

THE IMPACT OF ANTHROPOMORPHISM ON CONSUMERS' BEHAVIORAL
INTENTION TO ENGAGE WITH BRANDS ON SOCIAL MEDIA

by

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(Under the Direction of Karen Whitehill King and Jeong-Yeob Han)

ABSTRACT

The purpose of the study was to examine the effect of anthropomorphism in social media advertising and the impact on intention to engage in particular behaviors among young adults. In the main experiment ($N = 304$), a 3 (Anthropomorphism: Anthropomorphic Character vs. Brand Anthropomorphism vs. Control) \times 2 (Message Appeal: Utilitarian vs. Hedonic) between-subjects experiment design was used. The findings of the experiments were threefold. First, consistent with previous findings, the human-like features in the ad elicited positive brand outcomes (i.e., attitude toward the ad and brand), and positive brand outcomes led to a higher intention to engage with the brand. Second, anthropomorphic cues induced perceived social connectedness, increasing both socializing motivation and behavioral engagement intention. Third, an interaction effect between anthropomorphism and message appeal emerged. The findings indicated that the emotional benefits of the ad enhanced the effect of the presence of anthropomorphism; thus, the combination of anthropomorphic cues and hedonic message appeal positively correlated to the intention to engage with the brand.

INDEX WORDS: Anthropomorphism, Social Connection, Motivation, Message Appeals, Behavioral Engagement Intention

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DEDICATION

I gratefully dedicate this dissertation to my parents.

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CHAPTER 1

INTRODUCTION

Modern marketers and advertisers strategically use anthropomorphism, the endowing of non-human objects with human qualities such as characteristics, motivations, intentions, or behaviors (Aggarwal & McGill, 2007). Often, anthropomorphism is a core brand positioning strategy for products and services. For example, *Tony the Tiger* and *Michelin Man* are brand spokescharacters, and Chips Ahoy has strategically used anthropomorphism (i.e., eyes and mouth on cookies) in its ads. In numerous studies, scholars have found that anthropomorphism effectively promotes brands and products (Aggarwal & McGill, 2012; Nowak et al., 2009; Phillips, 1996; Touré-Tillery & McGill, 2015), inducing positive emotional responses from consumers (Delbaere et al., 2011; Folse et al., 2012; Garretson & Buton, 2005; Phillips & Lee, 2005). In fact, anthropomorphic brand characters tend to appeal to all age groups across genders (Phillips et al., 2019), and various elements of brand anthropomorphism are common in branding (Triantos et al., 2016). Avoiding terminological misunderstanding, anthropomorphic brand characters have recognizable human qualities (e.g., *Mr. Peanut* and Geico's *Gecko*). However, brand anthropomorphism occurs when a brand or product features anthropomorphic cues (e.g., Coke's human body-shaped bottle). Although scholars who have investigated anthropomorphism have used both terms interchangeably, the former represents the way a brand uses a humanized character to make a product or service more appealing, and the latter refers to the way a brand places human features or

traits *on* the product for marketing purposes. Further clarifying the distinction, the anthropomorphic brand character might act as a legitimate brand spokesperson even in the absence of the product, whereas brand anthropomorphism requires a strategic adaptation of the product itself.

Regardless of the particular anthropomorphic elements, previous findings show that favorable responses such as trust (Dotz & Morton, 1996) and humor (Callcott & Lee, 1995) result from exposure to anthropomorphic cues in ads.

Although anthropomorphism relates to positive brand performance, not all brands prioritize it as a marketing strategy, at least in part, because context can influence the effectiveness of anthropomorphism (e.g., brand roles or product type; Kim & Kramer, 2015; Kim et al., 2016). From a practical point of view, understanding different conditional situations might extend the benefits of anthropomorphism based on the extent of controllability in marketing communication. Therefore, the main experiment in the current study features ad stimuli that manipulate message appeals (i.e., utilitarian and hedonic benefits) and anthropomorphic cues.

In the realm of marketing communication, brands primarily rely on two types of message appeal: utilitarian and hedonic. Since Copeland (1924) proposed that individuals purchase products for either rational or emotional reasons, scholars have studied the two frameworks—utilitarian (functional) and hedonic (emotional)—extensively in the consumer domain. In the review of the literature, no published research could be found that explored the effectiveness of anthropomorphic cues in ads in combination with message appeals. This approach is important, first, because practitioners need to know which combinations work best and generate synergy that favors the product. In the real

world, utilitarian and hedonic message appeals are not mutually exclusive (Puto & Wells, 1984). For instance, in Pantene's *Pro-V* shampoo ad, the message emphasizes the function of the product (e.g., volume correction) and the emotional benefits (e.g., feel extraordinary). Previous findings suggest that anthropomorphic cues in an ad elicit positive emotional responses (Delbaere et al., 2011), so one can expect that hedonic (i.e., emotional) benefits would better fit anthropomorphism than utilitarian (i.e., functional) benefits. However, might consumers differently perceive utilitarian benefits in an ad with anthropomorphic cues?

Second, in line with the relationship between anthropomorphism and product category (i.e., low-involvement—toothpaste in the current study), manipulating message appeal is an easy way to moderate the effect of anthropomorphism. Practitioners in specific product categories might consider anthropomorphism as a strategy for uniquely positioning brands or products. For example, with few exceptions, low-involvement products (e.g., toothpaste) can use anthropomorphic visual cues to stand out from similar brands. Likewise, the message appeals of toothpaste ads will not differ much from one brand to the next. Therefore, brands that feature both utilitarian and hedonic benefits might consider anthropomorphic cues to capture consumer attention or draw attention away from competitors. Hence, using anthropomorphic cues in combination with the two primary message appeals might generate a unique advantage for low-involvement products.

Imbuing non-human objects with human-like traits is a psychological process known as *anthropomorphic thinking* (Rauschnabel & Ahuvia, 2014). For example, while some people might engage in the process of anthropomorphizing a product when seeing

headlights or grills on cars, not everyone does so. Epley et al. (2007) identified three motivational triggers (i.e., effectance, sociality, and elicited agent knowledge) of anthropomorphic thinking.

Previous findings show the impact of anthropomorphism from several psychological points of view: social exclusion (Chen et al., 2017; Mourey et al., 2017), tendency to avoid uncertainty (Hudson et al., 2016), individual mindset (Han et al., 2020), and perceived warmth (Lee & Oh, 2019). However, the following fundamental question remains: do anthropomorphic cues in an ad promote feelings of social connection? In terms of sociality, which is one of the motivations of anthropomorphic thinking, numerous scholars have focused on social exclusion (Chen et al., 2017). If anthropomorphic cues in an ad reduce the psychological distance of social exclusion, they might increase perceived social connectedness, enhancing the effect of the emotional benefits of anthropomorphism. Furthermore, if anthropomorphic cues in an ad *generally* activate perceived social connection, that perceived social connectedness might, in turn, stimulate consumers to engage with the brand.

The primary aim of the current study is to determine whether anthropomorphic characters and brand anthropomorphism might increase perceived social connectedness and, in turn, consumer motivation and intention to engage with the brand.

Social connectedness is “a person’s subjective awareness of being in close relationship with the social world” (Rossi et al., 2012, p. 305). Although some sociologists have suggested that social connectedness is decreasing (McPherson et al., 2006; Putnam, 2001), many scholars, based on Maslow’s hierarchy of needs, have confirmed that social connectedness is linked to positive psychological and physical well-

being (Baumeister & Leary, 1995; Berkman & Syme, 1979; Fraser & Pakenham, 2009; Seppala et al., 2014). With modern technology, social media platforms could play a key role in eliciting feelings of connectedness. One important question is how practitioners might bring about perceived social connectedness with brands in the context of social media?

Research suggests that today's consumers are likely to have relationships with brands when brand marketing communication is relevant to them (Stathopoulou et al., 2017), and various tools of communication (e.g., Facebook and WhatsApp) help individuals connect with others (Van Bel et al., 2009). Accordingly, one aim of this study is to examine the role of perceived social connectedness which might be the most reliable measure of the effectiveness of anthropomorphic cues in an ad and how/if social connectedness increases intention to engage with the brand.

In addition, given that hedonic benefits promote emotional arousal, message appeal type provides another boundary condition for the effect of anthropomorphic cues on consumer intention to engage with the brand. Previous findings indicate that consumers favorably responded to hedonic product ads that featured hedonic benefits due to product-benefit congruity (Meyers-Levy & Tybout, 1989). Specifically, the utilitarian (functional) message usually highlights a concrete and tangible asset that easily translates visually in the minds of consumers (Paivio, 1986), possibly due to the positive effect of such a message when paired with a utilitarian product (see Study 1 in Han et al., 2019). In contrast, congruity is less likely to occur when consumers see anthropomorphic cues in the message paired with the utilitarian value product because anthropomorphic cues in the message elicit positive emotional arousal (Delbaere et al., 2011; Hart & Royne,

2017). In light of these divergent findings, one aim of the current study was to examine how the message appeal interacts with anthropomorphic cues to influence intention to engage with the brand.

The current study makes several critical contributions to research on anthropomorphism. First, the current study measures two distinct types of anthropomorphism in the same experiment which has not been found in the published literature before. In previous studies, scholars have measured the effect of anthropomorphic characters or brand anthropomorphism but did not explicitly test the relative benefit of one over the other. Second, the current study features the novel approach of measuring the effect of anthropomorphism on motivation and intention to engage with the brand based on the relationship between social connectedness and anthropomorphism. Examining these relationships is critical because doing so sheds light on whether perceived social connectedness is the *initium* of the positive effect in anthropomorphism. Finally, apart from individual difference, the findings have significant implications for practitioners in combining message appeals with one or both of two distinct types of anthropomorphic cues.

The structure of this dissertation is as follows. Chapter 2 provides a review of previous findings related to motivation of anthropomorphism, brand anthropomorphism, anthropomorphic brand characters, Self-Determination theory, motivation, intention to engage with the brand, and the role of message appeal. Based on previous findings, Chapter 3 presents the specific research questions and hypotheses that guided the research. Chapter 4 outlines the method for four pretests and the main experiment, the

results of which appear in Chapter 5. Chapter 6 presents a summary of the findings, theoretical and practical implications, limitations, and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a review of the literature on anthropomorphism and presents the hypotheses and research questions. The first section addresses the concept of brand anthropomorphism and anthropomorphic brand characters and the importance of the phenomenon in consumer domains (i.e., advertising and marketing). Then it presents how different types of anthropomorphism influence motivation to engage with branded content, in turn, to engage target behaviors. In the last section, the consequences of anthropomorphism on behavioral intention followed by the extent to which message appeals might moderate anthropomorphism is discussed.

Anthropomorphism

Three-Factor Motivation Theory. Anthropomorphism is “the tendency to imbue the real or imagined behavior of non-human agents with human-like characteristics, motivations, intentions, or emotions” (Epley et al., 2007, p. 864). This definition has two distinct parts: physical (e.g., human-like characteristics—voice, face, and body) and psychological (e.g., motivations, intentions, and emotions). Focusing on psychological aspects, Epley et al. (2007) identified one cognitive and two motivational antecedents of anthropomorphism and explained when people are likely to imbue objects or non-human beings with human features. Accordingly, anthropomorphism varies by individual and situation.

The first factor, elicited agent knowledge, is cognitive activation due to self-involvement or personal experience with a non-human agent. When people judge the non-human being, the judgment could easily derive from experience. Although this personal activation is similar to the second factor (i.e., effectance), elicited agent knowledge is not relevant to psychological motivation, but has more to do with cognitive ability (Harris et al., 2020). For example, when the first smart speaker (e.g., Alexa) came out, people unfamiliar with the technology might have understood it as a machine assistant. As people know what a human personal assistant does, they might have concluded that the smart speaker would help people meet their needs (e.g., scheduling, finding a restaurant near home, organizing to-do lists). During this inductive reasoning process, people are likely to access knowledge retrieved from earlier experiences to understand unknown objects more easily. Therefore, when anthropomorphizing, people are likely to use inductive inference when they do not have enough information about a non-human entity perceived to be similar to a human being.

The second and third factors are related to psychological motivation: effectance and sociality. Effectance motivation encompasses “a desire for understanding, predictability, and control over one’s environment” (Waytz et al., 2010, p. 412). For instance, if a computer is not working, people might say “c’mon” or “what’s wrong with you” to the machine and try to figure out the problem. Although the device does not look like a human being, people are likely to project a sense of responsibility onto the computer as if it were responsible for a mistake. In this situation, people might perceive that the machine has a mind. To be clear, in this case, people are not imbuing the computer itself with human qualities. Rather, people are trying to understand the issue as

if it occurred within a human context, trying to solve a problem using communication or conversation. In this way, people anthropomorphize by communicating with the machine and wishing that the machine could understand the problem and cooperate with the human user. This mental state or process (i.e., talking to the device) activates in an attempt to understand, predict, or control a situation.

The last antecedent of anthropomorphism is sociality. Social motivation, derived from a basic human need and desire to connect with others, relates to belonging or social connectedness (Baumeister & Leary, 1995; Powers et al., 2014). In the American survival film *Cast Away*, a famous movie about sociality and anthropomorphism, Chuck Noland (played by Tom Hanks) draws a face on a volleyball, using his own blood, and names it “Wilson” during his time on an uninhabited island. His anthropomorphizing does not end there. He begins to talk to the ball on a regular basis, treating it like a companion and, eventually, grieving after he loses it. The scenes in which the main character tries to interact with the ball in an isolated place represent a key motivation of anthropomorphism: sociality.

Previous findings show that people who are socially isolated or lonely favorably evaluate anthropomorphized brands or products because they might seem to behave like living agents, providing a source of social connection (Ahn et al., 2014; Chandler & Schwarz, 2010; Epley et al., 2008; Waytz & Epley, 2012). Bartz et al. (2016) demonstrated that people with higher levels of loneliness were more likely to anthropomorphize to maintain the social connection. They also found a causal relationship between the need for belonging and the tendency to anthropomorphize. Shin and Kim (2020) found that sociality was related to the tendency to anthropomorphize. In

their study, they found that the group of students who felt a higher level of loneliness showed a higher tendency to anthropomorphize the non-human object (i.e., a computer) than the group of students who felt less lonely.

A study about the relationship between anthropomorphized agents and social interaction also found that lonely people had a more favorable attitude toward the anthropomorphized agent than people who were not lonely (Epley et al., 2008). The lonely people tended to socialize with the agent as if they were interacting with others to meet their social needs. This pattern suggests that anthropomorphizing allowed consumers to reduce the psychological distance by imbuing an inanimate brand with human-like features; the resulting comfort generated a more favorable attitude toward the anthropomorphized brand than the non-anthropomorphized one (DiSalvo et al., 2003; Horowitz & Bekoff, 2007; Nowak & Biocca, 2003).

Although numerous scholars have examined the positive relationship between the need for sociality and the tendency to anthropomorphize, some questions remain unanswered: can anthropomorphized messages elicit the feeling of social connectedness, and which psychological factors influence the relationship between anthropomorphism and social connectedness?

Rossi et al. (2012) defined social connectedness as “a person’s subjective awareness of being in close relationship with the social world” (p. 305). Previous findings suggest that connectedness encompasses favorable emotional appraisal (IJsselstein et al., 2003) since it can be derived from belonging or relatedness to others (Van Bel et al., 2009) and from a capacity to create and expand personal links to the outside world (Ha & James, 1998). Thus, the essence of connectedness lies in beneficial

emotional bonding with another being. Hence, if a message with anthropomorphic cues creates affective benefits (i.e., perceived ad pleasure), the message might promote a feeling of social connectedness.

Brand Anthropomorphism and Anthropomorphic Brand Characters

Brand Anthropomorphism. Since the early 2000s, scholars have investigated anthropomorphism in the consumer domain. From the anthropomorphized car study by Aggarwal and McGill (2007) to the corporate social responsibility study by Jeong and Kim (2021), many scholars have agreed that anthropomorphizing facilitates cognitive access to preexisting knowledge about humans, subsequently activating human-to-human communication nodes (Aggarwal & McGill, 2007; Epley et al., 2007; Heim, 1983) and leading to more favorable brand and product evaluation. Marketers anthropomorphize brand agents to interact with consumers because people are more likely to believe that non-human agents are able to share their own consciousness, emotions, and moral values and even to form relationships with them. For example, Landwehr et al. (2011) examined how consumers interpreted emotional expressions in the grilles and headlights on a car. They found that people perceived friendliness in an upturned grille and aggressiveness in a downturned grille with slanted headlights, decoding these car parts as the mouth and eyes of a face. This finding suggests that people can interpret emotional expressions in product shapes and that this interpretation can influence product preference. In a recent study, Kim (2016) found that IoT (Internet of Things) devices that communicate with users using anthropomorphic cues (i.e., multiple synthetic voices) generate favorable evaluations of the technology. Similarly, Jia et al. (2013) found that consumers perceived

a tissue box that responded to a sneeze with “Bless you!” to be almost as sociable, intelligent, and friendly as a human. These results across the consumer domain indicate that marketers can promote their brands and products using anthropomorphic cues (Chen et al., 2017; Han et al., 2019; Kwak et al., 2020; Puzakova et al., 2013).

Anthropomorphic Brand Characters. Human-like brand characters emerged during the era of mass production due to the growing importance of packaging and building consumer trust (Callcott & Lee, 1995). Phillips (1996) defined a brand spokesperson as a “fictional, animated being or animated object that has been created for the promotion of a product, service, or idea” (p. 146).

Although brand characters vary in form (e.g., animations, talking animals, action figures), they all communicate the benefits of a brand and attract consumers by building positive emotional associations (Bergkvist & Zhou, 2016; Callcott & Alvey, 1991; Callcott & Phillips, 1996; Delbaere et al., 2011; Dotz et al., 1996; Hart & Royne, 2017; Van Auken & Lonial, 1985). Previous findings show the positive effect of spokespersons on attitude toward the ad (Garretson & Burton, 2005; Spear et al., 1996), DTC advertising recall (Pashupati, 2009), creativity (Heiser et al., 2008), and attention getting in advertising (Stafford et al., 2002). For example, Neeley and Schumann (2004) found that animated spokespersons in advertising targeting young children “generate high levels of attention, character recognition and liking, and product recognition and liking” (p. 18). In a recent content analysis study, Phillips et al. (2019) analyzed 922 ads from 24 consumer magazines in 2015 to demonstrate the increasing use of spokespersons compared to magazines from the 1950s through the 1990s examined in Phillips and Goyerick (1999). The use of spokespersons increased in print advertising, and brands

often used new spokes-characters as promotional tools. Folsø et al. (2012) also found that spokes-characters endowed with human personalities (i.e., sincerity and excitement) in ads yielded favorable brand attitude, brand trust, and willingness to pay a premium price. Furthermore, using anthropomorphic brand characters can increase perceived brand trust (Callcott & Alvey, 1991; Dotz & Morton, 1996; Huang et al., 2011), improve recall of brand-related information (Macklin, 1996), improve brand attitude and purchase intention (Bergkvist & Zhou, 2016; Han et al., 2019), enhance favorable brand impression (Fournier, 1998), and improve website effectiveness (Luo et al., 2012).

Epley et al. (2007) found that the positive effect of anthropomorphism derived from activating human-related knowledge structures that people can easily and readily access in memory. Ease with a piece of target information is called processing fluency. Among many types of processing fluencies, perceptual fluency is “ease of processing of the surface features of a stimulus” (Im et al., 2010, p. 282). For example, Lee and Labroo (2004) found that participants exposed to a mayonnaise ad liked the ketchup ad more than participants exposed to a multi-vitamin ad. This finding suggests that an association between the mayonnaise ad with the subsequent ketchup ad activated previous knowledge, allowing consumers to process the target ad more easily. Because anthropomorphic cues in advertising are likely to activate human schema to process information more easily, ease of processing should influence advertising and brand evaluation.

Although two distinct conceptual differences exist, thus far, no published research has included both elements in the same study: brand anthropomorphism and anthropomorphic brand characters. The conceptual and operational differences between

these two elements require attention. *Tony the Tiger* from Kellogg's and the *Gecko* from Geico are anthropomorphic brand characters that now represent their respective brands even when the brand name is not part of their presentation. Marketers use spokes-characters to build consumer relationships. However, brand anthropomorphism is distinct from the brand characters that a brand might feature. For example, while the Kellogg's cereal box does display *Tony the Tiger*, this display does not anthropomorphize the box or the cereal itself. The following question surfaces: do consumers process anthropomorphic characters and brand anthropomorphism in different ways? To maintain the distinction necessary to examine this question, the current study features both terms. Brand anthropomorphism is *any human-like features attached to the product or brand* (i.e., eyes on the toothpaste tube). An anthropomorphic brand character refers to *a representative character with any human-like features that appeared in an advertisement* (i.e., a spokes-character for the toothpaste).

Table 2-1 summarizes the recent research that has explored the effect of brand anthropomorphism and an anthropomorphic character, and Figure 2-1 illustrates the difference between them.



Figure 2-1. Comparison between Brand Anthropomorphism (top) and Anthropomorphic Brand Characters (bottom).

