, the relative tendency to spread positive rather than negative WOM. Consistent with the literature on professed impressions, which does not distinguish between the possibilities that a speaker creates favorable impressions by being more positive or less negative about the target person, we do not make a priori predictions as to whether the greater overall positivity predicted in the anthropomorphized product condition arises from greater positivity or less negativity. Thus, as in study 2, our key dependent variable across studies measures overall WOM positivity. For comprehensiveness, we present the separate results of positive versus negative WOM in [web appendix L](#) (for those studies in which the two can be separated) and also discuss how future research can delve further into this aspect in the General Discussion.

STUDY 3: PRODUCT ANTHROPOMORPHISM INCREASES THE LIKELIHOOD OF COMMUNICATING POSITIVE WOM TO DISTANT (RATHER THAN CLOSE) OTHERS

Having provided initial evidence of anthropomorphism-induced WOM positivity in study 2, study 3 sought to replicate the basic effect using a different assessment of consumer WOM, and also tested the thesis that this effect is likely to attenuate when an impression management motive is not salient. As in study 1, participants first read a

consumer report on a pair of sunglasses, presented either in an anthropomorphized or non-anthropomorphized form. Participants were then asked to imagine talking to a stranger or close friend about the sunglasses, and to select between two communication options that they might share, one of which was more positively framed than the other (see Moore 2015 and Packard and Berger 2017 for a similar approach). We expected that participants would display a heightened preference for positive communication when discussing the anthropomorphized versus non-anthropomorphized product. Furthermore, we anticipated that this effect would more likely hold when communicating with a stranger rather than a close friend, based on past research showing that impression management concerns tend to be higher when talking to distant others than to intimate others (Clark and Lemay 2010; Tice et al. 1995).

Study 3 also examined two alternative explanations for the basic effect. First, seeing products with humanlike features might induce a positive mood, which could produce more positive WOM. Hence, we measured participants' mood following the product anthropomorphism manipulation and ruled out this competing explanation. Second, study 3 sought to provide further evidence that the observed effect is not attributable to product liking.

Method

Design and Participants. Two hundred and seventy-six adults ($M_{\text{age}} = 38.8$ years, 35.5% male) took part in this study on Prolific for a small payment and were randomly assigned to one of the 2 (anthropomorphism of product: yes vs. no) \times 2 (audience type: stranger vs. close friend) between-subjects conditions.

Procedure and Materials. Participants learned that they would complete several unrelated studies. The first task required them to assess a consumer report of the AMR sunglasses used in study 1; the same attribute description and product anthropomorphism manipulation (except the trait rating task) were used in this study.

After viewing the product description, participants completed a three-item manipulation check of product anthropomorphism, assessing the extent to which (a) they saw humanlike features in the sunglasses, (b) the sunglasses reminded them of humanlike features, and (c) the sunglasses came to life as a person (1 = *disagree*, 7 = *agree*; $\alpha = 0.89$; adapted from Puzakova and Aggarwal 2018 and Kim and McGill 2018).² Participants also answered two filler questions aligned with the cover story: "How clear was the product report?" (1 = *not clear at all*, 7 = *very clear*) and "How involved were you when you were

reading the product report?" (1 = *not at all*, 7 = *very involved*). Product anthropomorphism did not exert a significant influence on either of these measures (clarity: $F(1, 274) = 0.89$, $p = .346$; involvement: $F(1, 274) = 0.004$, $p = .947$). Participants also reported their mood at that specific moment (1 = *very bad/very sad*, 7 = *very good/very happy*; $r = 0.80$, $p < .001$; Kim and McGill 2011) and their overall attitude toward the product on the same items used in study 2 ($\alpha = 0.92$) before they proceeded to the second task.

The next task purported to examine how people talk about products. To manipulate the salience of impression management concerns, half of the participants (the other half) were asked to imagine having a face-to-face conversation with a stranger (a close friend). A pretest confirmed higher impression management concerns when speaking with a stranger versus a friend (web appendix D). In both conditions, participants were presented with two versions of communication. While both versions broadly discussed the same attributes, version A signaled a more positive focus than version B (as confirmed in a pretest; web appendix D).

Version A: "While there are some negatives of Mr. AMR (the AMR sunglasses), such as the relative heavy frame and weak protection against glare, I would really like to focus more on the positives: The replaceable lens and the sturdy frame of Mr. AMR (the AMR sunglasses) are clearly two pluses. Besides, Mr. AMR is (the AMR sunglasses are) a great fit for most faces. Both men and women would like it."

Version B: "Mr. AMR has (the AMR sunglasses have) both negatives and positives. The thick frame and weak protection against glare of Mr. AMR (the AMR sunglasses) are clearly two weaknesses. And note that Mr. AMR (the AMR sunglasses) can be heavy. There are some pluses too, like the replaceable lens and sturdy frame. Besides, Mr. AMR suits (the AMR sunglasses suit) both men and women."

As the key dependent variable, participants were asked whether they would like to tailor their own WOM about the sunglasses more along the lines of version A or version B (1 = *definitely along version B*, 4 = *no preference*, 7 = *definitely along version A*). The session ended with demographic measures.

Results and Discussion

Anthropomorphism Manipulation Check, Mood, and Product Attitude. Results from one-way ANOVAs showed that participants in the product anthropomorphism condition indeed perceived the sunglasses as being more humanlike ($M = 3.56$, $SD = 1.59$) than did those in the non-anthropomorphism condition ($M = 2.66$, $SD = 1.45$; $F(1, 274) = 24.26$, $p < .001$, $\eta_p^2 = 0.08$). Furthermore, the product anthropomorphism manipulation did not influence

² Because this study uses a consumer report cover story, a fourth item that was assessed in studies 2 and 5 (pretest), "I see the marketer's intention to design the sunglasses as resembling a person," doesn't fit the cover story and so was not measured.

participants' mood ($F(1, 274) = 0.73, p = .395$) or their attitude toward the product ($F(1, 274) = 0.01, p = .910$).

Likelihood of Communicating More Positive WOM. The two-way ANOVA on WOM intentions revealed a significant main effect of audience type, $F(1, 272) = 6.24, p = .013, \eta_p^2 = 0.02$. People are more likely to share positive WOM with a stranger ($M = 4.79, SD = 2.08$) than with a close friend ($M = 4.15, SD = 2.19$)—higher scores reflect a greater tendency to share the more positive communication option (i.e., version A). Product anthropomorphism also had a significant main effect, $F(1, 272) = 3.91, p = .049, \eta_p^2 = 0.01$, with participants reporting a greater likelihood of sharing the more positively focused WOM for the anthropomorphized sunglasses ($M = 4.72, SD = 2.09$) than the non-anthropomorphized sunglasses ($M = 4.22, SD = 2.21$). More importantly and in support of our predictions, this positivity advantage for the anthropomorphized product held when people imagined communicating with a stranger (i.e., the high impression management condition: $M_{\text{anthro}} = 5.26, SD = 1.94$ vs. $M_{\text{non-anthro}} = 4.32, SD = 2.13; F(1, 272) = 6.80, p = .009, \eta_p^2 = 0.02$). In contrast, this effect attenuated when the audience was a close friend (i.e., the low impression management condition: $M_{\text{anthro}} = 4.19, SD = 2.11$ vs. $M_{\text{non-anthro}} = 4.12, SD = 2.30; F(1, 272) = 0.04, p = .851$). The two-way interaction was marginally significant, $F(1, 272) = 2.93, p = .088, \eta_p^2 = 0.01$.

Discussion. Replicating study 2, study 3 found that consumers with high impression management concerns are more likely to communicate positive WOM when the product is anthropomorphized than when it is not; and furthermore, the effect diminishes in conditions that are likely to lower impression management concerns, such as when one is communicating with a close friend rather than a stranger. This finding is consistent with our posited process, which argues that it is the wish to create a favorable impression on WOM recipients that drives speakers' intention to share more positive WOM for anthropomorphized products, just as it does when communicating about real people.

Study 3 also shows that the observed effects were not attributable to mood or product liking. That is, product anthropomorphism affected WOM positivity, but not people's mood or attitudes toward the product. Note that the lack of an effect of anthropomorphism on product liking in this study is consistent with past research, which has pointed out that "simply imbuing products with humanlike traits does not *always* improve evaluation" (Puzakova and Aggarwal 2018, 871).

Interestingly, impression management concerns (as operationalized by audience type) in study 3 exerted a main effect on WOM positivity, which seems to align with past research that has also documented more positive WOM given a salient impression management goal (Chen 2017). A key difference, however, lies in our finding that

the positivity effect in study 2 is driven primarily by the product anthropomorphism condition ($M_{\text{anthro/stranger}} = 5.26$ vs. $M_{\text{anthro/close friend}} = 4.19; F(1, 272) = 8.93, p = .003; \eta_p^2 = 0.03$), not by the non-anthropomorphism condition ($M_{\text{non-anthro/stranger}} = 4.32$ vs. $M_{\text{non-anthro/close friend}} = 4.12; F(1, 272) = 0.31, p = .579$). This is consistent with our theorizing, which argues that the positivity effect obtained here is driven by a different process (the desire to appear polite when discussing humanlike entities) than that implicated in past research (the desire to send a positive signal by talking about pleasant products or consumption experiences connected to oneself). The former holds for products with low personal connection—such as the one studied here—and is more likely to obtain for anthropomorphized products. The latter is more likely to hold for self-connected products (Akpınar et al. 2018) and is independent of product anthropomorphism. Indeed, even if this latter process was to also hold for products with low personal connection—and while less likely, such a positivity effect has occasionally been observed for such products as well (Dubois et al. 2016)—this would not be inimical to our theorizing. Rather, orthogonal to any other positivity effect that might be created by impression management concerns, the current research uncovers a novel positivity mechanism that is unique to anthropomorphic products.

A supplementary study (150 Hong Kong undergraduate students, $M_{\text{age}} = 20.6$ years, 38.7% male³), using the same 2 (product anthropomorphism) \times 2 (audience type) design as in study 3 and the actual WOM measure as in study 2, replicated that the anthropomorphism-induced positivity effect vanishes when impression management concerns are low (see web appendix I for the full details of this supplementary study). Briefly, as in study 3, we manipulated impression management concerns via audience type (new friend vs. close friend; Chen 2017) and found that product anthropomorphism led to more positive WOM when consumers talked with a new friend (i.e., high impression management concerns; $M_{\text{anthro}} = 2.00, SD = 0.76$ vs. $M_{\text{non-anthro}} = 1.51, SD = 0.70; F(1, 140) = 7.08, p = .009, \eta_p^2 = 0.05$) but not when consumers talked with a close friend (i.e., low impression management concerns; $M_{\text{anthro}} = 1.53, SD = 0.74$ vs. $M_{\text{non-anthro}} = 1.84, SD = 0.87, F(1, 140) = 2.97, p = .087, \eta_p^2 = 0.02$); interaction between product anthropomorphism and audience type: $F(1, 140) = 9.64, p = .002, \eta_p^2 = 0.06$.

Collectively, the studies thus far provide good support for the key prediction regarding the anthropomorphism-induced WOM positivity and also yield evidence consistent with the posited mechanism. Studies 4 and 5 seek to further illuminate important aspects of this mechanism.

3 Four participants who reported that they were distracted during the study (the same criterion as in another lab study—study 5) and two participants provided irrelevant WOM responses (as in study 2) were excluded, leaving a sample of 144.

STUDY 4: THE INCLINATION TO SHARE POSITIVE WOM FOR ANTHROPOMORPHIZED PRODUCTS REDUCES WHEN CONSUMERS PRIORITIZE ACCURACY

Study 4 sought to provide additional support for the posited process underlying our theorizing, both by replicating the mediation evidence obtained earlier in study 2 and by documenting an additional moderator for the proposed effect of product anthropomorphism on WOM positivity. In particular, while study 3 found that the effect of product anthropomorphism on WOM positivity attenuates when the impression management motive is less salient (e.g., when the recipient is a close friend), study 4 examines the thesis that such attenuation should also obtain when the recipient is kept constant, but impression management considerations are offset by a salient competing motive. As discussed earlier, being accurate—namely, providing objective and correct information—is another important consideration in interpersonal communication (Chen et al. 1996; Grice 1975; Higgins 1981). In fact, websites that post crowdsourced customer reviews often state the accuracy rule in their review writing guidelines (e.g., “you should provide unbiased and objective information,” www.airbnb.com/help/article/2673/airbnbs-review-policy; www.yelp.com/guidelines). We argue that when the accuracy motive is thus made salient, the proposed effect of product anthropomorphism on WOM positivity should attenuate. Regardless of whether the product is anthropomorphized or not, the accuracy motive will grow in importance, thereby offsetting the impression motive that induces speakers to engage in positive WOM about an anthropomorphized product. Study 4 tests this moderation effect by explicitly manipulating the importance of accuracy in WOM communications.

Finally, in addition to the accuracy and politeness norms, Higgins's (1981) conceptualization posits that the third fundamental norm that guides interpersonal communication is informativeness. Therefore, to obtain a comprehensive picture, study 4 assessed the importance participants accorded to each of the three communication norms in Higgins's theory—accuracy, politeness, and informativeness. Based on our theorizing, we anticipated that the wish to appear kind and polite would be parallel to and mediate the predicted interaction of product anthropomorphism and motive (impression management vs. accuracy) on overall WOM positivity. The wish to be accurate, on the other hand, was expected to yield a significant main effect of the accuracy-motive manipulation. Finally, we did not have a prior prediction about the wish to be informative, which was included for exploratory purposes, to check whether it had any mediational impact on WOM positivity.

Method

Design and Participants. Five hundred adults ($M_{\text{age}} = 36.9$ years, 36.4% male) took part in this study on Amazon's Mechanical Turk for a small payment and were randomly assigned to one of the 2 (anthropomorphism of product: yes vs. no) \times 2 (salient motive: impression-management vs. accuracy) between-subjects conditions.

Procedure and Materials. Participants were informed, under the cover story of a marketing research study, that this study investigated human behavior related to the consideration of different products. Thus, they would be presented with a randomly selected product and answer a few questions. Under this pretense, all participants read a poster about a portable camera named DJI Pocket 2. The poster contained two photos of the camera along with a mix of positive (e.g., shake-free in moving conditions) and negative features (e.g., tiny touch screen) of the product. To increase generalizability, this study featured a new manipulation of product anthropomorphism, one that explicitly asked participants to think and write about a nonhuman entity as coming to life as a person (vs. as a machine; [web appendix E](#); adapted from Chen, Chen, and Yang 2020; Kim and Kramer 2015).⁴

Upon finishing the writing task, participants completed a three-item manipulation check of product anthropomorphism. To match the product anthropomorphism induction used in this study, we measured people's active tendency to see the target product as a person. Thus, the items used were “In assessing this camera, I tend to treat it as if it were alive,” “In assessing this camera, I tend to find humanlike features in it,” and “In assessing this camera, I tend to think about how it resembles human beings” ($\alpha = 0.94$; 1 = *disagree*, 7 = *agree*).

In the second task, participants were instructed to imagine sharing their views about the camera with other people. To make the impression-management versus accuracy motive salient in different conditions, we gave participants explicit directives (Salerno 2019). In the impression management condition participants read, “It is very important to think about how other people may perceive you and the impression you make on the listeners, through what you say.” Past research has shown that heightening the salience of interpersonal evaluation increases impression management concerns (Schlenker and Leary 1982). Conversely, participants in the accuracy condition read, “It is very important to ensure what you say is factually correct, and as objective and accurate as possible” (adapted from the review writing guidelines on Yelp.com; Aarts and Dijksterhuis 1999; Thompson et al. 1994; [web appendix F](#)). Following the motivation manipulation, participants

4 One participant from the non-anthropomorphism condition who indicated that he did not understand this question was excluded, leaving a sample of 499 in the data analyses.

indicated their intention to share positive versus negative thoughts on two bi-polar scales: “Will you mention negative features or positive features of DJI Pocket 2?” and “Will you share negative comments or positive comments of DJI Pocket 2?” (1 = *only mention negative features/negative comments*, 2 = *mention much more negative than positive*, 3 = *mention slightly more negative than positive*, 4 = *mention positive and negative equally*, 5 = *mention slightly more positive than negative*, 6 = *mention much more positive than negative*, 7 = *only mention positive features/positive comments*). Responses to the two items were averaged to form an overall WOM positivity index ($r = 0.85, p < .001$).