Table 2-1. Past Anthropomorphism Studies on Advertising and Brand Performances

Attributes of Anthropomorphism	Authors (Year)	Findings	Types of Research
Anthropomorphic brand characters	Callcott and Phillips (1996)	Humor leads to anthropomorphic brand character liking. (Liking toward humanized brand characters leads to greater ad attention, a favorable ad and brand feeling, and a higher purchase intention)	Qualitative
	Folse, Burton, and Netemeyer (2013)	A humanized character defends the erosion of brand attitude and trust when consumers encounter negative information regarding the brand.	Experiment
	Garretson and Niedrich (2004)	A humanized character with a higher level of perceived expertise and nostalgia leads to favorable brand attitudes.	Experiment
	Huang, Hsieh, and Chen (2011)	An animated spoke-characters enhance attitude toward the advertising, attitude toward the brand, and attitude toward the product.	Survey
	Kwak, Puzakova, Rocerto, and Moriguchi (2020)	In the context of a tourist destination, the destination with a human-feature character (i.e., animation) in the advertising leads to a higher intention to visit the destination.	Experiment
	Kyung, Kwon, and Sung (2010)	Two humanized character personalities (i.e., sincerity and competence) are positively related to the levels of source expertise, trustworthiness, and attractiveness for food products.	Experiment
	Malik and Guptha (2014)	Compared to a celebrity endorser, a humanized brand mascot with the characteristics (i.e., attractive, trust, friendly) influences on consumers' buying decisions.	Experiment
	Stafford, Stafford, and Day (2002)	A created humanized character generates a more favorable attitude toward the ad/brand and a higher purchase intention to other types of spokespersons (i.e., employee or celebrity)	Experiment
	Zhou, Su, and Mou (2021)	In a website, having a humanized character with likeability, expertise, and congruence is positively related to a favorable advertising attitude, brand attitude, and purchase intention.	Experiment

Brand Anthropomorphism	Chen, Sengupta, and Adaval (2018)	Participants who were exposed to product anthropomorphism can increase their sense of energy.	Experiment
	Feng (2016)	Lonely people prefer a product with medium anthropomorphism (i.e., eyes without eyelids on the cellphone). Compared to nonlonely individuals, nonlonely consumers preferred products with high (i.e., eyes with eyelids).	Experiment
	Han, Baek, Yoon, and Kim (2019)	A presence of a human-like feature on the product (i.e., coffee mug) yields more a positive effect of the abstract message compared to the concrete message.	Experiment
	Hart and Royne (2017)	Anthropomorphic appeals (i.e., eyes on a car) enhance the attitude toward the ad, attitude toward the brand, and purchase intentions. When participants have less knowledge about the product, they have a more favorable attitude toward the ad with anthropomorphic appeals compared to the ad with non-anthropomorphism.	Experiment
	Hudson, Huang, Roth, and Madden (2016)	When uncertainty avoidance is high, consumers are likely to interact with social media with the humanized brand (i.e., the first-person on a description of a car), which in turn the stronger brand relationship quality.	Survey and experiment
	Jeong and Kim (2021)	When corporate social responsibility (CSR) message with human-like features, participants perceive a greater sense of warmth and buying pleasure compared to the message with non-human like features	Experiment
	Kim and Kramer (2015)	An anthropomorphized brand is perceived as a servant and evaluated more positively by consumers with materialistic characteristics (i.e., the value on possession and ownership of goods) compared to non-materialistic consumers.	Experiment
	Koo, Oh, and Patrick (2019)	Humanizing old produce (i.e., an old banana sitting on a beach chair wearing a hat) is evaluated favorably, and warm feelings associated with old produce led to the positive effect.	Experiment

Self-Determination Theory

A useful theoretical motivation framework for understanding consumer engagement to use social media is self-determination theory (SDT; Deci & Ryan, 1985). SDT posits that individuals have a sense of autonomy and like to have control over their behaviors and decisions (Deci et al., 1991). According to SDT, having the opportunity to experience autonomy, competence, and relatedness in all areas of life is essential to improving life satisfaction (Deci & Ryan, 2002).

Autonomy refers to the freedom to choose and to act on free will (Gagné & Deci, 2005), to express one's thoughts and opinions, and to act without external pressure. Competence refers to behaving well and having confidence in one's ability. For example, in the social media context, people could develop an emotional attachment to others, build emotional consensus with them, and have positive experiences in an online community. Autonomy and competence facilitate this emotional relationship, allowing people to form a consensus and a culture more naturally. Relatedness refers to building relationships with others, creating a group or community with them, and developing that group or community (Baumeister & Leary, 1995; Kim & Drumwright, 2016; Palmatier et al., 2008; Park et al., 2011). In this way, relatedness is an antecedent for social networking and interacting with people. For example, in an online community for a shared purpose (e.g., WebMD—an American online publisher of information about health and well-being), visitors share personal stories to obtain information from people in similar situations. That is, people can sense the “relatedness” because they are in similar situations and perceiving social relatedness may enhance motivation to interact with people, brands, and products.

SDT broadly proposes two types of motivation (intrinsic and extrinsic) for achieving goals (Ryan & Deci, 2000). While intrinsic motivation derives from internal interests rather than the need for reward, extrinsic motivation depends on external reinforcement (Deci, 1971). Although both are important in motivation studies (Krishnamurthy, 2006), the current study proposes that subsets of intrinsic and extrinsic motivations distinctly relate to specific behavioral intentions in the context of social media.

Intrinsic Motivation: Entertainment. Intrinsic motivation is “the performance of an activity for no apparent reinforcement other than the process of performing the activity per se” (Teo et al., 1999, p. 26). Users actively find ways to fulfill their internal needs (e.g., gratification or satisfaction) via media channels (i.e., uses and gratifications perspective: Katz et al., 1974). Internal interest does not involve outside rewards; rather, users tend to find media use entertaining or enjoyable. Examples of intrinsic motivation to engage with a brand or share branded content include expression of product satisfaction (Berger, 2014), altruism (Deci, 1975; Hennig-Thurau et al., 2004; Ho & Dempsey, 2010), loyalty (Eelen et al., 2017), and fun or enjoyment (Hicks et al., 2012).

Among those internal or intrinsic motivations, the entertainment motivation is one of the strongest predictors of SNS-related activities, including using and recommending SNS (Curran & Lennon, 2011), consuming user-generated content (Shao, 2009), creating relationships between consumers and a brand (Enginkaya & Yilmaz, 2014), attracting people to the brand pages (Jahn & Kunz, 2014), and enhancing satisfaction with Facebook brand communities (Gummerus et al., 2012). For example, Azar et al. (2016) found that participants who valued entertainment motivation more highly interacted with

the brand on Facebook more frequently. Moreover, the strongest motivation for engaging with YouTube content (i.e., like or dislike) was entertainment motivation (Khan, 2017). Therefore, people are likely to find relaxing or entertaining content enjoyable and satisfying without reinforcement (Deci & Ryan, 1985). Hence, the intrinsic value of entertainment can be a potential factor affecting self-determined behavior in online settings.

Socializing. Although some scholarly works have emphasized that socializing motivation is under extrinsic motivation, it could be understood as intrinsic value. According to SDT, relatedness is one of the internal needs to determine behavior (Deci & Ryan, 2000). Individual behaviors are inherently internalized with their motivations, needs, and desires. Therefore, socializing (e.g., a sense of connectedness) is internalized as integrated behavior of relatedness to build relationship with others.

Extrinsic Motivation: Information Seeking. Unlike intrinsic motivation, extrinsic motivation depends on external rewards for achieving specific results. Extrinsic motivation is “the performance of an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself” (Teo et al., 1999, p. 26). Although external rewards are usually involved with economic rewards (e.g., managerial compensation in workplace), information seeking is considered as a psychological compensation relevant to competence and autonomy in the context of social media. First, according to SDT, because competence refers to mastery of necessary knowledge (or skills), seeking information effectively on social media fulfills competence needs. Moreover, one uses social media with a sense of volition and control

in seeking information. Therefore, in the current study, information-seeking is not a type of economic reward but a distinct, extrinsic psychological reward.

Previous findings point out that information-seeking is an essential motive for using SNS (Enginkaya & Yilmaz, 2014; Lin & Lu, 2011; Park et al., 2009; Shang et al., 2006; Zaglia, 2013). For example, Luo (2002) found that information-seeking was a primary motivator in Web use, and Lee and Ma (2012) demonstrated that information seeking was one of the factors in news sharing intention on social media.

One might expect that information-seeking motivation can overlap with intrinsic value; that is, an individual could engage in information-seeking for its own sake.

Previous findings point out that extrinsic and intrinsic value can simultaneously influence the same behavior intention on a continuum (de Vries et al., 2017; Yoo et al., 2013). For example, Cutler and Danowski (1980) explained that when people engage with media, they experience two types of gratification: (1) information derived in the media message (i.e., content gratification) and (2) processing the information while experiencing the media (i.e., processing gratification).

Motivations and Behavioral Intention to Engage

One might expect that different types of motivation influence different levels of consumer engagement intention. For example, because the interactive features of online platforms allow consumers to engage on various levels, some individuals actively participate more often than others due to motivational differences.

Numerous findings indicate that consumer behavioral intention falls broadly into three levels of engagement with media content: consumption, contribution, and creation (Muntinga et al., 2011, Piolat et al., 2005; Schivinski et al., 2016; Tsai & Men, 2013).

Consumption refers to passive or low brand-related activity on social media (Muntinga et al., 2011; Shao, 2009). For example, consumers read posts, watch video content, and like or follow brands. This level of engagement requires a minimum level of cognitive effort (Piolat et al., 2005). Contribution includes *interaction* between brands and consumers (Shao, 2009). For example, consumers might engage in conversation about the product in online communities, share brand posts or product reviews with peers, or recommend brand-related content. The highest level involves creation of brand-related content (Muntinga et al., 2011). For example, consumers produce content, initiate consumer reviews, and post new materials related to the brand on their own social media accounts. The higher the level of engagement, the more cognitive effort they need (Piolat et al., 2005).

The three motivations—information-seeking, entertainment, and socializing—lead to different levels of activity. For example, Sun et al. (2014) found that lurkers who seldom engaged in a high level of interaction still used content to acquire knowledge. Swani et al. (2013) found that entertaining content was more likely to generate buzz, meaning that consumers engage in a medium level of interaction with a brand. Chang and Chuang (2011) demonstrated that socializing (i.e., social interaction) had positive effects on sharing activity. Daugherty et al.'s (2008) research showed that social interaction allowed users to generate content, requiring the highest level of cognitive effort.

Based on previous findings about SDT and motivation to engage with branded content, the current study features two fundamental types of motivation—intrinsic (i.e., socializing and entertainment) and extrinsic (i.e., information-seeking)—and analysis to identify the link between these two motivation types and the effect of anthropomorphic cues on intention to engage in the target behavior.

The Role of Message Appeals: Utilitarian vs. Hedonic

Message appeals are persuasive strategies to trigger certain behaviors in consumers (Akbari, 2015; Golden & Johnson, 1983). The framework of the most widely known message strategy is the Foote, Cone, and Belding grid model (FCB). Elaborated several times by Vaughn (1980), the FCB model consists of four domains, distinguishing rational messages and emotional messages according to involvement level. Although advertising appeal types are numerous, basic persuasion in communication relies on two appeal types—emotional (i.e., hedonic benefits) and rational (i.e., utilitarian benefits). A hedonic benefit appeal offers an affective or emotional benefit related to sensory pleasure (e.g., warm, erotic, or happy), while a utilitarian appeal offers a pragmatic or functional benefit (e.g., health, safety, or ease of use) (Dix & Marchegiani, 2013; Leonidou & Leonidou, 2009). Utilitarian benefits relate to tangible concrete benefits. For instance, in a nutrition bar ad, the headline might emphasize that the amount of protein in the bar meets the Recommended Dietary Allowance (RDA) for protein. In contrast, hedonic benefits are relatively abstract or intangible, stimulating a desire to have fun or experience pleasure (Kwok & Uncle, 2005).

Golden and Johnson (1983) found that rational (i.e., thinking) appeals, compared to emotional (i.e., feeling) appeals, led to stronger ad affects, ad believability, perceived usefulness of information, and purchase intention in both low and high involvement product category. In the same line, Akbari (2015) identified the effect of utilitarian benefits in both high-involvement (i.e., a laptop) and low-involvement (i.e., sunscreen) products in radio advertising. Goolsby and Sadoski (2013) found that more concrete phrasing of breast self-examination information produced better recall, comprehension, and retention than lower levels of concreteness. Han et al. (2019) explained that when people process tangible information, they tend to use imagistic cues, which, in turn, yield better cognitive outcomes.

However, Lim and Ang (2008) found that consumers preferred hedonic benefits (e.g., fresh fragrance) in the ad to utilitarian benefits (e.g., skin protection) for the low-involvement product (i.e., bar soap). Rossiter et al. (1991) found that advertising using an emotional appeal is important for low-involvement products. Geuens et al. (2011) also found, in Study 1, that emphasizing emotion (i.e., warmth) in the ad led to a more favorable attitude toward the ad for both low-involvement and high-involvement products. Although the emotion is considered not a main source when people are engaging the message-relevant information (e.g., ELM; Petty & Caccipio, 1986), other researchers have suggested that emotional appeals influence behavior such as positive reactions (Goldberg & Gorn, 1987), positive judgments (Friestad & Thorson, 1986), and positive impact on product acceptance (Cutler et al., 2000) more than informational appeals even without building cognition (Brown et al., 1998).

Previous studies about the effect of the utilitarian or hedonic message on ad and brand performance (e.g., attitude, recall, or retention) have led to mixed results and have not directly tested any effects with anthropomorphic cues. However, by implication, the presence of anthropomorphic cues in the ad is likely to affect the emotions and influence the decision-making in which people can engage.

CHAPTER 3

HYPOTHESES AND RESEARCH QUESTIONS

This chapter presents the eight hypotheses, three research questions, and the proposed research model. The first group of hypotheses and research questions relates to the influence of anthropomorphism and perceived social connectedness on the dependent variable (i.e., levels of intention to engage behavior). The second group of hypotheses and research questions address the interaction effect of anthropomorphism and key mediators (i.e., attitude toward the ad and attitude toward the brand) on the dependent variable. The third group presents the interaction effect of anthropomorphism and the moderating role of message appeal on the dependent variable. The hypotheses and research questions are derived from the theoretical framework presented in Chapter 2.

Serving as a conceptual guide, Figure 3-1 presents the proposed research model, illustrating the overall relationship between anthropomorphism and the other variables.

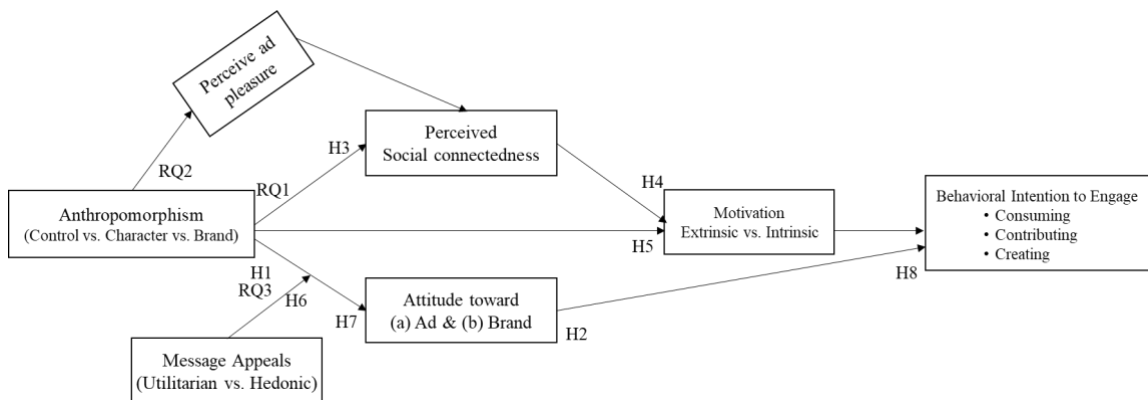


Figure 3-1. The Proposed Research Model

Anthropomorphism and Perceived Social Connectedness: RQ1 and RQ2

One motivation of anthropomorphism is sociality (i.e., the desire to connect with others), which relates to belonging or social connectedness (Baumeister & Leary, 1995; Powers et al., 2014). Previous findings indicate a causal relationship between the need for belonging and the tendency to anthropomorphize (Shin & Kim, 2020). Engaging in anthropomorphism allows people to feel connected to the anthropomorphized object (DiSalvo et al., 2003; Horowitz & Bekoff, 2007; Nowak & Biocca, 2003). Furthermore, sense of connectedness elicits favorable emotional appraisal (IJsselsteijn et al., 2003). The following research questions address this interplay between anthropomorphic cues and perceived social connectedness:

RQ1: Will messages with anthropomorphic cues affect perceived social connectedness differently from the ad without anthropomorphic cues?

RQ2: Does perceived ad pleasure mediate the relationship between exposure to the ad with anthropomorphic cues and perceived social connectedness?

Effect of Anthropomorphism on Attitude toward the Ad and Attitude toward the Brand, and Behavioral Intention to Engage: Hypothesis 1, Hypothesis 2, and RQ3.

Previous findings show that anthropomorphic cues in an ad improve consumer evaluation of the brand or product due to the schema congruence effect (Aggarwal & McGill, 2007; Tam et al., 2013). Because anthropomorphic cues in advertising are likely to activate human schema to process information more easily, ease of processing should influence ad and brand evaluation. In addition, prior research shows that a positive

feeling toward the ad (i.e., attitude toward ad) and attitude toward the brand also influence behavioral intention (i.e., purchasing) (Goldsmith et al., 2000; Gresham & Shimp, 1985; MacKenzie et al., 1986; Mitchell & Olson, 1981; Yi, 1990) because the positive emotion toward an objective is transferred to another objective with which it is associated (Hoyer & MacInnis, 2004). Therefore, if the imbuing entities with human-like features lead to consumers' feelings of favorability toward the ad and the brand. Therefore, the following research question and hypotheses were proposed.

H1a: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad.

H1b: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand.

H2a: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad and, therefore, greater intention to engage in (a) consumption, (b) contribution, and (c) creation of media content than participants who do not see the ad with anthropomorphic cues.

H2b: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand and, therefore, greater intention to engage in (a) consumption, (b) contribution, and (c) creation of media content than participants who do not see the ad with anthropomorphic cues.

RQ3: What, if anything, is the difference between brand anthropomorphism and anthropomorphic brand characters in an ad with regard to (a) attitude toward the ad and (b) attitude toward the brand?

Mediation Effect of Perceived Social Connectedness between Anthropomorphism and Behavioral Intention to Engage: Hypothesis 3, Hypothesis 4, and Hypothesis 5.

According to self-determination theory, relatedness positively relates to building relationships with others, creating a group or community with them, and developing that group or community (Baumeister & Leary, 1995; Kim & Drumwright, 2016; Palmatier et al., 2008; Park et al., 2011). Therefore, if participants feel more connected after seeing anthropomorphic cues in an ad, perceived social connectedness should enhance the socializing motivation. Thus, the following hypothesis was proposed.

H3: Perceived social connectedness will mediate the effect of anthropomorphic cues in the ad on intrinsic motivation (i.e., ad with anthropomorphic cues → perceived social connectedness → socializing motivation).

Motivation, “the process used to allocate energy to maximize the satisfaction of needs” (Pritchard & Ashwood, 2008 p. 6), determines the direction of future behavior (Deci 1975; Mook 1996). Therefore, to satisfy the need for socializing motivation, a person may engage with the brand more either contributing (e.g., sharing the brand) or creating (e.g., hash-tagging the brand) behavioral engagement associated with socializing than just consuming (e.g., reading or watching content) behavioral intention. Note that the consuming intention is excluded because contributing and creating behavioral intentions are expected to be more aligned with socializing motivation. This is because consuming refers to engaging with the brand without participating (Muntinga et al., 2011; Shao, 2009). However, contributing and creating involve *interaction* with the brand

through participation in media content (Schivinski et al., 2016). Hence, the socializing motivation may enable consumers to determine which aspects of engagement are substitutable. Thus, the following hypothesis was proposed.

H4: Perceived social connectedness and socializing motivation sequentially mediate the relationship between anthropomorphism in the ad and intention to engage in (a) contribution and (b) creation of media content (i.e., ad with anthropomorphic cues → perceived social connectedness → socializing motivation → behavioral engagement intention).

Borrowing from previous findings in the education field, an anthropomorphic situation can enhance perceived entertainment value (Lester et al., 1997). Moreover, in the domain of information systems, the presence of an anthropomorphic agent significantly increased entertainment value (Dehn, & Van Mulken, 2000; Qiu & Benbasat, 2009).

H5: Participants who see the ad with anthropomorphic cues will have greater entertainment motivation. As a result of higher entertainment motivation, they will have higher intention to engage in (a) consumption, (b) contribution, and (c) creation of media content (i.e., ad with anthropomorphic cues → entertainment motivation → behavioral intention).

Interaction Effect of Anthropomorphism and Message Appeal: Hypothesis 6, Hypothesis 7, and Hypothesis 8.

Previous findings emphasize that individuals, with few exceptions, tend to prefer utilitarian benefits to emotional benefits (Aaker & Norris, 1982) because when people process in the utilitarian benefits, the rationality driven by objective and explicit features of the product persuades consumers (Albers-Miller & Stafford, 1999). Also, considering the target product (i.e., toothpaste) perceived as more utilitarian, utilitarian benefits should be more effective than hedonic benefits. Thus, the following hypothesis was proposed.

H6: People who see the ad with a utilitarian message appeal will have a more favorable (a) attitude toward the ad and (b) attitude toward the brand than people who see the ad with a hedonic message appeal.