As a check for the efficacy of the motivation manipulation, we measured the extent to which accuracy mattered to participants, using two separate items (“Sharing my thoughts in an objective and unbiased manner . . .” and “Sharing my thoughts in an accurate manner . . .” 1 = *not matters at all*, 7 = *matters very much*; $r = 0.66, p < .001$). Higher scores on this index were expected in the accuracy-versus impression-salient conditions.

This was followed by the key process measure. Namely, to explicitly capture the tradeoffs between the three different norms that might be guiding the content of their WOM (Higgins 1981), we asked participants to report how much importance they accorded each of the following three dimensions when they imagined sharing their thoughts about DJI Pocket 2: “to look kind and polite,” “to be objective and accurate,” and “to provide helpful information to the listener.” Participants allocated 100 points to these three dimensions, giving the most points to the dimension(s) that mattered most to them.⁵ Finally, participants completed the product attitude measure on the same items used in previous studies ($\alpha = 0.97$) and reported their demographic details before being paid.

Results and Discussion

Anthropomorphism Manipulation Check and Product Attitude. As expected, participants showed a higher tendency to perceive the target product as humanlike in the product-anthropomorphism condition ($M = 2.95, SD = 1.83$) than in the non-anthropomorphism condition ($M = 1.64, SD = 0.96$), $F(1, 495) = 97.95, p < .001, \eta_p^2 = 0.17$.

5 Note that because the constant-sum scale forces trade-offs among the different communications norms, this guards against the possibility of participants reporting high scores on all dimensions simply due to social desirability concerns (e.g., a participant might want to appear concerned with both accuracy and politeness; Schwarz 2019). At the same time, a limitation of the constant sum scale is that responses to the three dimensions are not independent of one another. Reassuringly, an additional study that measures the three communication norms on independent scales found convergent evidence for the politeness mechanism that is posited to underlie the key positivity effect of product anthropomorphism given an impression-management motive (web appendix K).

In this study, participants’ attitudes also differed between product-anthropomorphism ($M = 4.73, SD = 1.89$) and non-anthropomorphism conditions ($M = 4.31, SD = 1.89$), $F(1, 495) = 5.99, p = .015, \eta_p^2 = 0.01$. However, no two-way interaction was found, $F(1, 495) = 1.52, p = .219$. Therefore, the interactive pattern reported later for WOM positivity cannot be attributed to product anthropomorphism’s effect on product liking. Nevertheless, as described later, we tested attitude-independent effects of product anthropomorphism on consumer WOM positivity by including product attitude as a covariate in the latter analysis.

Accuracy Motive. Supporting the efficacy of the motivation manipulation, participants in the accuracy-motive condition ($M = 6.11, SD = 0.92$) cared more about being objective and accurate in sharing their thoughts than those in the impression-management condition ($M = 5.82, SD = 1.13$), $F(1, 495) = 10.52, p = .001, \eta_p^2 = 0.02$. Unanticipated but tangential to our focal prediction, accuracy motive was lower for the anthropomorphized product ($M = 5.87, SD = 1.07$) than for the non-anthropomorphized equivalent ($M = 6.06, SD = 1.01$; $F(1, 495) = 4.93, p = .027, \eta_p^2 = 0.01$). No two-way interaction was found, $F(1, 495) = 0.76, p = .384$.

Overall WOM Positivity. We expect that the usual positivity effect of product anthropomorphism will apply when the impression-management motive is salient. When the accuracy motive is salient, we expect that the heightened importance of being accurate will lead people to speak objectively, regardless of whether the product is anthropomorphized or not, thereby attenuating the predicted effect of product anthropomorphism. Supporting our expectations, the two-way ANOVA of product anthropomorphism and motive on participants’ overall WOM positivity revealed a significant main effect of consumer motive ($M_{\text{impression}} = 4.27, SD = 1.27$ vs. $M_{\text{accuracy}} = 3.81, SD = 1.04, F(1, 495) = 20.74, p < .001, \eta_p^2 = 0.04$) and also a significant main effect of product anthropomorphism ($M_{\text{anthro}} = 4.15, SD = 1.17$ vs. $M_{\text{non-anthro}} = 3.92, SD = 1.18, F(1, 495) = 6.53, p = .011, \eta_p^2 = 0.01$). Crucially, these main effects were qualified by a significant two-way interaction, $F(1, 495) = 6.35, p = .012, \eta_p^2 = 0.01$. Planned contrasts revealed that in the impression-management condition, as predicted, participants were more likely to share positive (vs. negative) WOM when the product was anthropomorphized ($M = 4.54, SD = 1.22$) than when it was not ($M = 4.02, SD = 1.27$), $F(1, 495) = 12.88, p < .001, \eta_p^2 = 0.03$. This difference disappeared in the accuracy condition ($M_{\text{anthro}} = 3.81, SD = 1.02$ vs. $M_{\text{non-anthro}} = 3.81, SD = 1.06, F(1, 495) = 0.00, p = .980$).

As noted earlier, product anthropomorphism had an enhancing effect on product attitude. Hence, to demonstrate attitude-independent effects, we conducted a two-way ANCOVA of product anthropomorphism \times motive on

overall WOM positivity, with product attitude controlled. Results revealed that the effect of product anthropomorphism on consumers' overall WOM positivity was significant in the impression-management condition ($M_{\text{anthro-adjusted}} = 4.42$ vs. $M_{\text{non-anthro-adjusted}} = 4.13$, $F(1, 494) = 6.27$, $p = .013$, $\eta_p^2 = 0.01$), but not in the accuracy condition ($M_{\text{anthro-adjusted}} = 3.77$ vs. $M_{\text{non-anthro-adjusted}} = 3.85$, $F(1, 494) = 0.40$, $p = .526$); interaction between product anthropomorphism and motive: $F(1, 494) = 4.97$, $p = .026$, $\eta_p^2 = 0.01$.

Importance of Different Motives. Our theorizing holds that the importance of politeness and accuracy motives should differ systematically across conditions. Given a salient impression-management motive, the importance of appearing polite should be enhanced when discussing an anthropomorphized product versus its non-anthropomorphized equivalent. For a salient accuracy motive, in contrast, the importance of accuracy should rise across the board, dampening the importance of appearing polite regardless of product anthropomorphism.

The two-way ANOVA on the weight participants put on "looking kind and polite" revealed a main effect of product anthropomorphism ($M_{\text{anthro}} = 17.21$, $SD = 17.75$ vs. $M_{\text{non-anthro}} = 11.09$, $SD = 13.52$; $F(1, 495) = 20.23$, $p < .001$, $\eta_p^2 = 0.04$), as well as a main effect of consumer motive ($M_{\text{impression}} = 15.59$, $SD = 17.82$ vs. $M_{\text{accuracy}} = 12.81$, $SD = 14.05$; $F(1, 495) = 4.87$, $p = .028$, $\eta_p^2 = 0.01$). Importantly and supporting our predictions, this effect was qualified by a significant 2-way interaction, $F(1, 495) = 8.10$, $p = .005$, $\eta_p^2 = 0.02$. Planned contrasts showed that in the impression-management condition, participants reported a higher importance of looking kind/polite when the target product was anthropomorphized ($M = 20.97$, $SD = 20.89$) than not ($M = 10.67$, $SD = 12.67$), $F(1, 495) = 26.95$, $p < .001$, $\eta_p^2 = 0.05$ (table 1). However, this difference attenuated when people were explicitly instructed to be accurate ($M_{\text{anthro}} = 13.88$, $SD = 13.64$ vs. $M_{\text{non-anthro}} = 11.56$, $SD = 14.46$; $F(1, 495) = 1.37$, $p = .243$). The pattern of results on politeness importance thus mirrored that obtained for WOM positivity.

In contrast, the two-way ANOVA on the weight participants put on "being accurate and speaking the truth" simply revealed a significant main effect of consumer motive, $F(1, 495) = 4.21$, $p = .041$, $\eta_p^2 = 0.01$. Those who were motivated to be accurate placed significantly greater weight on this aspect ($M = 48.27$, $SD = 20.17$) than those who were motivated to manage impressions ($M = 44.67$, $SD = 20.18$).⁶ No main effect of product

anthropomorphism ($F(1, 495) = 1.72$, $p = .191$) or 2-way interaction ($F(1, 495) = 0.89$, $p = .345$) was found.