However, Rossiter and Percey (1978) argue that pictures in the ad can evoke pleasant scenes in consumer's minds even without seeing the advertised product. Also, a number of studies have reported that visuals in the ad resulted in more favorable performances (i.e., product beliefs and brand attitude) than textual information in the ad (Edell & Staelin, 1983; Underwood & Klein, 2002). Therefore, one can expect that anthropomorphic cues in the ad would first grab consumer's attention, and then creating positive emotional arousal toward the ad with the anthropomorphic cues. Consequently, induced positive emotion toward the anthropomorphic cues would be enhanced when the

message is focused on hedonic (emotional) appeals. Therefore, the following research question and hypotheses were proposed.

H7a: When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad than people who see the ad without anthropomorphic cues.

H7b: When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand than people who see the ad without anthropomorphic cues.

H7c: When the ad message emphasizes utilitarian benefits, people who see the ad without anthropomorphic cues will have a more favorable attitude toward the ad than people who see the ad with anthropomorphic cues.

H7d: When the ad message emphasizes utilitarian benefits, people who see the ad without anthropomorphic cues will have a more favorable attitude toward the brand than people who see the ad with anthropomorphic cues.

In addition, the current study proposed that the mediating role of attitude toward the ad and the brand (i.e., H2) (Goldsmith et al., 2000; Gresham & Shimp, 1985; MacKenzie et al., 1986; Mitchell & Olson, 1981; Yi, 1990) mediate the H7 interaction—the interplay between anthropomorphism and message appeals (Shao et al., 2020). This is because that the positive emotion from anthropomorphic cues and hedonic appeals in the ad would be transferred to attitude toward the ad and the brand; subsequently, the emotional arousal toward the ad and the brand should lead to positive intention to engage behavior with the brand. Thus, the following hypotheses were proposed.

H8(a): Attitude toward the ad will mediate the interaction effect of anthropomorphism and message appeals on intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.

H8(b): Attitude toward the brand will mediate the interaction effect of anthropomorphism and message appeals on intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.

CHAPTER 4

METHODOLOGY

This chapter presents an overview of the research design, results of a series of pretests, the composition of participants, the selection of the product category, the confirmation of stimulus materials, and the specific details of the main experimental procedure and measurement items used both in the pretests and in the main experiment.

Overview of the Research Design

The main experiment was conducted to demonstrate the interaction effect of anthropomorphism and message appeal using a 3 (anthropomorphism: anthropomorphic character vs. brand anthropomorphism vs. control) \times 2 (message appeal: utilitarian vs. hedonic) between-subjects experimental design. Prior to the main experiment, four pretests were designed (a) to select target-relevant product categories, (b) to define the brand name for the current study, (c) to validate the effect of anthropomorphism, and (d) to confirm the message appeals intended to make hedonic or utilitarian claims for the product. Figure 4-1 provides a summary of the method design.

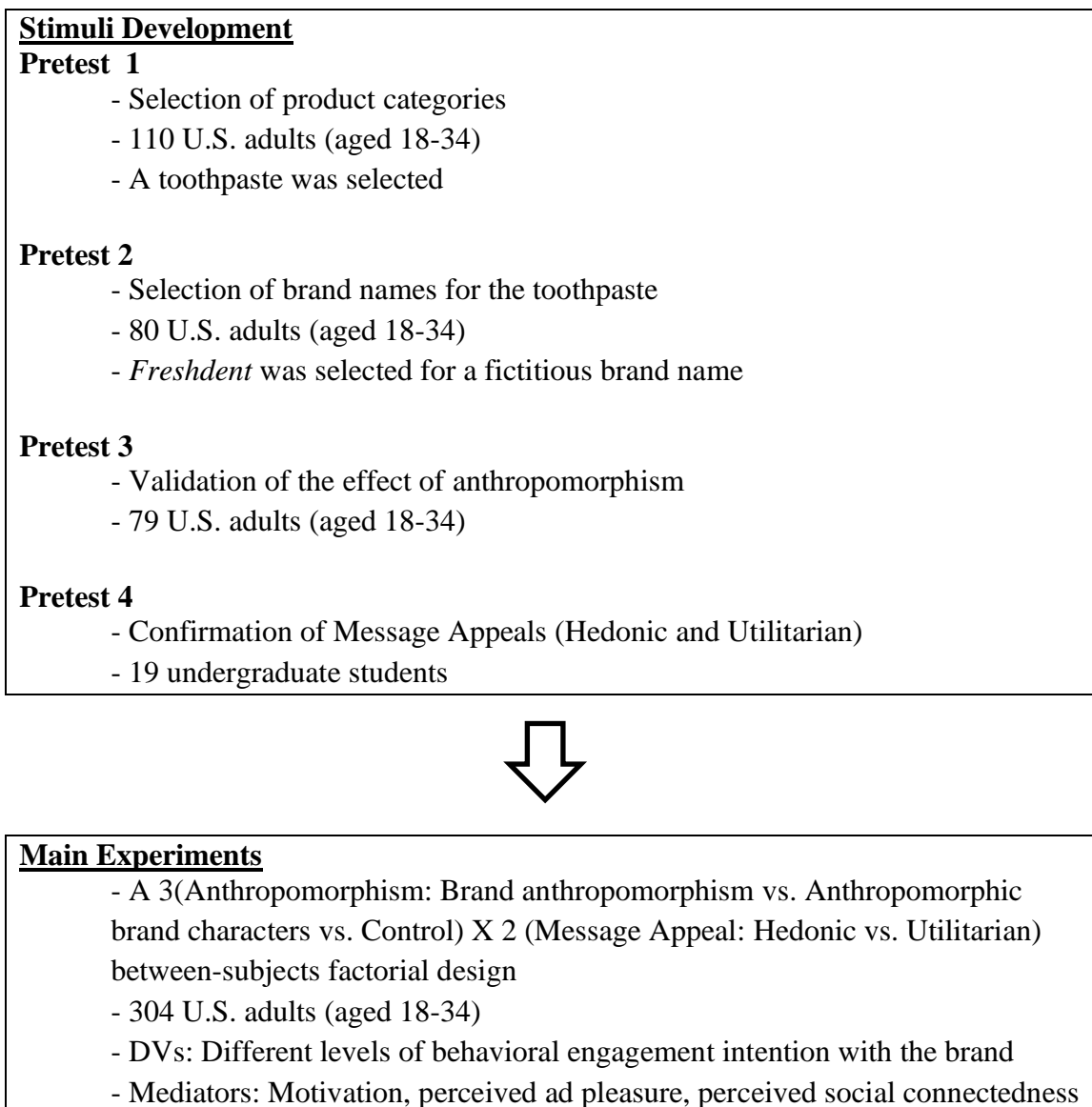


Figure 4-1. An Overview of the Research Process

Using Facebook and Composition of Participants

Past anthropomorphism studies were typically conducted in either one-way or traditional advertising media contexts such print, TV, and Radio (See Aggarwal & McGill, 2007; Ahn et al., 2014; Wan et al., 2017). However, now that social media are changing the way brands interact with consumers, it is important to focus research

attention on user engagement with ads in social media that contain anthropomorphic cues (Han et al., 2019; Sreehesh et al., 2020). Therefore, the purpose of this study is to investigate the consuming, contributing, and creating behavioral intention of consumers with brands that employ anthropomorphism in ads. Facebook was the social medium employed in this study.

Although Facebook has faced a drop-off of younger populations who are indifferent to Facebook (Reyes, 2019), it remains the world's largest social media platform with 2.85 billion monthly active users (Tankovaska, 2021b). Globally, more than half of Facebook users are aged 18-24 (23.8%) or 25-34 (31.6%) (Tankovska, 2021a). In the United States, findings from a recent study by Statista (Tankovska, 2021c) indicate that Facebook (71.8%) is the leading social media website, followed by Pinterest (12.4%), in terms of share of visits in May 2021. Regarding user distribution in demographic characteristics, the two age groups, 18-24 (15.8%) and 25-34 (25%), are two of the largest groups of Facebook users (Tankovska, 2021a). These two groups also account for 57% of Facebook's advertising audience (equivalent to \$1.1 billion) per Hootsuite' Digital 2021 report (2021). Although Facebook has a fairly even spread of users across most age groups, the 18-34 group shows the most prominent activity rate (e.g., commenting about brands and liking content; 34%) among all Facebook user groups. Specifically, the two groups include Generation Z (born between 1995 and the late 2000s; Posnick-Goodwin, 2010) and part of Generation Y (born between 1981 and 1995; Brosdahl & Carpenter, 2011); they are perceived as tech-savvy, connected through smartphones and tablets to the Internet and social media platforms (Chaney et al., 2017; Smith, 2011). Therefore, for testing the effect of anthropomorphism on different levels of

behavioral engagement intention (i.e., consumption, contribution, and creation) in the context of Facebook, aged 18-34 group would be more homogenous in terms of Facebook activity than a sample of college students or older populations, and this would avoid drastically different generational understandings of anthropomorphic content on Facebook.

Pretest 1: Product Category Selection

The purpose of the first pretest was to determine appropriate product categories that would be reasonably relevant to the participants. In order to select suitable product categories, an initial list of 10 product categories was derived from the Experian Simmons Choice III marketing database (University Reporter, 2019) on the basis of prior purchase experience, a high proportion of product usage, gender neutrality, among the target audience (i.e., adults aged 18–34 years). The following product categories were selected: *cellular phone, laptop, smart speaker, video streaming service, body/shower gel, toothpaste, cookies, frozen pizza, yogurt, and detergent.*

A total of 110 adults living in the United States ($M_{\text{age}} = 27.55$, $SD = 4.48$, 50% female) were recruited from the Qualtrics consumer panel in exchange for a monetary incentive. Data collection occurred in June 2020. Participants were asked to rate (1) how often they used each of the product categories on a 7-point semantic differential scale (1 = rarely and 7 = frequently) and (2) how familiar they were with each of the product categories on a 7-point semantic differential scale (1 = not at all familiar and 7 = very familiar), and (3) the degree of product relevance and importance on two items using a 7-point Likert scale anchored by strongly disagree (1) and strongly agree (7)—“In general,

this product category is relevant to me” and “This product category is important to me.” Then, participants were asked to rate attitude toward each product category (i.e., hedonic and utilitarian) on five items using 7-point semantic differential scales: *unnecessary/necessary, ineffective/effective, not functional/functional, impractical/practical, unhelpful/helpful* for utilitarian value and *dull/exciting, not delightful/delightful, not fun/fun, not thrilling/thrilling, and boring/interesting* for hedonic value.

When consumers evaluate a product, it is evaluated based on different levels of involvement (Petty et al., 1983; Chaudhuri, 2000). Generally, product involvement refers to personal relevance or interest in a product (Bloch & Richins, 1983; Zaichlowsky, 1994). A high-involvement product is considered central to one's life (Traylor, 1981). Thus, consumers make a careful purchase decision for a high involvement product (Clark & Belk, 1979). This implies that consumers may take a long time to purchase the high involvement product. In contrast, low-involvement products are recognized as habitual or repeated consumer goods due to low brand loyalty and wide variety seeking (Bauer et al., 2006).

For selecting product, everyday consumer goods (i.e., body/shower gel, toothpaste, cookies, frozen pizza, yogurt, and detergent) categorized as low involvement products and that fall into the peripheral route category versus the high involvement product categories (i.e., cellular phone, laptop, smart speaker, video streaming service) that are high involvement products and fall into the central route category. For purposes of the study, the low involvement product category was selected to examine the effect of the visual component (i.e., anthropomorphic cues), which is predicted to influence under

the peripheral route (Andrews & Shimp, 1990). The pretest results identified body/shower gel, toothpaste, and detergent as appropriate products in terms of the highest proportion of product usage, product familiarity, and product relevance (see Table 4-1). Also, attitudinal values (i.e., hedonic and utilitarian) were measured to confirm that the target product could have utilitarian and hedonic benefits (see Tables 4-2 and 4-3). Also, three products (body/shower gel, toothpaste, and detergent) had the highest difference in mean value between utilitarian and hedonic value. The difference would bring a product/benefit mismatch (i.e., the utilitarian product with hedonic benefits) effect (Lim & Ang, 2008) when the message interplays with anthropomorphism. Finally, the researcher chose a toothpaste as the experimental target among the three products based on the previous anthropomorphism research (Leung, 2018; Lin & Huang, 2018).

Table 4-1. Selection of Product

	Product Usage	Product Familiarity	Product Relevant	Product Importance
Cellular Phone	6.34	6.36	6.15	6.24
Laptop	5.14	6.15	5.73	5.81
Smart Speaker	4.76	5.50	4.92	5.15
Video Streaming Service	5.46	5.93	5.35	5.58
Body/Shower gel	5.94	6.12	6.04	5.95
Toothpaste	6.12	6.31	6.13	5.08
Cookies	5.19	5.92	4.86	5.44
Frozen Pizza	4.74	6.04	4.82	5.21
Yogurt	4.84	5.73	4.94	5.05
Detergent	5.68	6.11	6.05	5.93

Table 4-2. Means and Standard Deviations for Attitude toward Product

	Attitudes toward Product			
	Utilitarian value		Hedonic value	
	Mean	SD	Mean	SD
Cellular Phone	5.80	1.63	5.36	1.73
Laptop	5.70	1.51	5.06	1.74
Smart Speaker	5.24	1.58	5.27	1.57
Video Streaming Service	5.34	1.69	5.32	1.69
Body/Shower gel	5.79	1.69	5.08	1.66
Toothpaste	5.91	1.59	4.94	1.60
Cookies	4.91	1.77	5.11	1.54
Frozen Pizza	5.17	1.67	4.85	1.70
Yogurt	5.09	1.75	4.76	1.69
Detergent	5.78	1.61	4.70	1.68

Table 4-3. Results of the Repeated Measures by Product Categories

	Mean Difference (U-H)	Wilk's Lambda	<i>F</i>	<i>p</i>	η_p^2
Cellular Phone	.44	.94	7.14	<.01	.06
Laptop	.65	.87	15.89	<.001	.13
Smart Speaker	-.03	1.0	.05	.822	.00
Video Streaming Service	.02	1.0	.01	.908	.00
Body/Shower gel	.71	.89	13.94	<.001	.11
Toothpaste	.97	.81	25.17	<.001	.19
Cookies	-.20	.99	.91	.342	.01
Frozen Pizza	.32	.97	3.55	.06	.03
Yogurt	.32	.97	3.3	.07	.03
Detergent	1.08	.77	33.33	<.001	.23

Pretest 2: Selection of Brand Name for Product

Eighty participants (aged 18-34; $M = 28.4$, $SD = 3.27$) were recruited through Amazon's Mechanical Turk (MTurk) for a monetary incentive. Data collection occurred in October in 2020. The questionnaire began with informed consent. Following the consent form, five fictitious toothpaste names (*Glamove*, *RessQ*, *Freshdent*, *SmilOnn*, and *Fressiya*) were presented among the participants. The participants then rated name

believability using five items on a 5-point semantic differential with a high Cronbach’s alpha score ($\alpha = .92$): *Untruthful/truthful*, *convincing/unconvincing*, *not credible/credible*, *unacceptable/acceptable*, and *believable/unbelievable*. They also rated attitude toward each name on a 5-point semantic differential with a high Cronbach’s alpha score ($\alpha = .93$): *bad/good*, *dislike/like*, *uninteresting/interesting*, *unfavorable/favorable*, and *unappealing/appealing*.

Based on the results of the second pretest, *Freshdent* was selected for the toothpaste brand because it had the highest scores for attitude and believability and the smallest standard deviation (see Table 4-4).

Table 4-4. Selection of Product Name

Names	Attitudes toward name		Believability	
	Mean	SD	Mean	SD
Glamove	2.39	1.36	2.45	1.387
RessQ	2.84	1.42	3.16	1.44
Freshdent	3.65	.91	4.32	.60
SmilOnn	2.68	1.25	3.16	1.42
Fressiya	2.90	1.11	3.03	1.17

Stimulus Development

Two toothpaste ads were created, one with anthropomorphic cues and one without human-like features. They were then embedded into a Facebook post. The *Freshdent* brand name, the copy (i.e., “Freshen your morning breath”), and the location of the ad on Facebook (i.e., Newsfeed) were the same (see Appendix A).

Pretest 3: Initial Test of Anthropomorphism

The third pretest was designed (1) to confirm that participants perceived the ad with anthropomorphic cues on the toothpaste as human-like, (2) to identify the toothpaste product as a low-involvement product. A new sample of 79 U.S. adults (aged 18-34), recruited through *Prolific*, participated in exchange for a monetary incentive ($M = 23.6$, $SD = 5.12$, 51.4% female). Data collection occurred in February 2021. Participants were assigned to one of two conditions and were asked to indicate (1) whether they perceived the human quality in the ad with anthropomorphic cues, (2) whether they considered toothpaste a low-involvement product, (3) whether they were unfamiliar with the name *Freshdent* (i.e., to avoid any confounding effect), and (4) their general evaluation of the ad (i.e., attitude toward the ad). The scale for each construct and Cronbach's alpha for pretest three is reported in Table 4-7.

The condition of anthropomorphism was manipulated by showing participants the two different ads in Facebook. Participants were assigned to one of two conditions and were asked to indicate the following three items on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree): "It seems almost as if the product (the character) has (1) its own beliefs and desires, (2) consciousness, and (3) a mind of its own" (Kwak et al., 2015; Puzakova and Aggarwal, 2018). The results show that participants exposed to anthropomorphic cues ($n = 42$) on the toothpaste ($M = 4.17$, $SD = 1.54$) perceived significantly greater anthropomorphism than those exposed to non-anthropomorphic cues ($n = 37$) on toothpaste ($M = 2.69$, $SD = 1.61$) [$t(77) = 17.35$, $p < .001$]. Thus, the ad with anthropomorphic cues elicited a higher perception of anthropomorphism than the ad without anthropomorphic cues.

Product involvement was measured using two items adopted from previous studies (Olsen, 2007; Ratchford, 1987). Participants were asked to indicate the following two items on a 7-point Likert scale (1 = strongly disagree, 7= strongly agree): “Purchasing toothpaste requires a lot of thought,” “I am very concerned about purchasing toothpaste.” The two items were averaged to create an index for product involvement. The one-sample *t*-test with a test value of 3.5 confirmed that toothpaste was a low-involvement product for participants ($M = 3.05$, $SD = 1.74$) [$t(78) = -2.25$, $p < .05$].

For brand familiarity, participants were asked to respond to the question “How familiar are you with the *Freshdent* Brand?” on a 7-point Likert scale (1 = not at all familiar, 7 = very familiar). The one-sample *t*-test with a test value of 3.5 confirmed that the brand was not familiar ($M = 2.37$, $SD = 2.05$) [$t(78) = -4.91$, $p < .001$]. Finally, to assess general evaluation of the ad, attitude toward the ad was measured using five items on a 7-point semantic differential scale adopted from Muehling and McCann (1993). The five items were averaged to create an index for attitude toward the ad. An ANOVA on this variable revealed a significant difference between the two conditions ($M_{Anthro} = 5.22$, $SD = 1.25$ vs. $M_{Control} = 4.28$; $F(1,77) = 9.87$, $p = .002$).

Pretest 4: Confirming the Message Appeals

Message Selection. The ten hedonic and six utilitarian benefits were collected from the toothpaste advertising. Then, three benefits for each claim were listed with the help of graduate students whose first language was English. First, for the utilitarian benefit, “*Actively fights germs for 12 hours*,” “*Removes up to 80% of surface stains*,” and “*Whitens feels fresh*” were selected. Next, for the hedonic benefit, “*Make you feel*

lovable,” “*Get closer to them,*” and “*Feel Good, and Feel Fantastic*” were listed. Finally, after an editing meeting, for the utilitarian condition, the copy was “Fight bacteria for 12 hours” was selected, and the copy for the hedonic condition, “*Feel good and feel confident,*” was chosen. However, for a creative reason, the copy was shortened (see Appendix B).

The fourth pretest was conducted with 19 college students in exchange for extra credit (a) to check whether message benefits (i.e., hedonic and utilitarian) were perceived as intended and (b) to check whether the claims were believable. Data collection occurred in April 2021. Participants were assigned to one of two conditions, and both conditions included the product with human-like features. For the utilitarian condition, the copy was “*Fight bacteria for 12 hours,*” and for the hedonic condition, the copy was “*Feel good confident.*” In both cases, the copy was accompanied by human-like features in the ad. Participants were asked to rate two items on a 7-point Likert scale (1= strongly disagree, 7= strongly agree): “The advertising message focused on the feeling of the product for me” and “The advertising message focused on the functionality of the product for me.” The results of an independent *t*-test show a significant difference between the message appeal in the first statement ($M_{Hedonic} = 5.88, SD = 1.72$ vs. $M_{Utilitarian} = 3.36, SD = 1.2$; ($t(18) = -3.69, p < .05$) and the second statement ($M_{Hedonic} = 2.56, SD = 1.24$ vs. $M_{Utilitarian} = 5.10, SD = 1.92$; ($t(18) = 3.41, p < .05$). This result confirmed that the hedonic message was perceived to be a more emotional appeal than the utilitarian message.

Ad claim believability was measured using five items, and average scores were computed. The results of a one-sample *t*-test with a test value of 3.5 revealed that students perceived the ad claims as believable ($M = 4.63, SD = 1.19$; $t(18) = 4.26, p$

<.001) and that no difference emerged between the message appeal conditions in terms of ad claim believability ($p = .53$).

Development of Stimulus Material

Based on the pretests, the final graphic and copy for the ad were developed. Two anthropomorphic conditions (i.e., anthropomorphic character and brand anthropomorphism) and two control conditions (i.e., non-anthropomorphic cues) with either a utilitarian claim or hedonic claim were embedded into the PC browser version of Facebook (see Appendix B).

Main Experiment Method

A 3 (anthropomorphism: anthropomorphic character vs. brand anthropomorphism vs. control) \times 2 (message appeal: utilitarian vs. hedonic) between-subjects experiment was conducted to identify the effect of anthropomorphism and message appeal on consumer engagement intention. We designed an online survey experiment, and the session lasted for approximately 10 minutes.

A total of 331 participants aged 18-34 were recruited from the Prolific panel (<http://prolific.ac>) in exchange for compensation. Participants were restricted to those residing within the United States, using English as the first language, and having a Facebook account. The experiment was designed in Qualtrics, and randomization, with even distribution of treatment conditions, was programmed into the survey software. Data collection occurred in June 2021. All participants provided informed consent, and all study procedures were approved by the institutional review board of the University of

Georgia. Of the 331 participants, 13 were excluded due to (a) failing the attention check in the survey (e.g., “If you read this question, please select somewhat agree”), (2) not currently having a Facebook account ($n = 5$), or (3) being 2 *SD* above or below the average online experiment completion time ($n = 9$). The final sample included 304 ($N_{Female} = 157$) adults between the ages of 18 and 34 ($M = 26.9$, $SD = 4.39$, 51.6% female) (see Table 4-5 and 4-6).

Table 4-5. Age and Gender Group Profile

	N (%)
Gender	
Female	157 (51.6%)
Male	147 (48.4%)
Age*	
18-22	58 (19.1%)
23-27	104 (34.2%)
28-34	142 (46.7%)
Total	304 (100%)

* Based on the frequency percentiles

Table 4-6. Descriptive Statistics by Conditions

	N (%)
Types of Anthropomorphism	
Anthropomorphic Brand Character	105 (34.5%)
Brand Anthropomorphism	99 (32.6%)
Non-anthropomorphism	100 (32.9%)
Message appeals	
Utilitarian benefit	152 (50%)
Hedonic benefit	152 (50%)
Total	304 (100%)

Procedure and Stimuli. Once participants gave informed consent, they were asked to indicate whether they had a Facebook account, how many Facebook friends they had,

and how frequently they interacted (e.g., like, share, or follow) with brands on Facebook. Afterward, participants were randomly assigned to one of the six experimental conditions. All three anthropomorphic conditions featured the toothpaste product with either a utilitarian or hedonic headline message (see Appendix B). In the first anthropomorphic character condition, the character (i.e., a tooth-shaped body with eyes, eyebrows, and smile) stood *next to* the toothpaste and a brush. In the ad featuring brand anthropomorphism, human-like features—the same visual components as the character condition—were *on* the toothpaste. In the non-anthropomorphic condition, no human-like features were present.

A manipulation check using three items on a 7-point scale asked participants about the extent to which they agreed about the human features in the ad. Following the message manipulation check, the questionnaire displayed two items. Next, they rated a series of mediators, including perceived ad pleasure, perceived social connectedness (PSC), processing fluency, attitude toward the ad (A_{Ad}), and attitude toward the brand (A_{Brand}). They then indicated their motivation to engage with the brand, their familiarity with the brand (i.e., *Freshdent*), and three levels of involvement with the toothpaste product category. Finally, participants were asked to indicate basic demographic questions (i.e., gender, age, education status, and daily social media usage) and then thanked and debriefed them.

Dependent Measurements.

A total of seven dependent variables were measured to assess the effect of anthropomorphism and the effect of message appeals on ad/brand evaluations. The

dependent variables related to anthropomorphism and message appeals included (a) attitude toward the ad, (b) attitude toward the brand, (c) perceived social connectedness, (d), perceived ad pleasure, (e) processing fluency, (f) motivations (i.e., socializing, entertainment, and information-seeking), and (g) behavioral engagement intention (i.e., consuming, contributing, and creating).

Attitude toward the ad (A_{Ad}) was measured with using five-items, a 7-point semantic differential scale adopted from Muehling and McCann (1993). The five items were summed up to create an index for A_{Ad} ($M = 4.23$, $SD = 1.26$) and Cronbach's alpha for A_{Ad} was .95. Attitude toward the brand (A_{Brand}) was measured with using five-items, a 7-point semantic differential scales adopted from Spears and Singh (2004). The five items were summed up to create an index for A_{Brand} ($M = 4.14$, $SD = 1.18$) and Cronbach's alpha for A_{Brand} was .97.

Perceived social connectedness (PSC) taken from Lee and Robinson (1995), perceived ad pleasure adopted and modified from De Wulf et al., (2006), and processing fluency taken from Lee and Aaker (2004) and Lee, Keller, and Sternthal (2010). All three were measured with a 7-point Likert scale (1 = strongly disagree, 7=strongly agree). PSC ($M = 3.73$, $SD = 1.74$, Cronbach's alpha = .97) was measured with four-items, perceived ad pleasure ($M = 4.47$, $SD = 1.51$, Cronbach's alpha = .95) was measured with five-items, and processing fluency ($M = 5.84$, $SD = 1.34$, Cronbach's alpha = .91).

Socializing motivation ($M = 3.48$, $SD = 1.82$) was measured with a 7-point Likert scale (1 = strongly disagree, 7=strongly agree) using five items (Cheung et al., 2011; Park et al., 2009; Sheldon et al., 2011). The items were summed up for creating an index for socializing motivation. The Cronbach's alpha for this was .98. Six items were used for

entertainment motivation with a 7-point Likert scale (1 = strongly disagree, 7=strongly agree) (Lin & Lu, 2011; Park et al., 2009; Sheldon et al., 2011). The items were summed up for creating an index for entertainment motivation ($M = 3.13$, $SD=1.42$, Cronbach's alpha = .95). Information seeking motivation was measured with five items using a 7-point Likert scale (1 = strongly disagree, 7=strongly agree). Five items were summed up for creating an index for information seeking motivation ($M = 3.85$, $SD = 1.46$, Cronbach's alpha = .89) (Cheung et al., 2011; Hur et al., 2007; Park et al., 2009, Sheldon et al., 2011).

Consuming, contributing, and creating intention of content were measured a 7-point Likert scale (1 = strongly disagree, 7=strongly agree). For consuming content intention used four-items, and the items were summed up to create an index for consuming intention ($M = 4.24$, $SD = 1.63$, Cronbach's alpha = .95). For contributing intention, three items were used, and the items were summed up to create an index for contribution ($M = 3.93$, $SD = 1.56$, Cronbach's alpha = .95). Four items were used to measure how much participants intend to create content. The items were summed up to create an index for creation intention ($M = 3.04$, $SD = 1.38$, Cronbach's alpha = .96). The scale for each construct and Cronbach's α was reported in Table 4-7.

Table 4-7. Measurement Items for Pretests and Main Experiment

Construct	Measurement Items	Source
	Please indicate the extent to which you agree or disagree with the following statement. (1= Strongly disagree, 7=Strongly agree)	
Anthropomorphism (P ² : .93, M ³ : .95) ¹	• It seems almost as if the toothpaste has its own beliefs and desire	Puzakova and Aggarwal (2018)

	<ul style="list-style-type: none"> • It seems almost as if the toothpaste has consciousness • It seems almost as if the toothpaste has a mind of its own 	
Message appeals	<p>Please indicate to what extent the advertising message that you just saw was focused on (1= Not at all, 7 = Very much)</p> <ul style="list-style-type: none"> • The “Feeling” of the product for me • The “Functionality” of the product for me 	Amatulli, De Angelis, and Donato (2020)
Perceived social connectedness (PCS) (M= .98)	<p>Please indicate the extent to which you agree or disagree with the following statements about the ad that you just saw.</p> <ul style="list-style-type: none"> • I feel a sense of belonging with the product (the character) in the ad • I feel like I’m with the product (the character) in the ad • I feel close to the product (the character) in the ad • I feel socially connected with the product (the character) in the ad 	Lee and Robbins (1995)
	<p><Entertainment> Please indicate the extent to which you agree or disagree with the following statements. (1= Strongly disagree, 7=Strongly agree)</p> <p>I would engage (e.g., read, share, or like content) with the brand on social media because the ad that I just saw</p> <ul style="list-style-type: none"> • Is enjoyable • Is entertaining • Is exciting • Is fun 	
Motivation <Entertainment> (M = .95)	<p>After seeing the ad posting, I would like to engage (e.g., read, share or like content) on social media with the brand because</p> <ul style="list-style-type: none"> • It helps me amuse myself 	Lin and Lu, (2011) Park, Kee, and Valenzuela (2009) Sheldon, Abad, and Hinsch (2011)

- I enjoy sharing my finds with other

<p>After seeing the ad posting, I would like to engage (e.g., read, share or like content) on social media with the brand because (1= Strongly disagree, 7=Strongly agree)</p>	
<p>Motivation <Information seeking> (M = .89)</p>	<ul style="list-style-type: none"> • The toothpaste information is useful • I want to know what other people think about the product • I can get information about this toothpaste • It helps me in forming an opinion about the toothpaste • It lets me keep up with the issues relevant to me <p style="text-align: right; margin-right: 20px;"> Cheung, Chiu, and Lee (2011) Hur, Ko, and Valacich (2007) Park, Kee and Valenzuela (2009) Sheldon, Abad, and Hinsch (2011) </p>
<p>I would engage (e.g., read, share, or like content) with the brand on social media because the ad that I just saw (1= Strongly disagree, 7=Strongly agree)</p>	
<p>Motivation <Socializing> (M = .98)</p>	<ul style="list-style-type: none"> • Lets me stay in touch with people with the same interests • Lets communicate me with people with the same interests • Lets me meet new people with the same interests • Lets me feel connected to others • Lets me stay in contact with like-minded people <p style="text-align: right; margin-right: 20px;"> Cheung, Chiu, and Lee (2011) Park, Kee and Valenzuela (2009) Sheldon, Abad, and Hinsch (2011) </p>
<p>Please indicate the extent to which you agree or disagree with the following statements. (1= Strongly disagree, 7=Strongly agree)</p>	
<p>Intention to Behavioral Engagement (M = .95, .95, .96)</p>	<p><Consuming></p> <ul style="list-style-type: none"> • I intend to view pictures of this brand on social media. • I intend to watch videos about this brand on social media. • I intend to read this brands' posts, user comments, or product reviews on social media. <p style="text-align: right; margin-right: 20px;"> Muntinga, Moorman, Smit (2011) Tsai and Men (2013) Schivinski, Christodoulides, Dabrowski (2016) Vale and Fernandes (2018) </p>

- I intend to like or follow the brand pages (e.g., become a fan of or following).

<Contributing>

- I intend to engage in conversations about this brand on brand’s social media page (e.g., comment, ask questions, and share questions).
- I intend to share this brand’s posts (e.g., videos, audio, pictures, or images) on my own social media page.
- I intend to recommend brand-related content (videos, audio, pictures of images) about this brand to my social media contacts (e.g., retweet).

<Creating>

- I Intend to upload brand-related content (e.g., videos, audio, picture, or images) about this brand on my on my social media page.
- I intend to initiate posts related to this brand on my social media page.
- I intend to post pictures/graphics related to this brand on my social media page.
- I intend to hashtag on my posts related to this brand on my social media page.
- I intend to write reviews and forum threads related to this brand on my social media page.

Please indicate the extent to which you agree or disagree with the following statement.
(1= Strongly disagree, 7=Strongly agree)

Product Involvement (P: .90, M = .89)	<ul style="list-style-type: none"> • Purchasing toothpaste requires a lot of thoughts • I am very concerned about purchasing toothpaste 	Olsen (2007) Ratchford (1987)
Attitude toward Ad (P: .95, M = .95)	How would you evaluate the toothpaste advertising that you just saw on Facebook? (Seven-point semantic differential items) <ul style="list-style-type: none"> • Bad - Good 	Muehling and McCann (1993)

	<ul style="list-style-type: none"> • Dislike - Like • Uninteresting - Interesting • Unfavorable - Favorable • Unappealing - Appealing 	
	Please describe your overall feelings about the toothpaste brand in the ad you just saw. (Seven-point semantic differential items)	
Attitude toward Brand (P: .96, M =.97)	<ul style="list-style-type: none"> • Unappealing - Appealing • Bad - Good • Unpleasant - Pleasant • Unfavorable - Favorable • Unlikable - Likable 	Spears and Singh (2004)
	Please indicate the extent to which you are familiar with <i>Freshdent</i> brand.	
Brand Familiarity	• 1= Not at all, 7=Very Familiar	
	Please indicate the extent to which you agree or disagree with the following statements about the ad that you just saw. (Seven-point semantic differential items)	
Processing fluency (M =.91)	<ul style="list-style-type: none"> • Difficult to understand—easy to understand • Difficult to process—easy to process 	Lee and Aaker (2004) Lee, Keller, and Sternthal (2010)
	How would you evaluate the toothpaste ad that you just saw? (Seven-point semantic differential items)	
Ad Believability (P: .93)	<ul style="list-style-type: none"> • Untruthful - Truthful • Convincing – Unconvincing* • Not credible - Credible • Unacceptable - Acceptable • Believable – Unbelievable* <p>* - recoded</p>	Bhat, Leigh, and Wardlow (1998)
	Please indicate the extent to which you agree or disagree with the following statements about the advertising you just saw. (Seven-point semantic differential items)	
Perceived ad pleasure (M =.95)	<ul style="list-style-type: none"> • This ad pleases me—this ad annoys me • This ad makes me happy—this ad makes me unhappy 	De Wulf, Schillewaert, Muylle, and Rangarajan (2006)

-
- I have fun with this ad—I am bored with this ad
 - I find this ad amusing—I find this ad boring
 - This ad makes me feel good—This ad makes me feel bad
-

Note. ¹ Values in parentheses indicate Cronbach's alpha.

²P = Pretest.

³M = Main Experiment.

CHAPTER 5

MAIN EXPERIMENT: RESULTS

Manipulation checks and the results of the main experiment are reported in this chapter. Following the manipulation check, the results are presented for each hypothesis and research question developed in Chapter 3. To address the proposed hypotheses and research questions, a series of analysis of variance (ANOVA) and multiple mediation analysis tests were conducted. This chapter describes the effects of anthropomorphism and its subsequent effects on behavioral engagement intention (i.e., consumption, contribution, and creation of media content). Finally, the moderating role of message appeals is detailed.

Randomization

The experimental (i.e., anthropomorphic brand character and brand anthropomorphism) and control group did not differ with respect to age ($F(2, 301) = 2.95, p = .054$), gender ($\chi^2(2) = .37, p = .85$), spending on social media daily ($F(2, 301) = .49, p = .61$), product involvement ($F(2, 301) = .59, p = .56$), or brand familiarity ($F(2, 301) = 1.13, p = .32$). The second experimental groups (i.e., message appeals) and control group did not differ with respect to age ($t(302) = 1.43, p = .15$), gender ($\chi^2(1) = 2.23, p = .14$), spending on social media daily ($t(302) = 1.67, p = .09$), product involvement ($t(302) = 1.06, p = .29$), or brand familiarity ($t(302) = 1.52, p = .13$).

Manipulation Checks

To verify whether the manipulation of anthropomorphism was successful, participants responded to the following statement: “It seems almost as if the product (the character) has (1) its own beliefs and desires, (2) consciousness, and (3) a mind of its own” (1= strongly disagree, 7 = strongly agree; Kwak et al., 2015; Puzakova and Aggarwal, 2018).

A one-way (anthropomorphic character vs. brand anthropomorphism vs. control; hereafter, character, brand, and control, respectively) analysis of variance (ANOVA) was conducted to reveal whether participants in each condition perceived the product (the brand) as human-like. As expected, participants in the character and brand conditions rated the product (the brand) as more human-like than those in the control condition ($M_{Character} = 4.82$, $SD = 1.69$, $M_{Brand} = 4.49$, $SD = 1.47$, $M_{Control} = 2.89$, $SD = 1.69$, $F(2, 301) = 40.96$, $p < .001$) (see Table 5-1). This result confirmed that the anthropomorphism manipulation was successful. Additionally, we examined the extent to which participants perceived “human-like” differently in the character and brand conditions using a post hoc Bonferroni correction to guard against type I error (Hochberg, 1988). The results show that the difference was not significant ($p = .44$) (see Table 5-2).

Table 5-1. The Result of Manipulation Checks per Condition

Conditions	Mean	SD
Character	4.82	1.69
Brand	4.49	1.47
Control	1.69	1.69
<i>F</i> -Statistics	$F = 40.96^{***}$	

Note: Statistically significant at *** $p < .001$

Table 5-2. Bonferroni Comparison for Anthropomorphism Manipulation Check

Comparisons	Mean Difference	SE	95% CI	
			Lower Bound	Upper Bound
Control vs. Character	-1.93***	.23	-2.48	-1.39
Control vs. Brand	-1.60***	.23	-2.16	-1.05
Character vs. Brand	.33	.23	-.22	.88

Note: *** $p < .001$; ** $p < .01$; * $p < .05$

For the moderating variable, message appeal, study participants responded to the following statements on a 7-point Likert scale (1 = “strongly disagree,” 7 = “strongly agree”; Amatulli et al., 2020): “Please indicate to what extent the advertising message was focused on the ‘Feeling’ of the product for you” and “Please indicate to what extent the advertising message was focused on the ‘Functionality’ of the product for you.” An independent sample t -test was conducted to test the difference between the two message conditions (see Table 5-3). Participants exposed to the hedonic benefit reported, in response to the first statement, that the ad message contained a more emotional message than those exposed to the utilitarian benefit ($M_{Hedonic} = 5.56$, $SD = 1.41$ vs. $M_{Utilitarian} = 3.16$, $SD = 1.65$; $t(302) = -13.59$, $p < .001$). Participants exposed to the utilitarian benefit reported, in response to the second statement, that the ad message included a more functional claim than those exposed to the hedonic benefit ($M_{Hedonic} = 3.74$, $SD = 1.61$ vs. $M_{Utilitarian} = 5.74$, $SD = 1.27$; $t(302) = 12.09$, $p < .001$). The results of the manipulation check for message appeal demonstrate that the ad delivered the intended type of message appeal (i.e., utilitarian and hedonic). Thus, character, brand, and control (i.e., independent variable) and message appeal (i.e., moderating variable) were successfully manipulated.

Table 5-3. The Result of Manipulation Checks: Message Appeals

	Focused on the “Feeling”		Focused on the “Functionality”	
	Mean	SD	Mean	SD
Hedonic Appeal	5.56	1.41	3.74	1.27
Utilitarian Appeal	3.16	1.65	5.74	1.61
<i>t</i> -Statistics	<i>t</i> = -13.59***		<i>t</i> = 12.09***	

Note: *** $p < .001$

Hypothesis Testing

Effect of Anthropomorphism on Perceived Social Connectedness (RQ1 and RQ2)

RQ1: Will messages with anthropomorphic cues affect perceived social connectedness differently from the ad without anthropomorphic cues?

The ANOVA was conducted for the three levels of anthropomorphism (i.e., independent variable) and perceived social connectedness (PSC) (i.e., dependent variable; see Table 4-5 for detailed measurements). The results revealed significant differences between the character, brand, and control conditions, $F(2, 301) = 29.88, p < .001, \eta^2 = .17$; see Table 5-4). This result provided initial evidence for the first research question (i.e., whether anthropomorphism yields PSC).

Table 5-4. The Result of ANOVA per Condition on PSC (RQ1)

Conditions	Mean	SD
Character	4.45	1.67
Brand	3.95	1.51
Control condition	2.77	1.58
<i>F</i> -Statistics	$F = 29.88$ ***	

Note: *** $p < .001$

A post hoc Bonferroni test revealed that the participants in the control condition had lower PSC ($M = 2.77$, $SD = 1.58$) than those in the character condition ($M = 4.45$, $SD = 1.67$, $p < .001$) and the brand condition ($M = 3.95$, $SD = 1.52$, $p < .001$) (see Table 5-5). However, no significant difference in PSC emerged between the character and brand conditions ($p = .08$) (see Table 5-5).

Table 5-5. Bonferroni Comparison for Perceived Social Connectedness

Comparisons	Mean Difference	SE	95% CI	
			Lower Bound	Upper Bound
Control vs. Character	-1.68***	.22	-2.22	-1.14
Control vs. Brand	-1.18***	.23	-1.73	-.64
Character vs. Brand	.50	.22	-.04	1.04

Note: *** = Statistically significant at $p < .001$

RQ2: Does perceived ad pleasure mediate the relationship between exposure to the ad with anthropomorphic cues and perceived social connectedness?

Next, a mediation analysis was conducted using PROCESS Model 4 (Hayes, 2013) in SPSS to test whether perceived ad pleasure mediated the effect of anthropomorphism on PSC. All analyses used 5,000 bootstrap samples to estimate the bias-corrected bootstrap confidence intervals (BCBCIs). Due to having multiple categorical variables, *indicator coding* (i.e., dummy coding) function was used in PROCESS (Hayes & Preacher, 2014).

The mediation model is presented in Figure 5-1. PSC was entered as a dependent variable, and perceived ad pleasure was entered as the mediating variable. Contrary to

expectation, the results show that PSC was not mediated by perceived ad pleasure in the character condition ($B = -.14$, boot SE = .11, 95% BCBCI [-.35, .07]) or in the brand condition ($B = -.13$, boot SE = .09, 95% BCBCI [-.32, .07]). This result indicated that perceived ad pleasure did not relate to PSC, regardless of condition.