Finally, the importance of providing helping information, for which we had no a priori predictions, revealed a main effect of product anthropomorphism ($M_{\text{anthro}} = 37.37$, $SD = 18.25$ vs. $M_{\text{non-anthro}} = 41.34$, $SD = 18.93$; $F(1, 495) = 5.58$, $p = .019$, $\eta_p^2 = 0.01$). No main effect of motive ($F(1, 495) = 0.14$, $p = .713$) or 2-way interaction ($F(1, 495) = 1.87$, $p = .172$) was found. Clearly therefore, a concern with being helpful cannot explain the WOM positivity results.

Mediation Analysis. Our theorizing holds that the importance of appearing kind and polite underlies the interactive effect of product anthropomorphism and consumer motive on consumer intentions to share positive rather than negative WOM. We tested this thesis with a mediated moderation analysis using PROCESS Model 8 (5,000 bootstrap samples; Hayes 2017). The mediated-moderation index in this analysis attained significance ($index = 0.14$, $SE = 0.05$, 95% CI [0.04, 0.25]). Importantly and in line with predictions, the importance of appearing kind and polite mediated the effect of product anthropomorphism on overall WOM positivity but only for the impression-management condition ($b = 0.18$, $SE = 0.05$, 95% CI [0.10, 0.28]), not for the accuracy condition ($b = 0.04$, $SE = 0.03$, 95% CI [-0.02, 0.11]). No support for mediated moderation was obtained when using "being accurate" (95% CI [-0.02, 0.05]), "providing helpful information" (95% CI [-0.02, 0.11]), or product attitude (95% CI [-0.09, 0.40]) as the mediator. Including product attitude as a control variable in the analyses for process variables and the mediated moderation did not significantly affect the results (web appendix L).

Discussion. Study 4 replicated the basic finding regarding greater WOM positivity for anthropomorphized versus non-anthropomorphized products when the impression-management motive is salient. Of importance, the study also provided two important insights into the process underlying this effect. First, by assessing the importance of different motives underlying WOM, this study found further evidence for our argument that it is the communicator's wish to look kind and polite that drives the positivity effect. This finding is consistent with the premise that the impression management motive, in the context of sharing views about anthropomorphized products, manifests in similar ways as when talking about an actual human being; just as speakers believe that saying positive things about a human being will make them look kind/polite, they seem to hold a similar belief for a humanlike product. Second,

6 Note that the pattern of results on our two measures of accuracy importance—the earlier independent measure, and the later item embedded in the constant-sum scale—are not identical. In particular, a significant main effect of anthropomorphism is obtained for the former, but not the latter. Some differences in results are to be expected only when a construct is measured using very different methods (e.g.,

the constant-sum scale makes trade-offs between different motivations, which is not the case in the independent scale; Schwarz 2019). Reassuringly, however, both measures showed that making an accuracy motive salient causes participants to accord more importance to sharing more accurate WOM.

TABLE 1

CELL MEANS OF THE IMPORTANCE PLACED ON THE THREE COMMUNICATION NORMS IN STUDY 4

	Impression management condition		Accuracy condition	
	Anthro	Non-anthro	Anthro	Non-anthro
Looking kind and polite	20.97* (20.89)	10.67 (12.67)	13.88 (13.64)	11.56 (14.46)
Being objective and accurate	42.55 (20.46)	46.62 (19.79)	47.96 (19.13)	48.62 (21.38)
Providing helpful information	36.49* (19.28)	42.71 (18.57)	38.16 (17.32)	39.81 (19.30)

*Notes: Anthro = product-anthropomorphism condition; non-anthro = non-anthropomorphism condition; standard deviations are in parentheses; indicates that cell means in the product-anthropomorphism and non-anthropomorphized conditions differ at $p < .05$.

and also aligned with our theorizing, study 4 found that in conditions when the impression management motive is combated by a competing motive—in this case, the need to be accurate—the proposed effect attenuates. Thus, when provided with an explicit accuracy motive, participants accorded increased importance to being accurate in their WOM (regardless of product anthropomorphism); the wish to look “kind and polite” correspondingly became less important, diminishing the WOM-positivity effect.

STUDY 5: PRODUCT ANTHROPOMORPHISM INCREASES WOM POSITIVITY ONLY WHEN BEING POSITIVE ABOUT OTHER PEOPLE IS BELIEVED TO PRODUCE FAVORABLE IMPRESSIONS

The final study sought to further illuminate the mechanism underlying the observed positivity in consumers' WOM for anthropomorphized products by examining another theoretically derived moderator for the effect. We have argued that the anthropomorphism-induced positivity effect derives from the interpersonal lay belief that communicating positively (vs. negatively) about another person creates a better impression of the communicator. Therefore, the positivity effect attenuates when the impression management motive is less salient (e.g., when talking to a close friend; study 3) or when it is overwhelmed by offsetting communication motives (such as the need for accuracy; study 4).

Even if the impression management concern was the dominant salient motive, however, our reasoning suggests that WOM positivity should attenuate if the underlying lay belief learned in the human world is itself diluted (Wan et al. 2016), such that consumers are temporarily led to believe that being positive about other people when talking to another person does *not* necessarily produce a favorable impression (and correspondingly that negativity does not necessarily create a bad impression). To the extent that WOM about anthropomorphized products is anchored in

the default “positivity about other people creates a likable impression of oneself” lay belief—a central premise of our conceptualization—a temporary belief dilution should attenuate this positivity effect of anthropomorphizing. Study 5 examines this prediction. Finally, to enhance the external validity of the findings, this study uses a real product and examines actual written WOM (as in study 2 and the study 3 follow-up).

Method

Design and Participants. Three hundred and ninety-seven students ($M_{\text{age}} = 20.6$ years, 22.7% male) from a subject pool of a major university in Hong Kong took part in this study online for a small payment. They were randomly assigned to one of the 2 (anthropomorphism of product: yes vs. no) \times 2 (priming: neutral vs. belief-dilution) between-subjects conditions.

Procedure and Materials. Participants learned at the outset that they would complete several unrelated studies. The first one was framed as a reading comprehension study designed to understand factors that influence people's reading ability. Under this cover story, all participants were presented with an excerpt purportedly taken from a recent article on Science Daily, a website that disseminates the latest scientific discoveries to the general public. Participants in the *neutral* condition were shown a passage titled “Some Truths about Meditation,” which stated the definition of meditation as well as its potential benefits. In the *belief-dilution* condition, participants were shown a (fake) passage titled “Some Surprising Truths about Negativity.” This passage described a “counterintuitive scientific finding” that purported to show that, despite the general inclination toward being polite, people actually enjoy the company of individuals who express negative thoughts about other people because they are seen to be authentic and competent. The passage further provided the following quote from a participant in a recent study: “I would much rather hang out with a person who talks straight, even if that means talking negatively about other people, than a ‘nice guy’ who is always careful to only say

the ‘right thing!’⁷ The passage concluded that negativity is a more likable trait than people might think (see [web appendix G](#) for details). After reading the passage, participants in both the neutral and belief-dilution conditions answered a filler question aligned with the reading comprehension cover story: “How difficult is it to comprehend this news report?” (1 = *not difficult at all*, 7 = *very difficult*). No significant difference was found between the neutral and belief-dilution condition, $F(1, 395) = 2.13, p = .145$.

Next, participants proceeded to a product evaluation study about an iPad flap case from Louis Vuitton. Each participant was presented with pictures of the iPad case along with a brief attribute description. The description contained both positive attributes (e.g., elegant design) and negative ones (e.g., not waterproof). Product anthropomorphism was manipulated with first-person language with a humanlike name “Mr. HAE” (vs. third-person language with a neutral product name “HAE”), a method widely used in past research (Kim and McGill 2018; Wan et al. 2016; see [web appendix H](#) for details). We note that the product descriptions were presented in a PowerPoint slideshow to mimic a real advertisement. A pretest confirmed the effectiveness of the product anthropomorphism manipulation ([web appendix H](#)).

After watching the product slideshow, participants read, “As consumers, we often share news, information, and opinions about different products with other people.” With this general instruction, all participants were asked to imagine that they were having a conversation with someone on whom they wanted to make a good impression (thus keeping the impression management motive salient across conditions; induction taken from Chen 2017) and that they were talking about products they had recently encountered. Participants then wrote in an open-ended form what they would say about the iPad flap case.