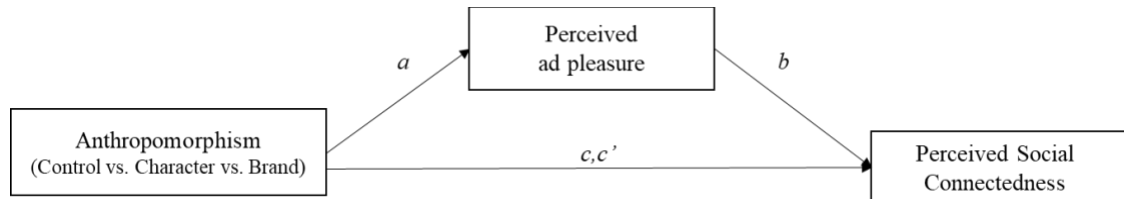


Figure 5-1. Mediating Impact of Perceived Ad Pleasure of Anthropomorphism on PSC

Effect of Anthropomorphism on A_{Ad} and A_{Brand} (H1 and RQ3) and on Behavioral Engagement Intention (H2)

H1a: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad (A_{Ad}).

H1b: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand (A_{Brand}).

Separate one-way ANOVA analyses were conducted for the three levels of the independent variable (i.e., character, brand or control) on A_{Ad} and A_{Brand} to justify further mediation analysis (i.e., anthropomorphism $\rightarrow A_{Ad}$ and $A_{Brand} \rightarrow$ intention to engage) and to examine whether the character and brand conditions would yield different A_{Ad} and A_{Brand} .

Control vs. Character vs. Brand. As expected, the results show significantly different effects among the three anthropomorphic conditions, ($F(2, 301) = 9.39, p < .001$) on A_{Ad} . As shown in Table 5-6, after exposure to anthropomorphism, compared to non-anthropomorphism, participants had more favorable attitude toward the ad. That is, attitude toward the ad was most favorable in the character condition ($M = 4.54, SD = 1.25$), followed by the brand condition ($M = 4.32, SD = 1.34$) and control ($M = 3.81, SD = 1.09$). Thus, H1a was supported.

Table 5-6. The Result of ANOVA on A_{Ad} and A_{Brand} (H1)

	Attitude toward AD		Attitude toward Brand	
	Mean	SD	Mean	SD
Character	4.54	1.25	4.38	1.04
Brand	4.32	1.34	4.30	1.32
Control condition	3.81	1.09	3.75	1.08
<i>F</i> -Statistics	$F = 9.39^{***}$		$F = 8.77^{***}$	

Note: Statistically significant at $^{***} p < .001$

Further, the Bonferroni correction method was used to control the family-wise error (FEW), the results show that the participants in the control condition had significantly different attitudes toward the ad mean scores than those in the character or brand conditions (see Table 5-7). Although the value of mean scores were different from two anthropomorphism conditions (character vs. brand), the mean scores were not significantly different for attitude toward the ad.

Table 5-7. Bonferroni Comparison for Anthropomorphism

Comparisons	Attitude toward Ad				Attitude toward Brand			
	Mean Difference	SE	95% CI		Mean Difference	SE	95% CI	
			Lower Bound	Upper Bound			Lower Bound	Upper Bound
C ¹ vs. Character	-.73***	.17	-1.14	-.31	-.63***	.16	-1.01	-.24
C vs. Brand	-.51*	.17	-.93	-.09	-.54**	.16	-.93	-.15
Character vs. Brand	.22	.17	-.19	.63	.08	.16	-.30	.47

Note: ¹ = Control; *** $p < .001$; ** $p < .01$; * $p < .05$

Comparable results for attitude toward the brand was emerged. The ANOVA result show significantly different effects among the three anthropomorphism conditions on A_{Brand} ($F(2, 301) = 8.77, p < .001$) (see Table 5-6). That is, A_{Brand} was most favorable for those the character condition ($M = 4.38, SD = 1.04$), followed by the brand condition ($M = 4.30, SD = 1.32$) and control ($M = 3.75, SD = 1.08$). Thus, H1b was supported. Further, the Bonferroni correction results revealed a difference between the anthropomorphic conditions and the non-anthropomorphic condition, but no difference between the character and brand conditions emerged (see Table 5-7).

RQ3: What, if anything, is the difference between brand anthropomorphism and anthropomorphic brand characters in an ad with regard to (a) attitude toward the ad and (b) attitude toward the brand?

Character vs. Brand. Only the two anthropomorphic conditions (i.e., character and brand) were selected ($n = 204$) to test whether the two conditions had different effect of anthropomorphism on attitude toward the ad and the brand. An independent sample t -test

results indicated that the effect of the two types of anthropomorphism not significantly different on A_{Ad} ($M_{Character} = 4.54, SD = 1.22$ vs. $M_{Brand} = 4.32, SD = 1.34; t(202) = 1.20, p = .23$) or A_{Brand} ($M_{Brand} = 4.38, SD = 1.04$ vs. $M_{Brand} = 4.30, SD = 1.32; t(202) = .51, p = .61$). The result showed that two anthropomorphic conditions were not different on A_{Ad} and A_{Brand} .

Additional analysis with Processing Fluency. Confirming the effect of easy of ad processing, an additional ANOVA and a mediation analysis were used with processing fluency as a mediator. The ANOVA results showed no significant difference among the three anthropomorphic conditions ($M_{Character} = 5.80, SD = 1.43$ vs. $M_{Brand} = 5.87, SD = 1.31$ vs. $M_{Control} = 5.84, SD = 1.29; F(2, 301) = .08, p = .93$). The results of the separate PROCESS analysis models showed no significant indirect effects of anthropomorphism on A_{Ad} via processing fluency in the character condition ($B = -.004, SE = .02, 95\%$ BCBCI $[-.05, .03]$) or the brand anthropomorphism condition ($B = .002, SE = .02, 95\%$ BCBCI $[-.04, .04]$) on A_{Ad} . Also, the effect of anthropomorphism on A_{Brand} via processing fluency was not significant in the character condition ($B = -.003, SE = .02, 95\%$ BCBCI $[-.05, .03]$) or in the brand condition ($B = .002, SE = .02, 95\%$ BCBCI $[-.04, .03]$). The result showed that processing fluency was not correlated with the positive effect of attitude toward the ad and brand.

H2a: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad and, therefore, greater intention to engage in (a) consumption, (b) contribution, and (c) creation of media content than participants who do not see the ad with anthropomorphic cues.

H2b: Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand and, therefore, greater intention to engage in (a) consumption, (b) contribution, and (c) creation of media content than participants who do not see the ad with anthropomorphic cues.

To test H2, separate mediation analyses were conducted using a bootstrapping approach with 5,000 samples (PROCESS Model 4; Hayes 2013). Anthropomorphism was entered as the independent variable and consumption, contribution and creation were entered as the dependent variables with two mediators (i.e., A_{Ad} and A_{Brand}). Table 5-8 summarizes the means of the sample for all three conditions.

Table 5-8. Summary of Results under the Anthropomorphism Conditions

	Character $M (SD)$	Brand $M (SD)$	Control $M (SD)$	F
Consuming	4.77 (1.55)	4.20 (1.56)	3.73 (1.62)	11.17***
Contributing ^{1,2}	4.42 (1.35)	3.87 (1.63)	3.48 (1.58)	9.75***
Creating ³	3.27 (1.31)	3.08 (1.41)	2.76 (1.38)	3.64*
A_{Ad}	4.54 (1.25)	4.32 (1.34)	3.81 (1.09)	9.39***
A_{Brand}	4.38 (1.04)	4.30 (1.32)	3.75 (1.08)	8.77***

Note. *** $p < .001$; ** $p < .01$; * $p < .05$: analyzed using ANOVA tests.

¹ = significant difference between character and brand condition ($p < .05$) from the Post Hoc test.

² = no significant difference between brand and control condition ($p = .23$) from the Post Hoc test.

³ = no significant difference between brand and control condition ($p = .31$) from the Post Hoc test.

Consumption intention. The results of the PROCESS analysis showed a significant indirect effect of the presence of anthropomorphism on intention to consume media content through A_{Ad} (see Table 5-9 and Figure 5-2) and A_{Brand} (see Table 5-10 and Figure 5-3). Participants scored higher on A_{Ad} in the character condition ($B = .18$, boot SE = .07, 95% BCBCI [.04, .20]) and the brand condition ($B = .12$, boot SE = .05, 95% BCBCI [.03, .24]) than participants in the control condition.

Table 5-9. Indirect Effect of Anthropomorphism on Behavioral Intention via A_{Ad}

Dependent Variable	Ad Condition (Reference Group)	Indirect Effect (SE)		c (Total)	c' (Direct)	
		[95% BCBCI]				
Consuming						
	Character (Control)	.18 (.07) [.04, .20]	.73 (.17) ***	.24 (.07) **	1.04(.22) ***	.86 (.22) ***
	Brand (Control)	.12 (.05) [.03, .24]	.51 (.17) **	.24 (.07) **	.47 (.22) *	.35 (.22)
Contributing						
	Character (Control)	.22 (.07) [.10, .36]	.73 (.17) ***	.30 (.07) ***	.93 (.21) ***	.72 (.21) ***
	Brand (Control)	.15 (.06) [.05, .29]	.51 (.27) **	.30 (.07) ***	.38(.22)	.23 (.21)
Creating						
	Character (Control)	.10 (.05) [.01, .20]	.73 (.17) ***	.13 (.06) *	.51 (.19) **	.41 (.20) *
	Brand (Control)	.07 (.04) [.00, .15]	.51 (.17) **	.13 (.06) *	.32 (.19)	.25(.20)

Note. The table represents the unstandardized coefficients (with boot SE in parentheses). BCBCI D bias-corrected 5,000 bootstrap confidence intervals. The coefficients correspond with the paths in Figure 5-2. *** $p < .001$; ** $p < .01$; * $p < .05$.

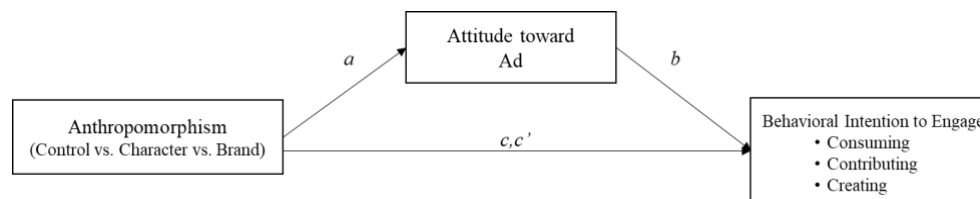


Figure 5-2. Indirect Effect of Anthropomorphism on Behavioral Intention to Engage via A_{Ad} .

Table 5-10. Indirect Effect of Anthropomorphism on Behavioral Intention via A_{Brand}

Dependent Variable	Ad Condition (Reference Group)	Indirect Effect (SE)				
		[95% BCBCI]	<i>a</i>	<i>b</i>	<i>c</i> (Total)	<i>c'</i> (Direct)
Consuming						
	Character (Control)	.17 (.07) [.04, .20]	.63 (.16) ***	.28 (.08) ***	1.04(.22) ***	.87 (.22) ***
	Brand (Control)	.15 (.06) [.05, .29]	.51 (.17) **	.28 (.08) ***	.47 (.22) *	.32 (.22)
Contributing						
	Character (Control)	.22 (.07) [.10, .37]	.63 (.16) ***	.35 (.07) ***	.93 (.21) ***	.72 (.21) ***
	Brand (Control)	.19 (.07) [.06, .33]	.51 (.17) **	.35 (.07) ***	.38(.22)	.20 (.21)
Creating						
	Character (Control)	.10 (.05) [.02, .20]	.63 (.16) ***	.15 (.07) *	.51 (.19) **	.41 (.20) *
	Brand (Control)	.09 (.04) [.01, .18]	.51 (.17) **	.15 (.07) *	.32 (.19)	.23(.20)

Note. The table represents the unstandardized coefficients (with boot SE in parentheses). BCBCI D bias-corrected 5,000 bootstrap confidence intervals. The coefficients correspond with the paths in Figure 5-3. *** $p < .001$; ** $p < .01$; * $p < .05$.

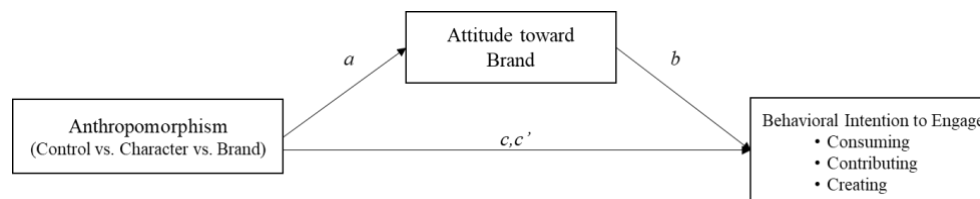


Figure 5-3. Indirect Effect of Anthropomorphism on Behavioral Intention to Engage via A_{Brand}

The analyses showed that anthropomorphic character ($B = .73, p < .001$) and brand anthropomorphism ($B = .51, p = .004$) resulted in more favorable A_{Ad} and, in turn, higher intention to consume content ($B = .24, p = .001$). As expected, the indirect effect was also significant on consumption intention when A_{Brandd} was entered as the mediator in the character condition ($B = .17, \text{boot SE} = .06, 95\% \text{ BCBCI } [.07, .31]$) and the brand condition ($B = .15, \text{boot SE} = .06, 95\% \text{ BCBCI } [.05, .29]$).

Contribution intention. The results showed a significant indirect effect of the presence of anthropomorphism on intention to contribute media content (i.e., sharing, recommending, and communicating) through A_{Ad} . Participants scored higher on A_{Ad} in the character condition ($B = .22, \text{boot SE} = .07, 95\% \text{ BCBCI } [.10, .36]$) and the brand condition ($B = .15, \text{boot SE} = .06, 95\% \text{ BCBCI } [.05, .29]$) than participants in the control condition. The results showed that anthropomorphic character ($B = .73, p < .001$) and brand anthropomorphism ($B = .51, p = .004$) resulted in more favorable A_{Ad} and, in turn, higher intention to contribute content ($B = .30, p < .001$). As expected, the indirect effect was also significant on contribution intention when A_{Brand} was entered as the mediator in the character condition ($B = .22, \text{boot SE} = .07, 95\% \text{ BCBCI } [.10, .37]$) and the brand condition ($B = .19, \text{boot SE} = .067, 95\% \text{ BCBCI } [.06, .33]$).

Creation intention. The results showed a significant indirect effect of the presence of anthropomorphism on intention to create media content through A_{Ad} . Participants scored higher on A_{Ad} in the character condition ($B = .10, \text{boot SE} = .05, 95\% \text{ BCBCI } [.01, .20]$) and the brand condition ($B = .07, \text{SE} = .04, 95\% \text{ BCBCI } [.00, .15]$) participants in the control condition. The results showed that anthropomorphic character ($B = .73, p < .001$) and brand anthropomorphism ($B = .51, p < .01$) resulted in more favorable A_{Ad} and, in

turn, higher intention to create content ($B = .13, p = .04$). As expected, the indirect effect was also significant on creation intention when A_{Brand} was entered as the mediator in the character condition ($B = .10, \text{boot SE} = .05, 95\% \text{ BCBCI} [.02, .20]$) and the brand condition ($B = .09, \text{boot SE} = .067, 95\% \text{ BCBCI} [.01, .18]$). Thus, based on mediation results, H2a and H2b were supported.

Effect of Anthropomorphism on Socializing Motivation via PSC (H3)

H3: Perceived social connectedness will mediate the effect of anthropomorphic cues in the ad on intrinsic motivation (i.e., ad with anthropomorphic cues → perceived social connectedness → socializing motivation).

To examine the mediating role of perceived social connectedness (PSC), a mediation analysis using a bootstrapping approach with 5,000 samples (PROCESS Model 4; Hayes 2013) and brand anthropomorphism as the independent variable, intrinsic motivation (i.e., socializing) as the dependent variable, and PSC as the mediating variable. Additionally, a separate mediation analysis was run with entertainment motivation as the dependent variable.

The zero-order correlations among the variables were presented in Table 5-11, and assumption of collinearity was checked. The results indicated that multicollinearity was not a concern ($VIFs = < 1.30$).

Table 5-11. Correlation Matrix

	Entertainment	Socializing	PSC ¹
Entertainment	X	.43***	.26***
Socializing		X	.53***
PSC			X

Note. ¹PSC = Perceived social connectedness; *** $p < .001$.

The results of the separate PROCESS models showed a significant indirect effect of the presence of anthropomorphism on the socializing and entertainment motivation (see Table 5-12 and Figure 5-4). Participants scored higher on the socializing motivation in the character condition ($B = .87$, boot SE = .16, 95% BCBCI [.57, 1.21]) and the brand condition ($B = .61$, boot SE = .14, 95% BCBCI [.35, .91]) than participants in the control condition. More specifically, anthropomorphic character ($B = 1.68$ SE = .22, $p < .001$) and brand anthropomorphism ($B = 1.15$, SE = .23, $p < .001$) increased PSC ($B = .52$, SE = .06, $p < .001$) and, in turn, increased the socializing motivation to engage. Comparable results emerged for the entertainment motivation. The entertainment motivation was also mediated by perceived social connectedness in the character condition ($B = .40$, boot SE = .11, 95% BCBCI [.20, .63]) and the brand condition ($B = .28$, boot SE = .09, 95% BCBCI [.13, .47]). The results also indicated that socializing had a higher indirect effect than entertainment motivation. Therefore, H3 was supported

Table 5-12. Indirect Effect of Anthropomorphism on Motivation vis PSC

Dependent Variable	Ad Condition (Reference Group)	Indirect Effect (SE)				
		[95% BCBCI]	<i>a</i>	<i>b</i>	<i>c</i> (Total)	<i>c'</i> (Direct)
Socializing						
	Character (Control)	.87 (.16) [.57, 1.21]	1.68 (.22) ***	.52 (.06) ***	1.25 (.24) ***	.38 (.24)
	Brand (Control)	.61 (.14) [.35, .91]	1.15 (.23) ***	.52 (.06) ***	.88 (.25) ***	.37 (.23)
Entertainment						
	Character (Control)	.40 (.11) [.20, .63]	1.68 (.22) ***	.24 (.05) ***	.09 (.20)	-.31 (.21)
	Brand (Control)	.28 (.09) [.13, .47]	1.15 (.23) ***	.24 (.05) ***	.13 (.20)	-.16 (.20)

Note. The table represents the unstandardized coefficients (with boot SE in parentheses). BCBCI D bias-corrected 5,000 bootstrap confidence intervals. The coefficients correspond with the paths in Figure 5-4. *** $p < .001$; ** $p < .01$; * $p < .05$.

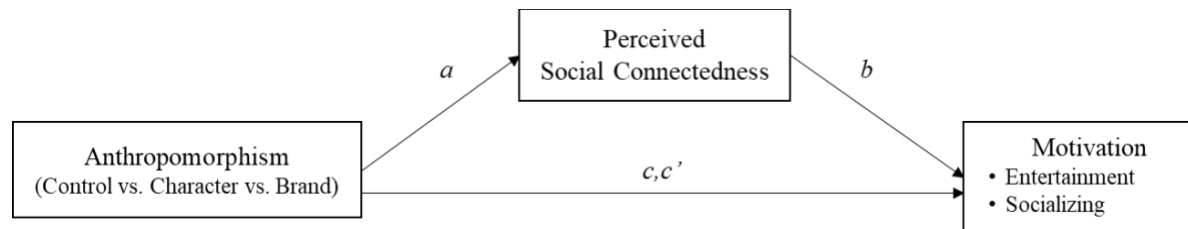


Figure 5-4. Indirect Effect of Anthropomorphism on Motivation via PSC

Effect of Anthropomorphism on Behavioral Engagement Intention via PSC and Motivation (H4)

H4: Perceived social connectedness and socializing motivation sequentially mediate the relationship between anthropomorphism in the ad and intention to engage in (a) contribution and (b) creation of media content (i.e., ad with anthropomorphic cues → perceived social connectedness → socializing motivation → behavioral engagement intention).

To test H4, a separate sequential mediation model for two different levels of the dependent variable (i.e., contribution and creation) via social connectedness and socializing motivation as mediators was conducted using the Hayes PROCESS (Model 6; Hayes, 2013) with 5,000 bootstrap samples.

For analyzing, since the specific motivation (i.e., socializing) determines socializing-related behaviors (e.g., sharing or recommending), therefore, consuming was excluded and only contributing and creating were entered as the dependent variables.

Indicator coding was used to define multiple levels of the independent variable (Hayes & Preacher, 2014). The zero-order correlations among the variables were presented in Table 5-13, and assumption of collinearity was checked. The results indicate no multicollinearity issues ($VIFs < 2.00$).

Table 5-13. Correlation Matrix

	SM	Contributing	Creating	PSC
SM ¹	X	.60***	.57***	.53***
Contributing		X	.67***	.43***
Creating			X	.39***
PSC				X

Note. ¹SM = Socializing motivation; *** $p < .001$.