At the end of the study, participants reported their attitude toward the iPad case on the same items used in previous studies ($\alpha = 0.93$). They also reported their demographic details and indicated whether they were distracted (e.g., engaged in other activities) during the study. Those who answered yes to this question ($N = 26$, or 6.5% of the original sample) were excluded from the analysis, leaving a sample of 371. See [web appendix H](#) for exclusion criteria and exclusion numbers in each condition. Reported

results are statistically indistinguishable from those obtained when including these participants.

Results and Discussion

Product Attitude. Participants’ product attitude did not differ significantly between product-anthropomorphism and non-anthropomorphism conditions ($M_{\text{anthro}} = 5.11, SD = 1.56$ vs. $M_{\text{non-anthro}} = 4.93, SD = 1.47, F(1, 360) = 1.37, p = .243$).

Overall WOM Positivity. As in study 2, we coded the degree to which participants’ thoughts reflected a relatively positive view of the product by asking two independent judges blind to the study’s purpose and condition to categorize each WOM comment as mostly negative (assigned a positivity score of 1), neutral or mixed (positivity score of 2), mostly positive (positivity score of 3), or not applicable (i.e., irrelevant responses; eight participants fell into this category and were excluded from the analysis). The interjudge agreement was 87%, and disagreements were resolved through discussion. [Web appendix L](#) presents the proportions of each category of WOM. We predicted that product anthropomorphism should increase overall WOM positivity in the default neutral condition, replicating the basic effect, but not in the belief-dilution condition, in which the belief that one should be polite and positive when speaking of another person was temporarily diluted. The 2 (product anthropomorphism) \times (priming) ANOVA on the overall positivity score revealed the predicted two-way interaction ($F(1, 360) = 5.82, p = .016, \eta_p^2 = 0.02$). The relevant contrasts showed that, consistent with our hypothesis and the previous studies, participants in the *neutral* condition communicated more positively about the iPad flap case when it was anthropomorphized ($M = 2.45, SD = 0.72$) than when it was not ($M = 2.20, SD = 0.85$), $F(1, 360) = 4.17, p = .042, \eta_p^2 = 0.01$. However, no difference in WOM positivity manifested in the *belief-dilution* condition, whether the brand was anthropomorphized ($M = 2.23, SD = 0.87$) or not ($M = 2.39, SD = 0.79$), $F(1, 360) = 1.88, p = .171$.

Discussion. Study 5 provided support for a crucial aspect of our theorizing by directly manipulating the underlying lay belief that we have argued is responsible for the effect of the impression management motive on WOM behavior. Our conceptualization holds that an interpersonal lay belief—that communicating positively of another human being creates a likable impression of the speaker being kind and polite—spills over onto similar positivity when speaking about anthropomorphized products. Therefore, if this interpersonal belief is temporarily weakened by highlighting an opposite belief (that communicating negatively about others can be seen as more likable than communicating positively about them), the usual WOM positivity for anthropomorphized products should no

7 Note that this manipulation followed from the view, adopted throughout this paper and also in past research (Turnley and Bolino 2001), that the two lay beliefs—speaking positively of others enhances self-image and speaking negatively of others impairs it—go hand in hand. Accordingly, it should be possible to influence both together. In accordance with this view, the quote simultaneously implies that negativity can be good (the person “talks straight”) and that positivity might not always be good, in that it can arise from inauthenticity (“always careful to only say the right thing!”).

longer hold, as we find. In contrast, the usual effect held for the control condition in which the opposing belief was not activated (reassuringly, this replication was achieved in the context of actual WOM sharing).

One might wonder why the belief-dilution condition did not reverse the usual effect (and reduce overall positivity of WOM for the anthropomorphized versus non-anthropomorphized product) since this condition suggested that being negative might create positive impressions. It has to be borne in mind, however, that our temporary manipulation is unlikely to successfully reverse years of exposure to the socially appropriate norm of being positive about others—it would, at best, only dilute that norm, as manifested in an attenuation of the WOM effect. Note that precisely because our belief-dilution induction needed to offset the effect of longstanding social norms, we used an induction (leading participants to believe that speaking negatively might make one likable) that was quite explicit. It might be queried, therefore, whether our results were demand driven, such that participants exposed to this induction believed that they were supposed to engage in negativity about the target product. Thus, this demand-based account would argue that the belief-dilution manipulation simply primes a general tendency to be negative. For this account to be valid, the belief-dilution prime should have lowered WOM positivity regardless of product type. The pattern of results provides evidence, however, that this was not the case. While those communicating about the anthropomorphized product did display marginally greater negativity in the belief-dilution condition than in the neutral condition ($M_{\text{neutral}} = 2.45$, $M_{\text{belief-diluted}} = 2.23$; $F(1, 360) = 3.07$, $p = .081$; $\eta_p^2 = 0.008$), the belief dilution prime marginally increased the positivity of WOM for the non-anthropomorphized product ($M_{\text{belief-diluted}} = 2.39$ vs. $M_{\text{neutral}} = 2.20$, $F(1, 360) = 2.76$, $p = .098$; $\eta_p^2 = 0.008$), arguing against a demand-based explanation of the results.

GENERAL DISCUSSION

In the last 15 years, scholars have gained much insight into how consumers react differently to anthropomorphized products as compared to their non-anthropomorphized counterparts, from perception and judgment to product replacement decisions (Yang et al. 2020). However, the possible influence of product anthropomorphism on a crucial aspect of consumer behavior—how consumers communicate about a target product with other consumers—has not been investigated. The current research fills in this gap. In particular, we propose that a salient interpersonal norm—that speaking well about a target person creates favorable impressions about the speaker being kind and polite—spills over to anthropomorphized products so that consumers who care about the impression they are producing will

speak more positively about such products (compared to their non-anthropomorphized equivalents).

A set of five experiments provide consistent evidence for this thesis using different manipulations of product anthropomorphism and various measures of WOM positivity. Fundamentally, we find good support for the key prediction that imbuing a product with humanlike characteristics leads consumers to communicate relatively more positively about the target product. The boundary conditions obtained for this positivity effect provide convergent evidence for the underlying mechanism. Consistent with the premise that the effect is underpinned by impression management concerns, we find that it dissipates (a) in situations when such concerns are low (study 3); (b) when an accuracy motive overpowers the impression-management motive (study 4); and (c) upon diluting the usual belief that speaking positively of other people creates a favorable impression of the speaker (study 5).

Note that these boundary conditions—which collectively highlight the important role of impression management concerns in driving the WOM positivity induced by product anthropomorphism—are mirrored in real-world consumer contexts as well. Specifically, different consumer communication platforms offer natural variations in the extent to which impression management concerns are salient; our findings argue that marketers would benefit from a product anthropomorphism strategy in contexts wherein these concerns are more salient. Think about various types of online communication platforms—the channels through which a substantial portion of consumer WOM is generated and disseminated nowadays (Moore and Lafreniere 2020)—platform characteristics such as network structure, media richness, and user identifiability can trigger different levels of impression management (as opposed to competing motives, such as a need for accuracy). For example, Facebook imposes a strict real-name policy for users, whereas Twitter does not. The lower level of anonymity inherent in the former policy (Peddinti, Ross and Cappos 2017) should heighten impression management concerns (Chen and Berger 2013; current study 3), thereby facilitating an effect of product anthropomorphism on WOM positivity.

Another relevant platform characteristic is media richness. Platforms with richer media (images and videos) such as Instagram and TikTok tend to trigger a higher level of impression management motive than a more text-focused platform such as WhatsApp (Lee and Borah 2020). Further, platforms can also trigger the accuracy motive, which combats the impression-management motive (current study 4) to different extents because of different network structures. For example, the Reddit forum has an interest-based network structure where social interactions are grounded on knowledge in particular topic areas (e.g., earbuds). As a result, it is reasonable to speculate that consumers have a stronger accuracy motive on Reddit—and

therefore a lower impression-management motive—than on friendship-based networks such as Facebook.

In summary, because various communication platforms differ in the extent to which consumers seek to create a likable impression of themselves, the boundary conditions identified in the present research provide pointers as to which platforms are particularly likely to benefit from product anthropomorphism's effect on consumer WOM.

Theoretical Contributions

This article contributes to each of the three streams of literature that inform our conceptualization: consumer WOM, product anthropomorphism, and professed impressions.

Research on WOM. Given the prevalence and influence of consumer WOM, it is critical to identify factors that influence the positivity of such communication. The current research identifies a novel antecedent of WOM positivity, namely, the extent to which the target product is anthropomorphized. Although prior research has also shown that a salient impression management motive, in general, enhances WOM positivity (Barasch and Berger 2014; Chen 2017), theory and research point out that the earlier-documented positivity effect tends to diminish (Akpınar et al. 2018) or even reverse (De Angelis et al. 2012) when the personal relevance of the target product is low. In contrast, our research shows that even when the target product is low in personal relevance—for instance, when the speaker does not own the product—a humanlike depiction of the product can lead to a positivity effect. By doing so, our research adds to the WOM literature by documenting a new positivity effect that is driven by product characteristics (its degree of anthropomorphism).

This inquiry also adds to the discussion of how conversational norms play a role in WOM communication. Given the social nature of communication, WOM violating (vs. conforming to) commonly held conversational norms has been shown to elicit negative responses. For example, Kronrod and Danziger (2013) find that using figurative language in consumer reviews is regarded as less normative for utilitarian experiences than for hedonic experiences, thus reducing the influence of WOM on choice. Similarly, research examining full negations (e.g., “was not”) versus contractions (e.g., “wasn't”) in online reviews finds that the former has a poorer fit with social agreeableness norms, hence generating a “cold” perception of the review writer (Kim et al. 2021). The current work presents another example of how human-related communication norms can influence consumer WOM.

Research on Product Anthropomorphism. Our findings broaden current knowledge about product anthropomorphism and its role in consumer behavior by delineating an under-researched consequence of product

anthropomorphism: specifically, how consumers discuss that target product. Furthermore, our findings reinforce a key premise guiding much recent research in this area: namely, that consumers' interactions with anthropomorphized products are greatly influenced by the norms and schemas guiding human-to-human interactions (Yang et al. 2020). Thus, just as the wish to create a favorable impression by showing one's kindness and politeness leads individuals to be relatively positive when discussing other people, the same norm increases positivity in people's WOM about anthropomorphized products. Conversely, a dilution of this norm (for instance, by suggesting that people might actually like those who speak negatively about others) attenuates the proposed effect.

By showing that product anthropomorphism enhances overall WOM positivity, our findings also provide clear-cut managerial implications. Companies stand to gain a lot if consumers speak well of their offerings. We suggest that product anthropomorphism is a feasible and easy-to-implement way to make this happen. Such anthropomorphism can be achieved in many ways, several of which are featured in the current studies, such as describing the product in first-person language, endowing the product with humanlike visual features, or asking consumers to think of its “personality.” Of note, our findings indicate that anthropomorphism-induced WOM positivity is largely driven by the wish to manage impressions by conforming to socially desirable communication norms, rather than by true liking of the products. Firms and marketers should take this into account when using product anthropomorphism in their marketing practice to build favorable WOM.

Research on Professed Impressions. The current findings advance research on professed impressions in two directions. First, work in this area has shown that listeners tend to form more favorable impressions of someone who says positive (vs. negative) things about a third person (Wyer et al. 1994). We provide a complementary perspective by positing and showing that *speakers* harbor the corresponding lay belief themselves: that is, they believe that they will create a favorable impression by speaking well of a target, and this lay belief guides their communications about the target. Second, by showing that this effect extends beyond humans—it applies when discussing humanlike entities as well—our research enlarges the scope of the professed-impression effect. Relevant to this issue, we also conducted another two studies that directly compared communications about a real human salesperson versus anthropomorphized and non-anthropomorphized products. In both studies, the concern about politeness and the intention to share positive WOM were higher for a human salesperson and an anthropomorphized product than for a non-anthropomorphized product (web appendix K).

Future Directions

The current investigation also suggests avenues for further exploration. While our research obtained good support for the premise that product anthropomorphism enhances overall WOM positivity, we followed the professed-impression literature in not formulating a priori predictions as to whether this effect is driven more by a lowering of negativity (e.g., being reluctant to say bad things about a humanlike entity because that would create a negative impression) or an enhancement of positivity (e.g., wanting to say good things about the humanlike entity in the hope of creating a positive impression). Conceptually, increased positivity and reduced negativity should operate in tandem to produce the anthropomorphism-induced positivity effect. Empirically, interestingly, the current research shows that reduced negativity is relatively more evident in studies where positive and negative WOM can be analyzed separately. This finding is consistent with [Baumeister et al.'s \(2001\)](#) general conclusion that “bad is stronger than good,” but we encourage future research to further explore individual and environmental characteristics that can influence the strength of positivity versus negativity effect.

Future research should also examine the influence of other forms of impression management on consumer WOM. Although portraying oneself as being likable (e.g., kind and polite), the focus of the current research, is clearly an important form of impression management, there are also other types of impressions that consumers might seek to create, such as portraying themselves as being competent (e.g., expert and knowledgeable about the product; [Amabile 1983](#); [Feick and Price 1987](#)). Of relevance, just as offering positive thoughts and comments is seen as a manifestation of kindness and politeness, more negativity in communication is associated with greater expertise ([Amabile 1983](#); [Moe and Schweidel 2012](#)). Accordingly, when consumers wish to flaunt their expertise and competence (rather than likability), the positivity effects of anthropomorphism obtained in the current research should attenuate. Indeed, some early evidence from our lab has produced evidence consistent with this speculation ([web appendix J](#)).

Finally, while the current research focuses exclusively on the impact of product anthropomorphism on the WOM communicator, future research could fruitfully examine how product anthropomorphism affects WOM recipients. Given the reliable link between receiving positive WOM and recipients' product preferences ([Godes and Mayzlin 2009](#); [Packard and Berger 2017](#)), a prediction worth testing is that product anthropomorphism should exert a favorable influence on recipients' product choices, simply because of the more positive WOM they are likely to hear for anthropomorphized products as compared to their non-anthropomorphized versions. Another interesting recipient-based issue involves their reactions to the WOM

communicator. Given the professed-impressions finding as to the favorable (unfavorable) opinion that listeners form of speakers who speak well (ill) of an absent third party ([Ames et al. 2010](#); [Wyer et al. 1994](#)), it seems reasonable to argue that recipients are more likely to form a positive (negative) impression of a WOM communicator who speaks well (ill) of an anthropomorphized product rather than its non-anthropomorphized counterpart.

In general, the premise that the activation of human schemas influences the way consumers discuss anthropomorphized products is one with clear potential. The current research takes a step toward exploring this idea, and in doing so, aims to provide a basis for further investigation in this area.

DATA COLLECTION INFORMATION

The data for studies 1, 2, and 3 and the supplementary study reported in [web appendix K1](#) was collected through the Prolific Online panel from the autumn of 2019 to the summer of 2021 by the first author. The data for study 4 and the supplementary studies reported in [web appendices J and K2](#) were collected through the Amazon Mechanical Turk Online panel from the autumn of 2019 to the autumn of 2021 by the first author. The data for study 5 and the supplementary study reported in [web appendix I](#) were collected through the Hong Kong Polytechnic University online behavioral lab in the summer of 2020. Research assistants who were blind to the hypotheses conducted these studies under the supervision of the first author. The first and third authors jointly analyzed the data for studies assessing actual written WOM. The first author analyzed the data for other studies. The Hong Kong Polytechnic University's Institutional Review Board approved the materials for this research in 2017 (IRB protocol number: HSEARS20171218001). The data are currently archived in a project directory on the Open Science Framework.

REFERENCES

- Aarts, Henk and Ap Dijksterhuis (1999), “How Often Did I Do It? Experienced Ease of Retrieval and Frequency Estimates of past Behavior,” *Acta Psychologica*, 103 (1–2), 77–89.
- Aggarwal, Pankaj and Ann L. McGill (2007), “Is That Car Smiling at Me? Schema Congruity as a Basis for Evaluating Anthropomorphized Products,” *Journal of Consumer Research*, 34 (4), 468–79.
- (2012), “When Brands Seem Human, Do Humans Act like Brands? Automatic Behavioral Priming Effects of Brand Anthropomorphism,” *Journal of Consumer Research*, 39 (2), 307–23.
- Akpınar, Ezgi, Peeter W. J. Verlegh, and Ale Smidts (2018), “Sharing Product Harm Information: The Effects of Self-Construal and Self-Relevance,” *International Journal of Research in Marketing*, 35 (2), 319–35.