The results of separate PROCESS models showed significant indirect effects of anthropomorphism on behavioral intention to engage (see Table 5-14, 5-15 and Figure 5-5). Participants scored higher on contribution intention in the character condition ($B = .24$, boot SE = .06, 95% BCBCI [.15, .37]) and the brand condition ($B = .17$, boot SE = .05, 95% BCBCI [.09, .27]) than participants in the control condition. The results showed that participants in the character condition ($B = 1.68$, $p < .001$) and the brand condition ($B = 1.18$, $p < .001$) perceived higher social connectedness and, therefore, had higher socializing motivation ($B = .52$, $p < .001$) and, in turn, higher intention to contribute content ($B = .44$, $p < .001$) than participants in the control condition. Comparable results emerged for creation intention. Participants scored higher on creation intention in the character condition ($B = .34$, boot SE = .08, 95% BCBCI [.21, .50]) and the brand condition ($B = .24$, boot SE = .06, 95% BCBCI [.13, .38]) than participants in the control condition. The results show that participants in the character condition ($B = 1.68$, $p < .001$) and the brand condition ($B = 1.18$, $p < .001$) perceived a higher social connectedness and, therefore, had higher socializing motivation ($B = .52$, $p < .001$) and, in turn, higher intention to create content ($B = .39$, $p < .001$) than participants in the control condition. Therefore, H4 was supported.

Table 5-14. Significant Indirect Effects of Anthropomorphism on Behavioral Engagement Intention

Indirect Effects	Ad Condition (Reference Group)	<i>B</i>	SE	95% BCBCI
1. Anthropomorphism → PSC ¹ → SM ² → Contributing	Character (Control)	.24	.06	[.15, .37]
	Brand (Control)	.17	.05	[.09, .27]
2. Anthropomorphism → PSC→ SM→ Creating	Character (Control)	.34	.08	[.21, .50]
	Brand (Control)	.24	.06	[.13, .38]

Note: The table represents the unstandardized coefficients with boot SE. BCBCI represents the biased corrected 5,000 bootstrap confidence interval.

¹PSC = Perceives social connectedness, ²SM = Socializing motivation.

Table 5-15. Indirect Effect of Anthropomorphism on Motivation

Mediators	DV	Ad Condition ¹	<i>a</i> ₁	<i>a</i> ₂	<i>a</i> ₃	<i>b</i> ₁	<i>b</i> ₂	<i>c</i> (Total)	<i>c</i> ' (Direct)
Socializing Motivation	Contributing	Character	1.68	.38	.52	.13	.44	.93	.16
		(Control)	(.22)***	(.24)	(.06)***	(.05)**	(.05)***	(.22)***	(.19)
		Brand (Control)	1.18	.27	.52	.13	.44	.38	-.16
	Creating	Character	1.68	.38	.52	.11	.39	.51	-.16
		(Control)	(.22)***	(.24)	(.06)***	(.05)**	(.05)***	(.19)**	(.17)
		Brand (Control)	1.18	.27	.52	.11	.39	.32	-.15
			(.23)***	(.23)	(.06)***	(.05)**	(.05)***	(.19)	(.17)

Note. The table represents the unstandardized coefficients (with boot SE in parentheses). The coefficients correspond with the paths in Figure 5-5. ****p* < .001; ***p* < .01; **p* < .05; ¹ = Reference groups are in parentheses.

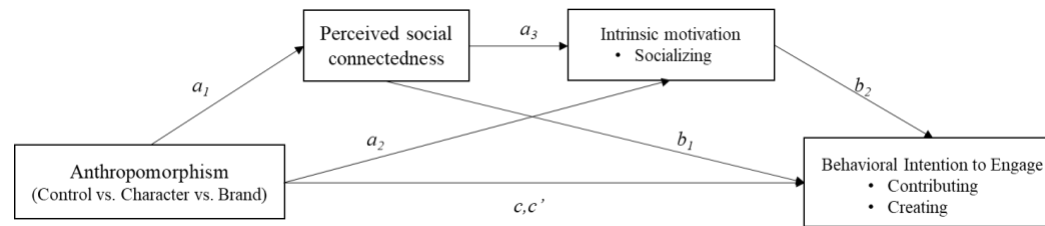


Figure 5-5. Indirect effect of Anthropomorphism on Intention to Engage Behavior via PSC and Socializing Motivation

Effect of Anthropomorphism on Behavioral Engagement Intention via Entertainment

Motivation (H5)

H5: Participants who see the ad with anthropomorphic cues will have greater entertainment motivation. As a result of higher entertainment motivation, they will have higher intention to engage in (a) consumption, (b) contribution, and (c) creation of media content (i.e., ad with anthropomorphic cues → entertainment motivation → behavioral intention).

To test H5, a mediation analysis using PROCESS Model 4 (Hayes, 2013) with 5,000 bootstrap samples was conducted to test whether the intrinsic motivations (i.e., entertainment) mediated the effect of anthropomorphism on intention to engage (i.e., consumption, contribution, and creation). The results of the separate PROCESS models show no significant indirect effects of anthropomorphism on intention to consume, contribute, or create media content (see Table 5-16 and Figure 5-6).

The results showed that the entertainment motivation did not mediate the effect in the character condition ($B = .04$ SE = .06, 95% BCBCI [-.08, .14]) or the brand anthropomorphism condition ($B = .04$ SE = .05, 95% BCBCI [-.07, .15]) on consumption intention. Also, the effect of anthropomorphism on contribution and creation intention via entertainment motivation was not significant. Therefore, H5 was not supported.

Table 5-16. Indirect Effect of Anthropomorphism on Intention to Engage Behavior via Entertainment Motivation

Dependent Variable	Ad Condition (Reference Group)	Indirect Effect (SE)				
		[95% BCBCI]	<i>a</i>	<i>b</i>	<i>c</i> (Total)	<i>c'</i> (Direct)
Consuming						
	Character (Control)	.04 (.06) [-.08, .14]	.09 (.20)	.45 (.06) ***	1.04 (.22) ***	1.00 (.20) ***
	Brand (Control)	.04 (.05) [-.07, .15]	.13 (.20)	.45 (.06) ***	.47 (.22) *	.41 (.20) *
Contributing						
	Character (Control)	.04 (.08) [-.13, .20]	.09 (.20)	.40 (.06) ***	.93 (.21) ***	.90 (.20) ***
	Brand (Control)	.05 (.08) [-.11, .21]	.13 (.20)	.40 (.06) ***	.38(.22)	.33 (.20)
Creating						
	Character (Control)	.03 (.08) [-.13, .20]	.09 (.20)	.41 (.05) ***	.51 (.19) **	.47 (.17) **
	Brand (Control)	.04 (.08) [-.10, .21]	.13 (.20)	.41 (.05) ***	.32(.19)	.26 (.18)

Note. The table represents the unstandardized coefficients (with boot SE in parentheses). BCBCI = bias-corrected 5,000 bootstrap confidence interval. The coefficients correspond with the paths in Figure 5-6. *** $p < .001$; ** $p < .01$; * $p < .05$.

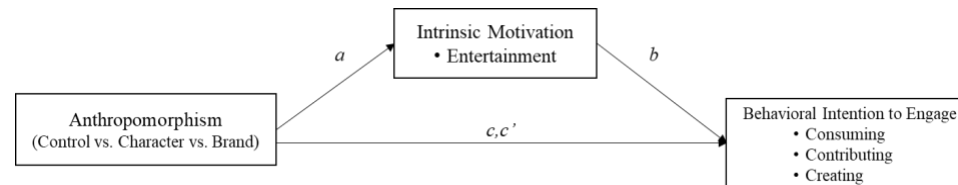


Figure 5-6. Indirect effect of Anthropomorphism on Intention to Engage Behavior via Entertainment motivation

The Moderating Role of Message Appeal (H6, H7, and H8)

H6: People who see the ad with a utilitarian message appeal will have a more favorable (a) attitude toward the ad and (b) attitude toward the brand than people who see the ad with a hedonic message appeal.

To test H6, an independent sample *t*-test was conducted. The results showed that there was no significant difference between the utilitarian and hedonic message appeals on A_{Ad} ($M_{Utilitarian} = 4.11$, $SD = 1.25$ vs. $M_{Hedonic} = 4.35$, $SD = 1.27$; $t(302) = -1.66$, $p = .09$) and on A_{Brand} ($M_{Utilitarian} = 4.05$, $SD = 1.21$ vs. $M_{Hedonic} = 4.24$, $SD = 1.15$; $t(302) = -1.35$, $p = .18$). Therefore, H6 was not supported.

H7a: When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad than people who see the ad without anthropomorphic cues.

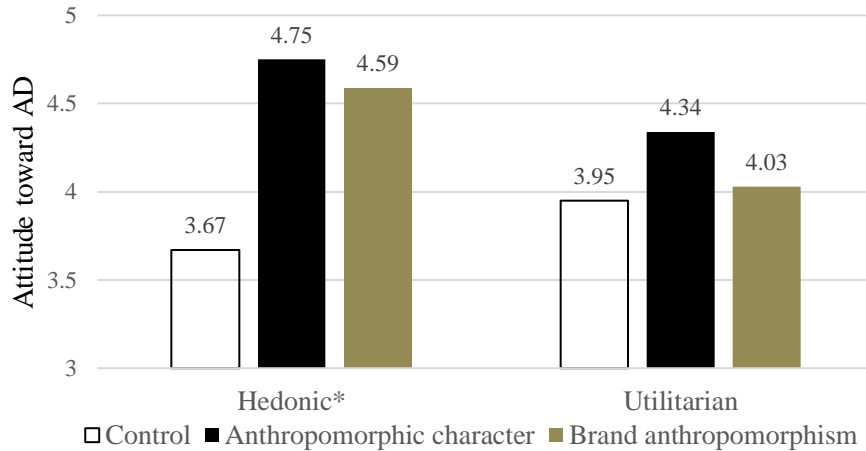
H7b: When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand than people who see the ad without anthropomorphic cues.

H7c: When the ad message emphasizes utilitarian benefits, people who see the ad without anthropomorphic cues will have a more favorable attitude toward the ad than people who see the ad with anthropomorphic cues.

H7d: When the ad message emphasizes utilitarian benefits, people who see the ad without anthropomorphic cues will have a more favorable attitude toward the brand than people who see the ad with anthropomorphic cues.

Interaction Effect. A 3 (anthropomorphism: character vs. brand vs. control) \times 2 (message appeal: utilitarian vs. hedonic) ANOVA revealed main effects of anthropomorphism ($F(2, 298) = 9.66, p < .001$). A post hoc Bonferroni test revealed that the participants in the control condition had less favorable A_{Ad} ($M = 3.81, SD = 1.10$) than participants in the character condition ($M = 4.53, SD = 1.25, p < .001$) or the brand condition ($M = 4.32, SD = 1.34, p < .05$). However, no significant difference between anthropomorphic character and brand anthropomorphism emerged ($p = .61$).

However, a significant two-way interaction effect emerged for A_{Ad} ($F(2, 298) = 3.32, p < .05$). As shown in Figure 5-7, simple effect analysis revealed that in the hedonic message condition, participants reported less favorable A_{Ad} in the control condition ($M = 3.67, SD = .17$) than in the character condition ($M = 4.75, SD = .17$) or the brand condition ($M = 4.59, SD = .17; F(2, 298) = 11.37, p < .001$). However, the simple effect was not emerged in the utilitarian condition. Although participants reported less favorable A_{Ad} in the control condition ($M = 3.95, SD = .17$) than in the character condition ($M = 4.34, SD = .17$) or the brand condition ($M = 4.03, SD = .18$), the difference among the three mean scores was not statistically significant ($F(2, 298) = 1.48, p = .23$) in the utilitarian message condition.



Note: * $p < .001$

Figure 5-7. Simple Effect of Anthropomorphism and Message Appeals on A_{Ad}

Contrary to expectation, the interaction effect of anthropomorphism and message appeals on A_{Brand} was not emerged ($F(2, 298) = 2.90, p = .057$). The ANOVA results indicated that the main effect was emerged only from the anthropomorphic conditions ($F(2, 298) = 7.20, p < .001$) but no differences from the message appeal condition ($F(1, 298) = 1.74, p = .19$). A post hoc Bonferroni test revealed that the participants in the control condition has less favorable A_{Brand} ($M = 3.75, SD = 1.08$) than participants in the character condition ($M = 4.38, SD = 1.04, p < .001$) or the brand condition ($M = 4.30, SD = 1.32, p < .05$). However, no significant difference emerged between anthropomorphic character and brand anthropomorphism. Therefore, H7a was supported, but H7b and H7c were not supported.

H8(a): Attitude toward the ad (A_{Ad}) will mediate the interaction effect of anthropomorphism and message appeals on intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.

H8(b): Attitude toward the brand (A_{Brand}) will mediate the interaction effect of anthropomorphism and message appeals on intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.

To test H8, a moderated mediation analysis (Hayes 2013; PROCESS Model 7) was conducted to examine the interactive impact of anthropomorphism and message appeal on behavioral engagement intention (i.e., consumption, contribution, and creation) via A_{Ad} and A_{Brand} (see Figure 5-8). All analyses used 5,000 bootstrap samples to estimate the BCBCIs.

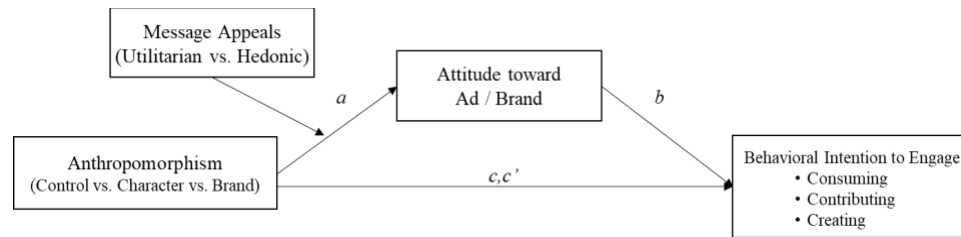


Figure 5-8. Moderated Mediation analysis

The moderated mediation analysis results showed that the character condition interacted with the hedonic message appeal ($B = 1.07$, boot SE = .24, $p < .001$) and that the brand condition interacted with the hedonic message appeal ($B = .92$, boot SE = .24, $p < .001$) via A_{Ad} . The interaction effect with the utilitarian message appeal did not emerge in the character condition ($B = .39$, boot SE = .24, $p = .10$) or the brand condition ($B = .08$, boot SE = .24, $p = .72$). Therefore, only the hedonic message with anthropomorphism, and, in turn, attitude toward the ad positively related to consumption intention ($B = .24$, boot SE = .07, $p < .05$). The moderated mediation analysis revealed a significant moderated

mediation index (index = .20, boot SE = .11, 95% BCBCI [.03, .45]). Specifically, A_{Ad} mediated the indirect effect of the hedonic message in the character condition ($B = .26$, boot SE = .09, 95% BCBCI [.09, .46]) and the brand condition ($B = .22$, boot SE = .09, 95% BCBCI [.07, .42]). Comparable results (i.e., anthropomorphism with hedonic appeal) emerged for consumption intention via A_{Brand} . The moderated mediation analysis revealed a significant moderated mediation index (index = .21, boot SE = .12, 95% BCBCI [.01, .47]). A_{Brand} ($B = .28$, boot SE = .08, $p < .001$) mediated the indirect effect of the hedonic message in the character condition ($B = .26$, boot SE = .09, 95% BCBCI [.10, .46]) and the brand condition ($B = .25$, boot SE = .10, 95% BCBCI [.09, .46]). Thus, A_{Ad} and A_{Brand} mediated the effect of anthropomorphic elements on consumption intention with the hedonic benefit but not with the utilitarian benefit.

For contribution intention, the moderated mediation analysis revealed a significant moderated mediation index (index = .25, boot SE = .12, 95% BCBCI [.04, .52]) only in the condition of anthropomorphism with hedonic message. Specifically, A_{Ad} mediated the indirect effect of the hedonic message in the character condition ($B = .32$, boot SE = .10, 95% BCBCI [.14, .54]) and in the brand condition ($B = .27$, boot SE = .10, 95% BCBCI [.10, .49]). Comparable results (i.e., anthropomorphism with hedonic appeal) emerged for contribution intention via A_{Brand} . The moderated mediation analysis results revealed a significant moderated mediation index (index = .25, boot SE = .14, 95% BCBCI [.03, .56]). A_{Brand} ($B = .35$, boot SE = .07, $p < .001$) mediated the indirect effect of the hedonic message in the character condition ($B = .32$, boot SE = .09, 95% BCBCI [.15, .53]) and the brand condition ($B = .31$, boot SE = .11, 95% BCBCI [.13, .54]). Thus, A_{Ad} and A_{Brand} mediated the effect of the presence of

anthropomorphic elements on contribution intention with the hedonic benefit but not with the utilitarian benefit.

Lastly, the moderated mediation analysis revealed a significant moderated mediation index (index = .11, boot SE = .07, 95% BCBCI [.00, .28]). Specifically, A_{Ad} mediated the indirect effect of the hedonic message in the character condition ($B = .14$, boot SE = .07, 95% BCBCI [.01, .30]) and the brand condition ($B = .12$, boot SE = .07, 95% BCBCI [.01, .26]). Comparable results (i.e., anthropomorphism with hedonic appeal) emerged for creation intention via A_{Brand} . The moderated mediation analysis revealed a significant moderated mediation index (index = .12, boot SE = .07, 95% BCBCI [.00, .28]). A_{Brand} ($B = .16$, boot SE = .07, $p < .05$) mediated the indirect effect of the hedonic message in the character condition ($B = .15$, boot SE = .07, 95% BCBCI [.09, .29]) and the brand condition ($B = .14$, boot SE = .07, 95% BCBCI [.02, .29]). Thus, A_{Ad} and A_{Brand} mediated the effect of the presence of anthropomorphic elements on creation intention with the hedonic benefit but not with the utilitarian benefit. Therefore, H8a and H8b were supported.

In sum, a summary of hypotheses and results of main experiment was presented in Table 5-17.

Table 5-17. Summary of Hypotheses and Results

Hypothesis		Result
H1	Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the (H1a) ad and (H1b) brand.	Supported
H2	Participants who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad (H2a) and attitude toward the brand (H2b), therefore, greater intention to engage in (a) consumption, (b) contribution, and (c) creation of media content than participants who do not see the ad with anthropomorphic cues.	Supported
H3	Perceived social connectedness will mediate the effect of anthropomorphic cues in the ad on intrinsic motivation.	Supported
H4	Perceived social connectedness and socializing motivation sequentially mediate the relationship between anthropomorphism in the ad and intention to engage in (a) contribution and (b) creation of media content.	Supported
H5	Participants who see the ad with anthropomorphic cues will have greater entertainment motivation. As a result of higher entertainment motivation, they will have higher intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.	Not supported
H6	People who see the ad with a utilitarian message appeal will have a more favorable (a) attitude toward the ad and (b) attitude toward the brand than people who see the ad with a hedonic message appeal.	Not supported
H7a	When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the ad than people who see the ad without anthropomorphic cues.	Supported
H7b	When the ad message emphasizes hedonic benefits, people who see the ad with anthropomorphic cues will have a more favorable attitude toward the brand than people who see the ad without anthropomorphic cues.	Not supported
H7c&d	When the ad message emphasizes utilitarian benefits, people who see the ad without anthropomorphic cues will have a more favorable attitude toward the ad (H7c) and brand (H7d) than people who see the ad with anthropomorphic cues.	Not supported
H8	Attitude toward the ad (H8a) and attitude toward the brand (H8b) will mediate the interaction effect of anthropomorphism and message appeals on intention to engage in (a) consumption, (b) contribution, and (c) creation of media content.	Supported

CHAPTER 6

DISCUSSION

The major findings of this study are summarized in this chapter followed by a discussion of the findings and their implications for theory and the industry. Next, limitations of the research design are presented and suggestions for future research will follow.

Summary of Findings

The purpose of the study was to examine the effect of anthropomorphism in social media advertising and its impact on intention to engage in varying participatory media behaviors among young adults. The pretests indicated that toothpaste was an appropriate product category for young adults aged 18-34 in terms of product usage, familiarity, relevance, and importance. A brand name selection test ensured that people were not aware of the fictitious brand before the study. The presence of human-like features elicited a more favorable attitude toward the ad than product only (i.e., absence of anthropomorphic cues) in the ad in Pretest 3. Finally, message appeals were used to determine whether the messages delivered the intended hedonic or utilitarian benefits of the toothpaste in the ad.

The findings of the main experiment showed a favorable attitude toward the ad and brand after exposure to the ad with anthropomorphic cues (H1). However, processing fluency did not mediate the effect of anthropomorphism on either the attitude toward the

ad or the brand. Nonetheless, the more favorable the attitude toward the ad and brand, the higher the intention to engage in consuming, contributing, or creating media content (H2). Even more noteworthy, anthropomorphic cues induced perceived social connectedness (RQ1), increasing the socializing motivation and behavioral engagement intention. Thus, two related psychological chains (i.e., perceived social connectedness linked to socializing motivation) elevated intention to contribute and create content with the brand (H4). However, one of the intrinsic motivations (i.e., entertainment) did not mediate between the effect of anthropomorphic cues in the ad and behavioral engagement intention with the brand (H5).

Finally, contrary to expectation, utilitarian benefits, known to have tangible and concrete value, were not perceived a more favorable than hedonic benefits during exposure to the non-anthropomorphic cues in the ad (H6). The findings suggest that the hedonic message appeal moderated the interplay between anthropomorphic cues in the ad and attitude toward the ad on intention to engage (H7a). In other words, the emotional benefits in the ad enhanced the effect of the presence of anthropomorphism in terms of attitude toward the ad. Furthermore, the combination of anthropomorphic cues with the hedonic message positively correlated to the intention to engage in behavior on social media(H8).

Theoretical Implications of Research Findings

The findings contribute to several different fields of study. First, the findings shed light on the underlying mechanisms of anthropomorphism. In particular, the current study provides novel insights into to a psychological factor (i.e., perceived social

connectedness) that influences the intention to engage in behavior on different levels. While Epley et al. (2007) identified sociality as a driving motivation for anthropomorphism, the current findings provide evidence that anthropomorphic cues can induce the feeling of connection with others. Endowing objects with human qualities does actually initiate social connection; furthermore, this connection generates the socializing motivation to contribute (e.g., share or recommend) and create (e.g., post, upload) brand-related content. Although the early scholars on anthropomorphism have relied on the schema congruency effect (Aggarwal & McGill, 2007), processing fluency framework (i.e., ease of processing; Chen, 2017) or perceived ad pleasure (Lester et al., 1997) to explain the positive effect of human-like features, findings from the current study suggest that anthropomorphic cues fulfilled consumers' motivational needs due to perceived social connectedness.

Second, the findings contribute to the social media motivation literature. Building on self-determination theory (Deci & Ryan, 1985, 2000), the findings of this study show that when consumers engaged in specific behaviors (i.e., click "like", share, or upload content) with the brand, the internalized motivation (i.e., socializing) to do so influenced the results. The findings suggest that consumers internalize certain values (i.e., socializing) when experiencing the feeling of connection brought on by an ad with anthropomorphic cues; as a result, they perform tasks (i.e., engagement with the brand) that are not externally rewarding. Notably, the ad message can enhance the feeling of connectedness in the presence of anthropomorphic cues. Deci and Flaste (1996) emphasized the importance of a psychological approach when creating an environment in which people can motivate themselves to achieve a goal. The current findings suggest

ways in which consumers might become psychologically motivated to engage in brand-related activity.

Third, the findings contribute to the message appeal literature. Previous findings indicate the benefits of using different emotional message appeals (e.g., nostalgia, humor and cuteness) as alternative message strategies (Kaltenbacher & Drews 2020; Wang et al., 2017). However, scholars have not examined ads featuring anthropomorphic cues might enhance emotional benefits. The current findings show that hedonic benefits strengthened the effect of anthropomorphism. In particular, when the ad for toothpaste featured an emotional benefit, anthropomorphic cues maximized the positive outcomes. Thus, understanding how emotional benefits combined with anthropomorphic cues can influence willingness to engage with the brand on social media is important.

Practical Implications

The findings of this study also have important practical implications. Recently, brands have combined anthropomorphism with technology (i.e., Artificial Intelligence) in consumer relation management (CRM). For example, Bank of America has offered the Erica chatbot service, and Clorox has a chatbot service on its webpage to encourage product-related questions during the pandemic (www.clorox.com/resources/coronavirus). While chatbot services are essentially anthropomorphic, not many brands use human-like features in them other than the voice used or the name if they have one. The current findings suggest that including human-like features is likely to increase motivation to engage and strengthen engagement intention with the brand. Practitioners should consider imbuing their chatting services with more human-like features, especially services that

are currently only voice-based or text-based. The more consumers perceive social connectedness, the higher the chance they will become involved with the brand. Thus, it would be necessary to consider taking the strategic advantages that communication managers work in close contact with managers of consumer service marketing for CRM.

Second, professionals should understand that anthropomorphic elements in an ad may lead more consumers to engage with the brand. During exposure to anthropomorphic cues, the socializing motivation is more likely to trigger than the entertainment motivation, and the activated motivation influences levels of engagement with the brand. Although individual motivation is not controllable, anthropomorphic cues can strengthen behavioral intention. In addition, the findings illuminate more tangible insights into the effect of anthropomorphism on intention to engage in three different behaviors that might enhance communication performance. Previous findings primarily relate to attitude toward the ad and brand (Hur et al., 2015; Puzakova et al., 2013), but considering the various interactive functions of social media, detailed responses from today's consumers are likely to benefit brands. In other words, inducing consumer brand engagement (CBE) is or should be a high priority in communication strategy. Communication practitioners realize that consumers are not just "target audiences" but "co-producers" (Vargo & Lusch, 2004). Therefore, communicators need to emphasize co-creation in consumer-brand relationships, extending the more traditional idea of personal product involvement (Zaichkowsky, 1985). Thus, to increase engagement levels, brand managers should consider using anthropomorphism to enhance consumer creativity with some types of brands. Practitioners should determine which anthropomorphic elements increase socializing motivation, and when ad content contains anthropomorphic cues, user posts of

brand-related content on a social media account (i.e., creation) should carry more significance than clicking “like” under the existing content.

Third, in an interactive communication environment, the feeling of connectedness is important in the relationship between brands and consumers. According to Science Daily (2017), low social connection is more harmful than obesity, hypertension, and high blood pressure. Although using anthropomorphic elements is not a *panacea* for those who feel lonely, if anthropomorphism fulfills some need for connection, the brand is likely to receive positive responses (e.g., loyalty or emotional attachment) from consumers. Considering the benefits of real-time interaction with consumers, brand planners and managers could use social media channels, in combination with anthropomorphic cues, to achieve favorable marketing communication.

Finally, professionals should consider the emotional benefits of anthropomorphic cues in an ad. Consumers gain emotional benefits while anthropomorphizing (Epley et al., 2007; Waytz et al., 2010), and the emotional benefits can enhance the effect of anthropomorphism in low-involvement product ads (Han et al., 2019). The current study empirically tested the effects of hedonic and utilitarian message appeals in combination with anthropomorphic cues. The hedonic appeal had a more positive effect than the utilitarian appeal when the ad featured anthropomorphic cues. This finding suggests that brand communicators should consider using emotional appeals in conjunction with anthropomorphic cues (e.g., emotional facial expressions, emotional storytelling, or emotional headline copy).

Limitations and Recommendations for Future Study

As with all studies, the current study has several limitations that provide direction for future study. First, the findings were based on a single product category: toothpaste, relatively a low-involved and utilitarian value product from consumers. Although the findings might help marketers of toothpaste, whether the findings apply to high-involvement product ads that feature anthropomorphic cues is unknown. Scholars should consider various product types of high vs. low-involved products to understand the effect of anthropomorphism better. For example, luxury goods, which tend to be high-involvement and hedonic value products, generated positive responses when the ad message highlighted psychological benefits (Amatulli et al., 2020). Therefore, the use of anthropomorphism with high-involvement, hedonic value products might enhance emotional benefits. In sum, selecting multiple product categories for testing the effects of anthropomorphism will increase the robustness and generalizability of the current findings.

Second, the samples came from a population of adults aged 18–34 years, potentially limiting the generalizability of the findings. Although this age group is a primary user of Facebook, investigating groups over 35 years of age could show the positive effect of anthropomorphism across all age groups (Phillips et al., 2019). Thus, to test the effect of anthropomorphic cues in Facebook postings more fully, scholars should include different age groups with a broader set of demographic characteristics to enhance external validity.

Third, the stimuli used for the current study was embedded into the PC browser version of Facebook. Although participants were able to access the study using any type

of device (e.g., tablets, mobile, laptops, or desktops), the stimuli resembled the look of Facebook on a PC browser. Therefore, participants who accessed this study via their mobile phone might have noticed the visual difference, during the study. However, the aim of the current study was not to distinguish between two versions of Facebook. Rather, the aim was to examine the interaction effect of anthropomorphism and several psychological factors. Future studies should consider using multiple stimuli testing the influence of different versions of social media platforms.

Fourth, for this study, Facebook was the only social medium used as the context for anthropomorphic ads. However, consumers may respond differently to communication messages in various types of social media platforms (Voorveld et al, 2018). Future studies of anthropomorphism should include other types of social media channels (e.g., Snapchat, TikTok, Instagram or Twitter) to provide the opportunity for a comparison of the findings between platforms.

Fifth, the findings are based on only one ad type: a static graphic ad on Facebook. Although 35.6% of Facebook page content types are photos and the rate of engagement with photos is higher than other types, such as videos, links, or status updates (Hootsuite, 2021), many marketers use moving content (i.e., GIF, animation, and videos) in a cluttered advertising environment. Furthermore, although the static nature of the ad might have influenced the results, the score for entertainment motivation was lower than the other motivations in the current study. Because anthropomorphism can influence entertainment value (Dehn & van Mulken, 2000; Qiu & Benbasat, 2009), scholars should examine the effect of rich media (e.g., multi-sensory) with anthropomorphic cues in social media settings.

Sixth, an interesting line of inquiry might be to investigate the impact of additional information about individual differences with regard to anthropomorphism and its privacy issues. Anthropomorphism is a psychological phenomenon (Epley et al., 2007). If participants anthropomorphize objects in an ad, the effect of the anthropomorphic cues in the ad will increase. Although the current experiment included situational conditions (i.e., manipulating anthropomorphism condition, but not measuring the individual anthropomorphism tendency) for managerial reasons, scholars should consider taking individual differences into account. In terms of privacy, if consumers notice an ad with anthropomorphic cues attempting to build social connection with them, they might consider anthropomorphism an invasive marketing tactic. Therefore, scholars should consider the individual psychological spectrum (e.g., need for interaction vs. privacy concern) to test the effect of anthropomorphic cues in social media posts.

Seventh, even though the current study featured the terminological modification of two anthropomorphic conditions, the findings show no significant difference between anthropomorphic brand character and brand anthropomorphism, even though the mean score of the former was higher than the latter. Indeed, an anthropomorphic brand character is likely to feature more human-like qualities than brand anthropomorphism. For example, *Tony the Tiger* can talk to consumers, but human body-shaped Coke bottle cannot. Accordingly, future research should examine additional subtypes and characteristics of anthropomorphism for the result to be generalizable: (a) a character has a distinctive name associated with the brand in the ad (i.e., Kellogg's *Tony the Tiger*), (b) degree of humanness of anthropomorphism in the ad (low vs. medium vs. high;

Schneider et al., 2019), and (c) the character uses first-person point of view when delivering the message (vs. third person; Han et al., 2019).

Eighth, in line with the previous suggestion, the current research recommends the congruent effect between the anthropomorphic character used and consumers' perceptions of the brand. For example, *Tony the Tiger* has been mascot for one of Kellogg's breakfast cereals and has demonstrated the positive association with the brand. However, not all characters have lived long enough. In the brand personality perspective, several studies have focused on matching effect between brand and brand personality (Aaker, 1997; Sweeny & Brandon, 2006). Past research has also looked at the congruity between ad spokespeople and brands (Belch & Belch, 2013; Biswas et al., 2006). However, no published research could be found that examined the matching effect between an anthropomorphic brand character and the brand or looked at the impact of this match between an anthropomorphic character and brand on social engagement with the brand. Future research should explore the impact of a congruent or matching effect between anthropomorphic character and brand.

Ninth, back in 2016, Facebook introduced a bundle of reaction options including a laughing face, also known as the "haha" reaction. The intended meaning of the laughing face might be "*a post is so much fun; I like it.*" However, the "haha" reaction may be used by some consumers for a derisive purpose suggesting they think something is silly or ridiculous for example (Iqbal, 2021). Since all stimuli for this research included the laughing face, subsequent studies might consider dropping the laughing face from the stimuli to avoid a confounding or confusing effect.

Finally, the focus of the current study was shed light on the impact of anthropomorphism on the behavioral intention to engage with the brand. The current study examined the intention behaviors which were practically the best predictor of specific action. Although according to the theory of planned behavior (TPB; Ajzen, 1985), intention predicts behavior, not surprisingly, intention does not guarantee specific action. Therefore, scholars should consider examining actual behavior (i.e., consuming, contributing, and creating content with the brand) with the method of field experiment to test the relationship between intention and actual behavior, potentially helping professionals understand their customers better.

In combination, these additional research pursuits are likely to enhance our understanding of strategies that communicators can use to strengthen the benefits of anthropomorphism and message effect on user engagement with media content.

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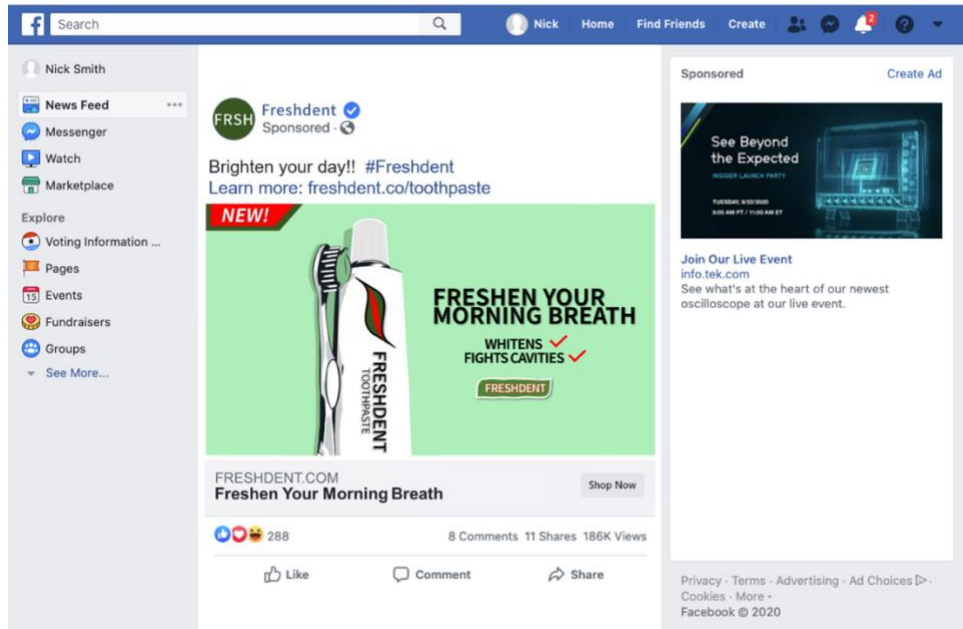
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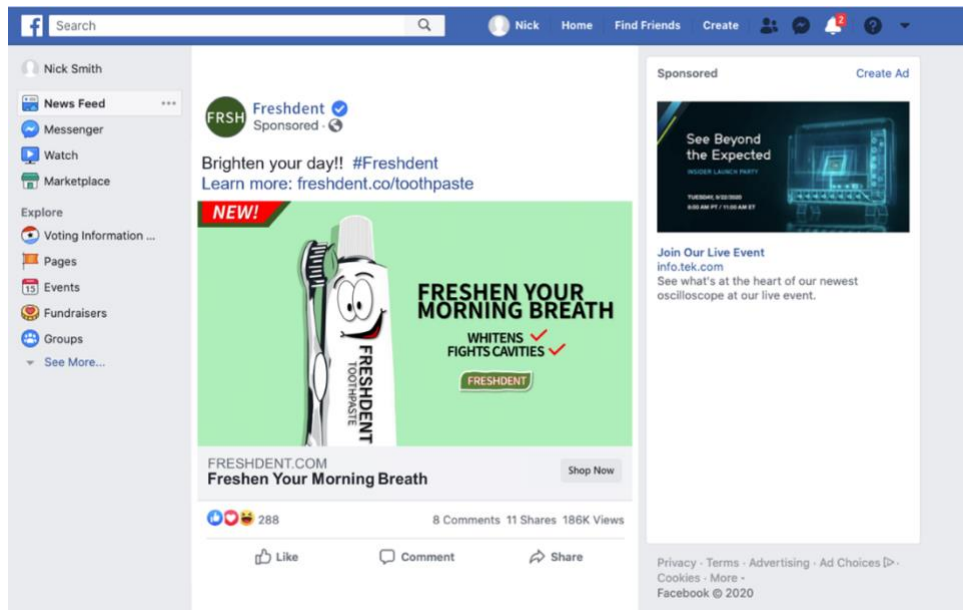
APPENDIX A

STIMULI IN PRETEST 3

(Non-anthropomorphism condition)



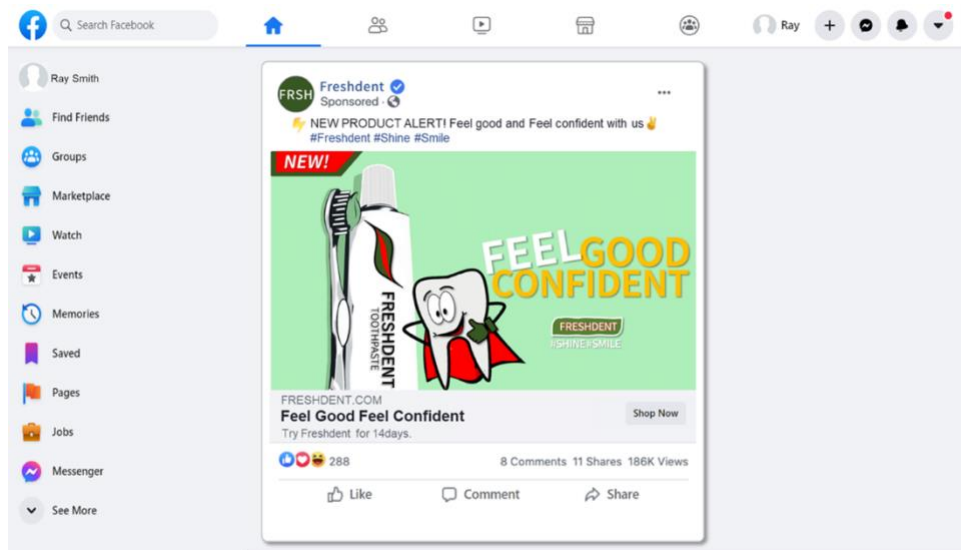
(Anthropomorphism condition)



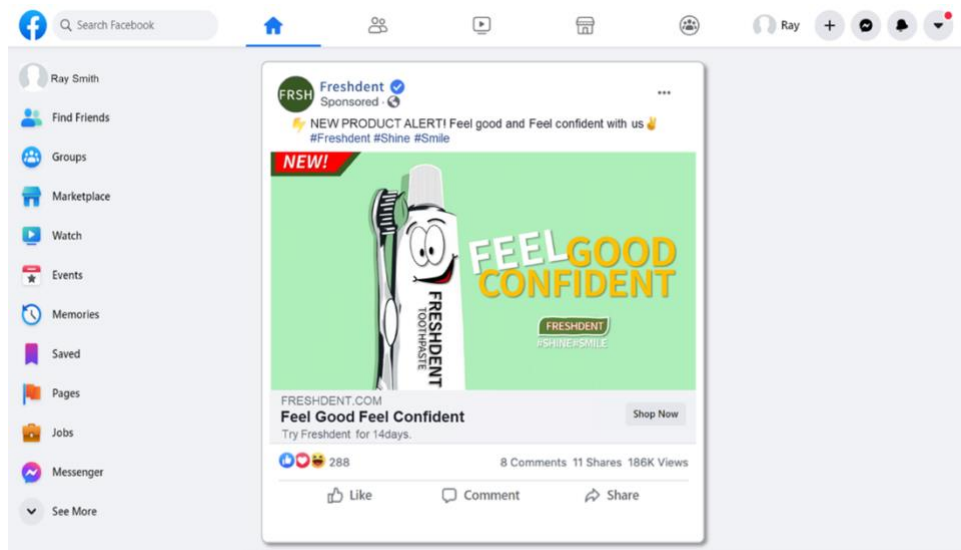
APPENDIX B

STIMULI IN MAIN EXPERIMENT

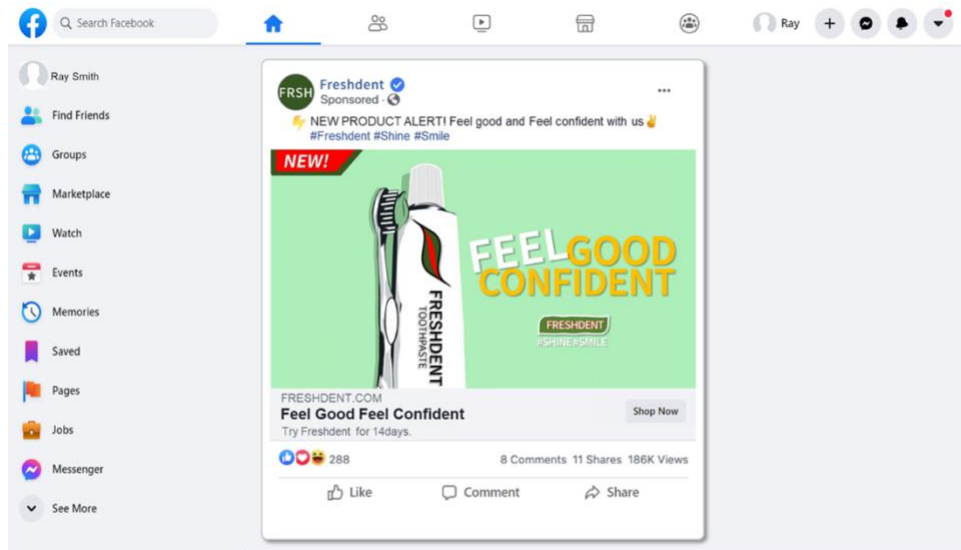
(Anthropomorphic Character with a Hedonic Benefit)