- Amabile, Teresa M. (1983), "Brilliant but Cruel: Perceptions of Negative Evaluators," *Journal of Experimental Social Psychology*, 19 (2), 146–56.
- Ames, Daniel R., Emily C. Bianchi, and Joe C. Magee (2010), "Professed Impressions: What People Say about Others Affects Onlookers' Perceptions of Speakers' Power and Warmth," *Journal of Experimental Social Psychology*, 46 (1), 152–8.
- Baker, Andrew M., Naveen Donthu, and V. Kumar (2016), "Investigating How Word-of-Mouth Conversations about Brands Influence Purchase and Retransmission Intentions," *Journal of Marketing Research*, 53 (2), 225–39.
- Barasch, Alixandra and Jonah Berger (2014), "Broadcasting and Narrowcasting: How Audience Size Affects What People Share," *Journal of Marketing Research*, 51 (3), 286–99.
- Baumeister, Roy F., Ellen Bratslavsky, Catrin Finkenauer, and Kathleen D. Vohs (2001), "Bad Is Stronger than Good," *Review of General Psychology*, 5 (4), 323–70.
- Berger, Jonah (2014), "Word of Mouth and Interpersonal Communication: A Review and Directions for Future Research," *Journal of Consumer Psychology*, 24 (4), 586–607.
- (2015), "Word of Mouth and Interpersonal Communication," in *The Cambridge Handbook of Consumer Psychology*, eds. M. I. Norton, D. D. Rucker, and C. Lambertson, Cambridge, UK: University of Cambridge Press, 368–97.
- Berger, Jonah and Raghuram Iyengar (2013), "Communication Channels and Word of Mouth: How the Medium Shapes the Message," *Journal of Consumer Research*, 40 (3), 567–79.
- Bond, Samuel D., Stephen X He, and Wen (2019), "Speaking for 'Free': Word of Mouth in Free-and Paid-Product Settings," *Journal of Marketing Research*, 56 (2), 276–90.
- Castelli, Fulvia, Francesca Happé, Uta Frith, and Chris Frith (2000), "Movement and Mind: A Functional Imaging Study of Perception and Interpretation of Complex Intentional Movement Patterns," *NeuroImage*, 12 (3), 314–25.
- Chen, Zoey, and Jonah Berger (2013), "When, Why, and How Controversy Causes Conversation," *Journal of Consumer Research*, 40 (3), 580–93.
- Chen, Fangyuan, Rocky Peng Chen, and Li Yang (2020), "When Sadness Comes Alive, Will It Be Less Painful? The Effects of Anthropomorphic Thinking on Sadness Regulation and Consumption," *Journal of Consumer Psychology*, 30 (2), 277–95.
- Chen, Serena, David Shechter, and Shelly Chaiken (1996), "Getting at the Truth or Getting along: Accuracy versus Impression-Motivated Heuristic and Systematic Processing," *Journal of Personality and Social Psychology*, 71 (2), 262–75.
- Chen, Zoey (2017), "Social Acceptance and Word of Mouth: How the Motive to Belong Leads to Divergent WOM with Strangers and Friends," *Journal of Consumer Research*, 44 (3), 613–32.
- Chen, Zoey and Nicholas H. Lurie (2013), "Temporal Contiguity and Negativity Bias in the Impact of Online Word-of-Mouth," *Journal of Marketing Research*, 50 (4), 463–76.
- Clark, Margaret S. and Edward P. Lemay Jr. (2010), "Close Relationships," in *Handbook of Social Psychology*, 5th Ed, ed. Susan T. Fiske, Daniel T. Gilbert, and Gardner Lindzey, Hoboken, NJ: Wiley & Sons, Inc, 898–940.
- Crocker, Cammy, Felipe Thomaz, Rhonda Hadi, and Andrew T. Stephen (2022), "Blame the Bot: Anthropomorphism and Anger in Customer–Chatbot Interactions," *Journal of Marketing*, 86 (1), 132–48.
- Dauenheimer, Dirk G., Dagmar Stahlberg, Sandra Spreemann, and Constantine Sedikides (2002), "Self-Enhancement, Self-Verification, or Self-Assessment? The Intricate Role of Trait Modifiability in the Self-Evaluation Process," *Revue Internationale De Psychologie Sociale*, 15, 89–112.
- De Angelis, Matteo, Andrea Bonezzi, Alessandro M. Peluso, Derek D. Rucker, and Michele Costabile (2012), "On Braggarts and Gossips: A Self-Enhancement account of Word-of-Mouth Generation and Transmission," *Journal of Marketing Research*, 49 (4), 551–63.
- De La Rosa, Wendy, and Stephanie M. Tully (2022), "The Impact of Payment Frequency on Consumer Spending and Subjective Wealth Perceptions," *Journal of Consumer Research*, 48 (6), 991–1009.
- Dubois, David, Andrea Bonezzi, and Matteo De Angelis (2016), "Sharing with Friends versus Strangers: How Interpersonal Closeness Influences Word-of-Mouth Valence," *Journal of Marketing Research*, 53 (5), 712–27.
- Epley, Nicholas, Adam Waytz, and John T. Cacioppo (2007), "On Seeing Human: A Three-Factor Theory of Anthropomorphism," *Psychological Review*, 114 (4), 864–86.
- Feather, Norman T. and D. J. Armstrong (1967), "Effects of Variations in Source Attitude, Receiver Attitude, and Communication Stand on Reactions to Source and Content of Communications," *Journal of Personality*, 35 (3), 435–55.
- Feick, Lawrence F. and Linda L. Price (1987), "The Market Maven: A Diffuser of Marketplace Information," *Journal of Marketing*, 51 (1), 83–97.
- Folkes, Valerie S. and David O. Sears (1977), "Does Everybody like a Liker?," *Journal of Experimental Social Psychology*, 13 (6), 505–19.
- Garcia-Rada, Ximena, Mary Steffel, Elanor F. Williams, and Michael I. Norton (2022), "Consumers Value Effort over Ease When Caring for Close Others," *Journal of Consumer Research*, Forthcoming, 48 (6), 970–90.
- Gawronski, Bertram and Eva Walther (2008), "The TAR Effect: When the Ones Who Dislike Become the Ones Who Are Disliked," *Personality & Social Psychology Bulletin*, 34 (9), 1276–89.
- Godes, David and Dina Mayzlin (2009), "Firm-Created Word-of-Mouth Communication: Evidence from a Field Test," *Marketing Science*, 28 (4), 721–39.
- Goffman, Erving (1959), *The Presentation of Self in Everyday Life*, New York: Doubleday.
- (1981), *Forms of Talk*, Philadelphia, PA: University of Pennsylvania Press.
- Greenberg, Bradley S. and Gerald R. Miller (1966), "The Effects of Low-Credible Sources on Message Acceptance," *Speech Monographs*, 33 (2), 127–36.
- Grice, H. Paul (1975), "Logic and Conversation," in *Syntax and Semantics, Vol. 3, Speech Acts*, ed. Peter Cole and Jerry L. Morgan, New York: Academic Press, 41–58.
- Hayes, Andrew F. (2017), *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, New York: Guilford Press.
- Herr, Paul M., Frank R. Kardes, and John Kim (1991), "Effects of Word-of-Mouth and Product-Attribute Information on Persuasion: An Accessibility-Diagnosticity Perspective," *Journal of Consumer Research*, 17 (4), 454–62.

- Higgins, E. Tory (1981), "The 'Communication Game': Implications for Social Cognition and Persuasion," in *Social Cognition: The Ontario Symposium*, Vol. 1, ed. E. T. Higgins, C. P. Herman, and M. P. Zanna, Hillsdale, NJ: Erlbaum, 343–92.
- Huang, Feifei, Vincent Chi Wong, and Echo Wen Wan (2019), "The Influence of Product Anthropomorphism on Comparative Judgments," *Journal of Consumer Research*, 46 (5), 936–55.
- Hur, Julia D., Minjung Koo, and Wilhelm Hofmann (2015), "When Temptations Come Alive: How Anthropomorphism Undermines Self-Control," *Journal of Consumer Research*, 42 (2), ucv017.
- Kim, Hyeongmin Christian and Thomas Kramer (2015), "Do Materialists Prefer the 'Brand-as-Servant'? the Interactive Effect of Anthropomorphized Brand Roles and Materialism on Consumer Responses," *Journal of Consumer Research*, 42 (2), 284–99.
- Kim, Hye-Young and Ann L. McGill (2018), "Minions for the Rich? Financial Status Changes How Consumers See Products with Anthropomorphic Features," *Journal of Consumer Research*, 45 (2), 429–50.
- Kim, Sara and Ann L. McGill (2011), "Gaming with Mr. Slot or Gaming the Slot Machine? Power, Anthropomorphism, and Risk Perception," *Journal of Consumer Research*, 38 (1), 94–107.
- Kim, Soyoun, Sarah G. Moore, and Kyle Murray (2021), "'Don't Buy' or 'Do Not Buy'? How Negation Style in Online Reviews Influences Consumer Product Evaluations," *Journal of Marketing Theory and Practice*, 29 (3), 308–22.
- Kronrod, Ann and Shai Danziger (2013), "'Wii Will Rock You!' the Use and Effect of Figurative Language in Consumer Reviews of Hedonic and Utilitarian Consumption," *Journal of Consumer Research*, 40 (4), 726–39.
- Kwak, Hyokjin, Marina Puzakova, and Joseph F. Rocereto (2015), "Better Not Smile at the Price: The Differential Role of Brand Anthropomorphism on Perceived Price Fairness," *Journal of Marketing*, 79 (4), 56–76.
- Leary, Mark R. (1995), *Self-Presentation: Impression Management and Interpersonal Behavior*, Routledge: Brown and Benchmark.
- Lee, Ka Lai and Porismita Borah (2020), "Self-Presentation on Instagram and Friendship Development among Young Adults: A Moderated Mediation Model of Media Richness, Perceived Functionality, and Openness," *Computers in Human Behavior*, 103, 57–66.
- Liu, Yong (2006), "Word of Mouth for Movies: Its Dynamics and Impact on Box Office Revenue," *Journal of Marketing*, 70 (3), 74–89.
- Mackiewicz, Jo, Dave Yeats, and Thomas Thornton (2016), "The Impact of Review Environment on Review Credibility," *IEEE Transactions on Professional Communication*, 59 (2), 71–88.
- Moe, Wendy W. and David A. Schweidel (2012), "Online Product Opinions: Incidence, Evaluation, and Evolution," *Marketing Science*, 31 (3), 372–86.
- Moe, Wendy W. and Michael Trusov (2011), "The Value of Social Dynamics in Online Product Ratings Forums," *Journal of Marketing Research*, 48 (3), 444–56.
- Moore, Sarah G. (2015), "Attitude Predictability and Helpfulness in Online Reviews: The Role of Explained Actions and Reactions," *Journal of Consumer Research*, 42 (1), 30–44.
- Moore, Sarah G. and Katherine C. Lafreniere (2020), "How Online Word-of-Mouth Impacts Receivers," *Consumer Psychology Review*, 3 (1), 34–59.
- Mourey, James A., Jenny G. Olson, and Carolyn Yoon (2017), "Products as Pals: Engaging with Anthropomorphic Products Mitigates the Effects of Social Exclusion," *Journal of Consumer Research*, 44 (2), ucx038.
- Packard, Grant and Jonah Berger (2017), "How Language Shapes Word of Mouth's Impact," *Journal of Marketing Research*, 54 (4), 572–88.
- Peddinti, Sai Teja, Keith W. Ross, and Justin Cappos (2017), "User Anonymity on Twitter," *IEEE Security & Privacy*, 15 (3), 84–7.
- Puzakova, Marina and Pankaj Aggarwal (2018), "Brands as Rivals: Consumer Pursuit of Distinctiveness and the Role of Brand Anthropomorphism," *Journal of Consumer Research*, 45 (4), 869–88.
- Richins, Marsha L. (1983), "Negative Word-of-Mouth by Dissatisfied Consumers: A Pilot Study," *Journal of Marketing*, 47 (1), 68–78.
- Salerno, Anthony (2019), "Contemporary Methods in Consumer Goal Pursuit and Emotion Research," in *Handbook of Research Methods in Consumer Psychology*, ed. F. R. Kardes, P. M. Herr, and N. Schwarz, New York: Routledge, 208–40.
- Schlenker, Barry R. and Mark R. Leary (1982), "Social Anxiety and Self-Presentation: A Conceptualization Model," *Psychological Bulletin*, 92 (3), 641–9.
- Schmitt, Bernd (2019), "From Atoms to Bits and Back: A Research Curation on Digital Technology and Agenda for Future Research," *Journal of Consumer Research*, 46 (4), 825–32.
- Schwarz, Norbert (2019), "Surveys, Experiments, and the Psychology of Self-Report," in *Handbook of Research Methods in Consumer Psychology*, ed. F. R. Kardes, P. M. Herr, and N. Schwarz, New York: Routledge, 17–40.
- Sedikides, Constantine and Michael J. Strube (1997), "Self-Evaluation: To Thine Own Self Be Good, to Thine Own Self Be Sure, to Thine Own Self Be True, and to Thine Own Self Be Better," *Advances in Experimental Social Psychology*, 29, 209–69.
- Sen, Shahana and Dawn Lerman (2007), "Why Are You Telling Me This? An Examination into Negative Consumer Reviews on the Web," *Journal of Interactive Marketing*, 21 (4), 76–94.
- Singh, Jagdip (1988), "Consumer Complaint Intentions and Behavior: Definitional and Taxonomical Issues," *Journal of Marketing*, 52 (1), 93–107.
- Thompson, Erik P., Robert J. Roman, Gordon B. Moskowitz, Shelly Chaiken, and John A. Bargh (1994), "Accuracy Motivation Attenuates Covert Priming: The Systematic Reprocessing of Social Information," *Journal of Personality and Social Psychology*, 66 (3), 474–89.
- Tice, Dianne M., Jennifer L. Butler, Mark B. Muraven, and Arlene M. Stillwell (1995), "When Modesty Prevails: Differential Favorability of Self-Presentation to Friends and Strangers," *Journal of Personality and Social Psychology*, 69 (6), 1120–38.
- Turnley, W. H. and M. C. Bolino (2001), "Achieving Desired Images While Avoiding Undesired Images: Exploring the Role of Self-Monitoring in Impression Management," *The Journal of Applied Psychology*, 86 (2), 351–60.

- Wan, Echo Wen, Rocky Peng Chen, and Liyin Jin (2016), "Judging a Book by Its Cover? The Effect of Anthropomorphism on Product Attribute Processing and Consumer Preference," *Journal of Consumer Research*, 43 (6), ucw074.
- Wyer, Robert S. and Deborah H. Gruenfeld (1995), "Information Processing in Interpersonal Communication," in *The Cognitive Bases of Interpersonal Communication*, ed. Dean E. Hewes, Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., 7–47.
- Wyer, Robert S., Suzanne Swan, and Deborah H. Gruenfeld (1995), "Impression Formation in Informal Conversations," *Social Cognition*, 13 (3), 243–72.
- Wyer, Robert S., Thomas L. Budesheim, and Alan J. Lambert (1990), "Cognitive Representation of Conversations about Persons," *Journal of Personality and Social Psychology*, 58 (2), 218–38.
- Wyer, Robert S., Thomas Lee Budesheim, Alan J. Lambert, and Suzanne Swan (1994), "Person Memory and Judgment: Pragmatic Influences on Impressions Formed in a Social Context," *Journal of Personality and Social Psychology*, 66 (2), 254–67.
- Yang, Linyun W., Pankaj Aggarwal, and Ann L. McGill (2020), "The 3 C's of Anthropomorphism: Connection, Comprehension, and Competition," *Consumer Psychology Review*, 3 (1), 3–19.
- Zhou, Xinyue, Sara Kim, and Lili Wang (2019), "Money Helps When Money Feels: Money Anthropomorphism Increases Charitable Giving," *Journal of Consumer Research*, 45 (5), 953–72.