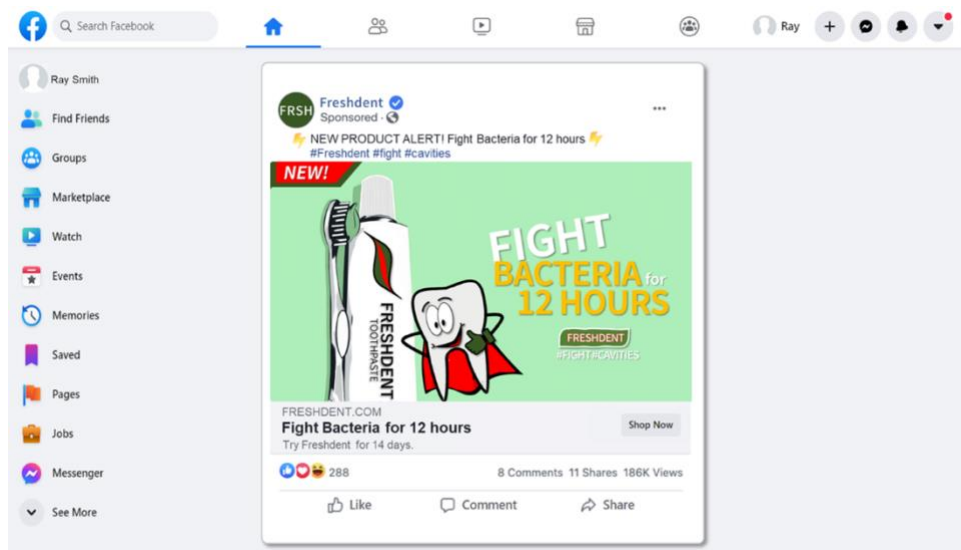
(Brand Anthropomorphism with a Hedonic Benefit)



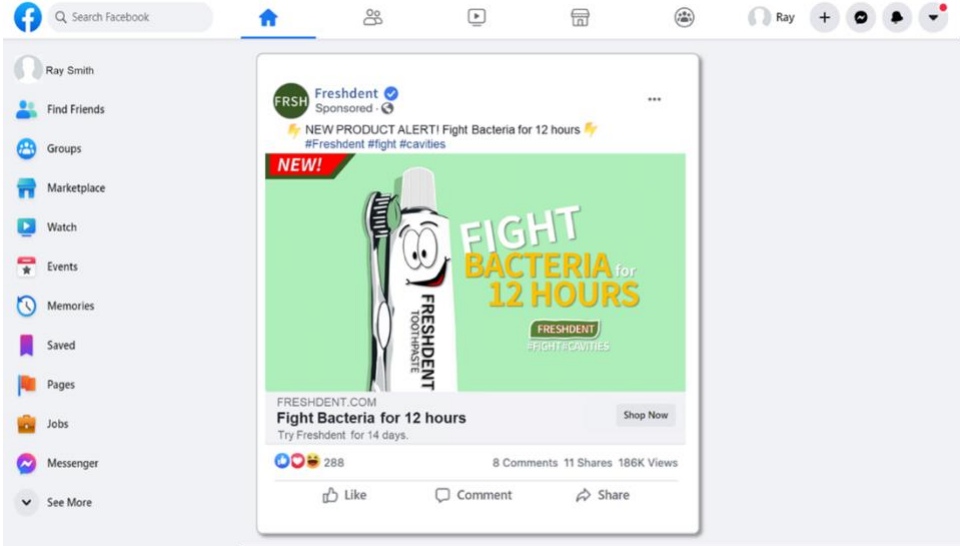
(Non-Anthropomorphic cues with a Hedonic Benefit)



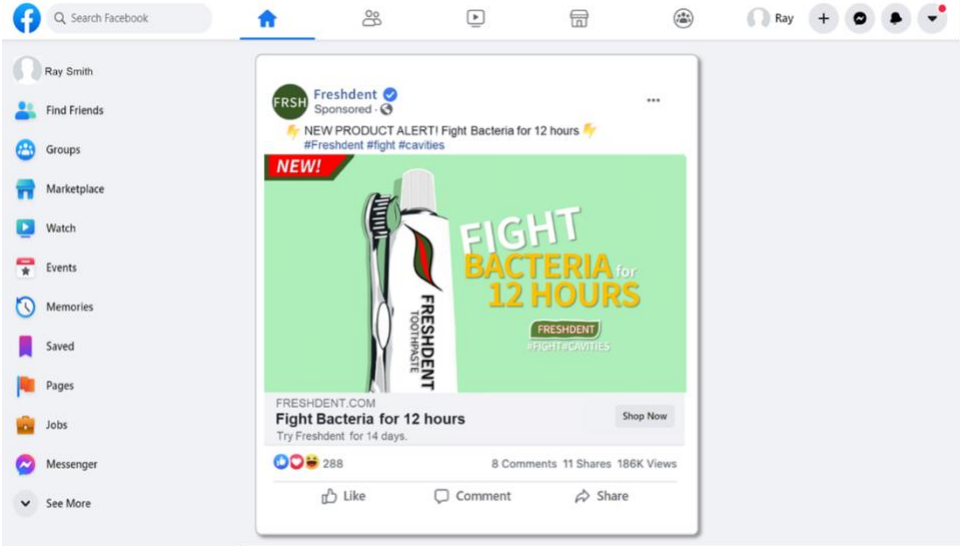
(Anthropomorphic brand character with a Utilitarian Benefit)



(Brand Anthropomorphism with a Utilitarian Benefit)



(Non-Anthropomorphic cues with a Hedonic Benefit)



APPENDIX C

QUESTIONNAIRE: PRETEST 1

You are invited to participate in a research study that aims to understand consumers' perceptions about different product categories. Your participation will involve answering questions about your use of different types of product categories. The entire study should take approximately 15 to 20 minutes to complete.

Q. Which of the following social media website do you currently have an account with?

- 1) Facebook
- 2) Twitter
- 3) Instagram
- 4) LinkedIn
- 5) Snapchat
- 6) Other (Please Specify) _____

Q. What years are you in age category?

- 1) Less than 18
- 2) 18-24 years
- 3) 25-34 years
- 4) 35-49 years
- 5) Older than 50

Q. What year were you born (e.g., 1990)? _____

Q. What is your sex?

- 1) Male
- 2) Female

Q. Please rate ***how often you use*** the following product categories, using a scale where 1 = rarely and 7 = frequently.

	Rarely (1)	(2)	(3)	(4)	(5)	(6)	Frequently (7)
Cellular phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laptop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smart Speaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Streaming Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Body/Shower Gel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toothpaste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cookies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frozen Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yogurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detergent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q. Please rate ***how familiar you are*** with the following product categories, using a scale where 1 = not at all and 7 = very familiar.

	Not at all (1)	(2)	(3)	(4)	(5)	(6)	Very familiar (7)
Cellular phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laptop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smart Speaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Streaming Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Body/Shower Gel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toothpaste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cookies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frozen Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yogurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detergent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q. Please answer the following questions about your general involvement with various product categories. Using a scale where 1 = strongly disagree and 7 = strongly agree, please answer the following questions.

In general, this product category is ***important*** to me.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly Agree (7)
Cellular phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laptop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smart Speaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Streaming Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Body/Shower Gel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toothpaste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cookies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frozen Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yogurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detergent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q. Please answer the following questions about your general involvement with various product categories. Using a scale where 1 = strongly disagree and 7 = strongly agree, please answer the following questions.

In general, this product category is ***relevant*** to me.

	Strongly Disagree (1)	(2)	(3)	(4)	(5)	(6)	Strongly Agree (7)
Cellular phone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laptop	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smart Speaker	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Video Streaming Service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Body/Shower Gel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Toothpaste	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cookies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Frozen Pizza	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Yogurt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detergent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Laptop purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within Laptop products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Toothpaste purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within toothpaste products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Cellular/mobile/smart phone purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within cellular/mobile/smart phone products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Smart speaker purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within smart speaker products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Cookies purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within cookie products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Frozen pizza purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within frozen pizza products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Yogurts purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within yogurt products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Detergents purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within detergent products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Body/shower gels purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within body/shower gel products, what brand first comes to mind? _____

Q. Please indicate your answers by checking the responses that best reflects your opinion.
Video streaming service purchased predominantly for

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unnecessary
Effective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ineffective
Functional	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not Functional
Practical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Impractical
Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unhelpful
Dull	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Exciting
Not Delightful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Delightful
Not Fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Fun
Not Thrilling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Thrilling
Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting

Q. Within video streaming services, what brand first comes to mind? _____

APPENDIX D

QUESTIONNAIRE: PRETEST 2

You are invited to participate in a preliminary study that aims to understand consumers' perceptions about a toothpaste product. Your participation will involve answering questions about your opinions of the toothpaste. The entire study should take approximately 2 minutes to complete.

Q. If a company were to launch a new toothpaste, which of the following do you think is the appropriate name for toothpaste?

	Extremely inappropriate (1)	Somewhat inappropriate (2)	Neither appropriate nor inappropriate (3)	Somewhat appropriate (4)	Extremely appropriate (5)
Gloamove	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RessQ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freshdent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SmilOnn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fressiya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q. If you saw the below toothpaste names in a grocery store, how would you evaluate the their names?

	Unbelievable (1)	(2)	(3)	(4)	Believable (5)
Gloamove	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
RessQ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freshdent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SmilOnn	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fressiya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

APPENDIX E

QUESTIONNAIRE: PRETEST 3

You are invited to participate in a research study that aims to understand consumers' perceptions about social media advertising. Your participation will involve answering questions about your opinions about the advertising and brand. The entire study should take approximately 10 to 15 minutes to complete.

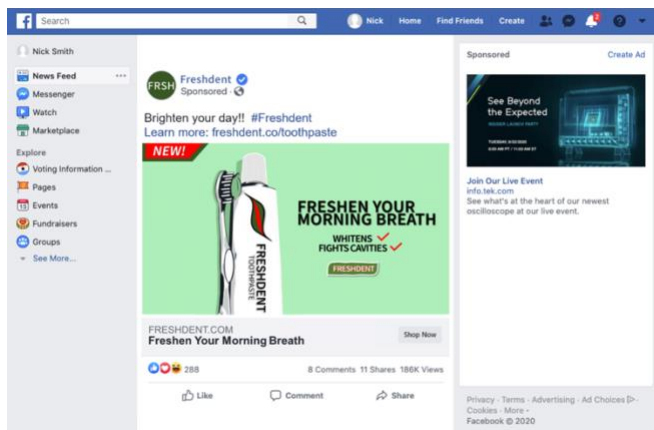
Q. Do you have a Facebook account?

1) Yes 2) No

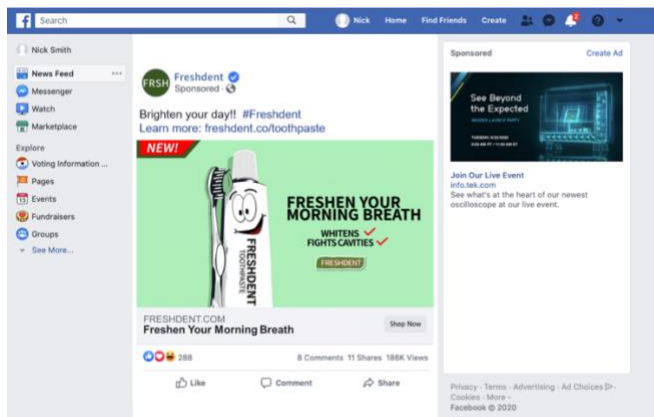
Q. Approximately, how many Facebook friends do you have (e.g., 150)? _____

Q. Please see the following Facebook page, carefully.

(Non-anthropomorphism condition)



(Anthropomorphism condition)



Q. When you think of the advertising you just saw, which an advertiser/brand did you see on Facebook?

- 1) Colgate
- 2) Crest
- 3) Oral-B
- 4) Freshdent
- 5) Hello
- 6) Others _____

Q. Now, we would like to ask you questions about the toothpaste advertising and brand you just saw on Facebook.

Please indicate the extent to which you agree or disagree with the following statements.

<Anthropomorphism>

- It seems almost as if the toothpaste has its own beliefs and desire.
- It seems almost as if the toothpaste has consciousness.
- It seems almost as if the toothpaste has a mind of its own.

<Product Involvement>

- Purchasing toothpaste requires a lot of thought.
- I am very concerned about purchasing toothpaste.

All items are measured on a 7-point, Likert scale (1= Strong disagree, 7 = Strongly agree)

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)

<Attitude toward the ad>

Q. How would you evaluate the toothpaste advertising that you just saw on Facebook?

- Bad 1 2 3 4 5 6 7 Good
 Dislike 1 2 3 4 5 6 7 Like
 Uninteresting 1 2 3 4 5 6 7 Interesting
 Unfavorable 1 2 3 4 5 6 7 Favorable
 Unappealing 1 2 3 4 5 6 7 Appealing

<Attitude toward the band>

Q. Please describe your overall feelings about the toothpaste brand in the advertising on Facebook you just saw.

Unappealing 1 2 3 4 5 6 7 Appealing
Bad 1 2 3 4 5 6 7 Good
Unpleasant 1 2 3 4 5 6 7 Pleasant
Unfavorable 1 2 3 4 5 6 7 Favorable
Unlikable 1 2 3 4 5 6 7 Likable

<Brand Familiarity>

Q. Please indicate the extent to which you are familiar with *Freshdent* brand.

Not at all 1 2 3 4 5 6 7 Very Familiar

Q. What is your gender?

- 1) Male
- 2) Female

Q. What year were you born (e.g., 1990)? _____

Q. What is the highest degree or level of school you have completed?

- 1) Less than high school diploma
- 2) High school graduate, diploma or the equivalent (for example: GED)
- 3) Some college, but no degree
- 4) Associates Degree (for example: AA, AS)
- 5) Bachelor's degree
- 6) Some graduate school or graduate degree

Q. Please indicate the average amount of time spend on social media daily.

- 1) Less than 30 mins.
- 2) > 30 and <=60 mins.
- 3) > 61 and <=90 mins.
- 4) > 91 and <=120 mins.
- 5) > 121 and <=150 mins.
- 6) More than 150 mins.

APPENDIX F

QUESTIONNAIRE: PRETEST 4

You are invited to participate in a research study that aims to understand consumers' perceptions about an advertising message. Your participation will involve answering questions about your opinions about the advertising message. The entire study should take approximately 3 to 5 minutes to complete.

Q. Please see the following advertising carefully.

<Utilitarian benefits>



<Hedonic benefits>



Q. Please indicate the extent to which you agree or disagree with the following statements.

<Message Benefits>

- The advertising message focused on the Feeling of the product for me.
- The advertising message focused on the Functionality of the product for me.

Two items are measured on a 7-point, Likert scale (1= Strong disagree, 7 = Strongly agree).

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
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<Ad believability>

Q. How would you evaluate the toothpaste ad that you just saw?

Untruthful 1 2 3 4 5 6 7 Truthful
Convincing 1 2 3 4 5 6 7 Unconvincing
Not credible 1 2 3 4 5 6 7 Credible
Unacceptable 1 2 3 4 5 6 7 Acceptable
Believable 1 2 3 4 5 6 7 Unbelievable

APPENDIX G

QUESTIONNAIRE: MAIN EXPERIMENT

You are invited to participate in a research study titled 'Use and perceptions of social media and social media advertising.' Your participation will involve answering questions about your opinions about the advertising and brand. You understand that participants must be at least 18 -34 years old to be eligible to participate in this research study. The entire study should take approximately 10 minutes to complete.

Q. Do you have a Facebook account?

- 1) Yes
- 2) No

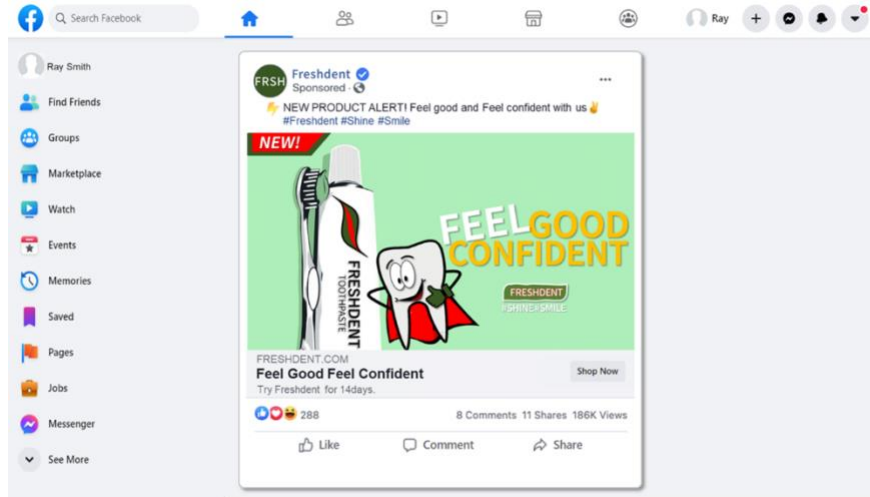
Q. Approximately, how many Facebook friends do you have (e.g., 50, 200, 500)? _____

Q. How regularly do you interact (e.g., like, share, follow) with the brands that you have liked on Facebook?

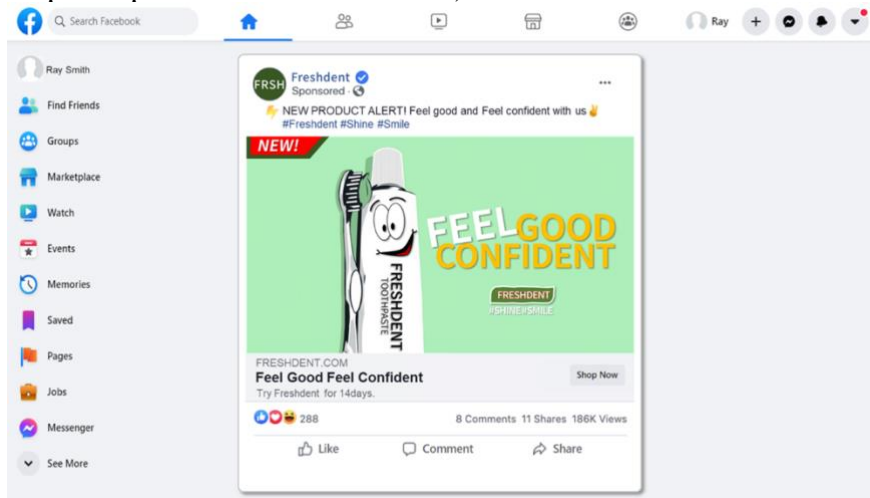
- 1) Very infrequently
- 2) Moderately infrequently
- 3) Slightly infrequently
- 4) Neither infrequently nor frequently
- 5) Slightly frequently
- 6) Moderately frequently
- 7) Very frequently

Q. Please take a look at [this posting from Facebook](#). You will be asked questions regarding this posting.

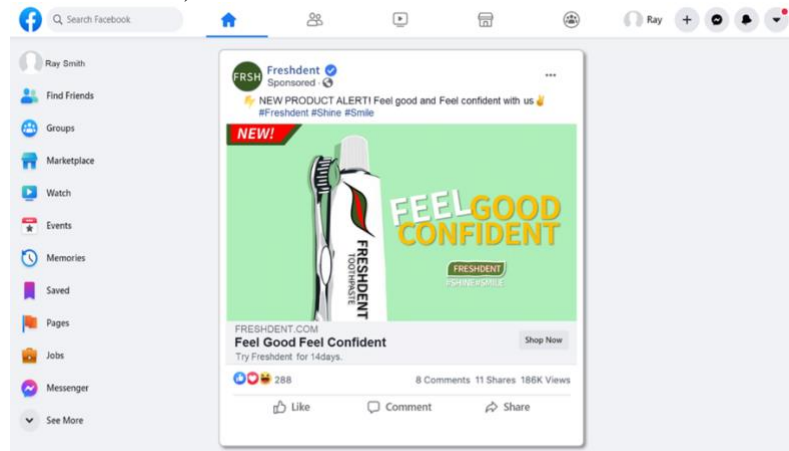
(Anthropomorphic brand character & Hedonic benefit)



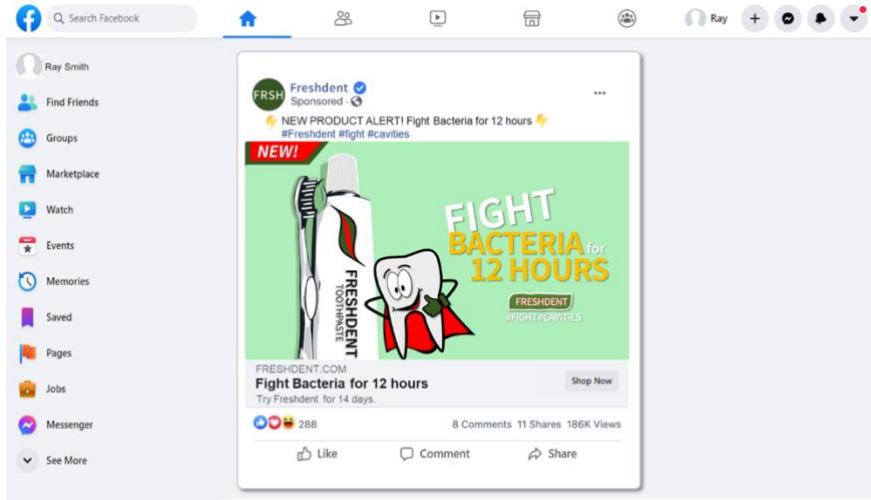
(Brand anthropomorphism & Hedonic benefit)



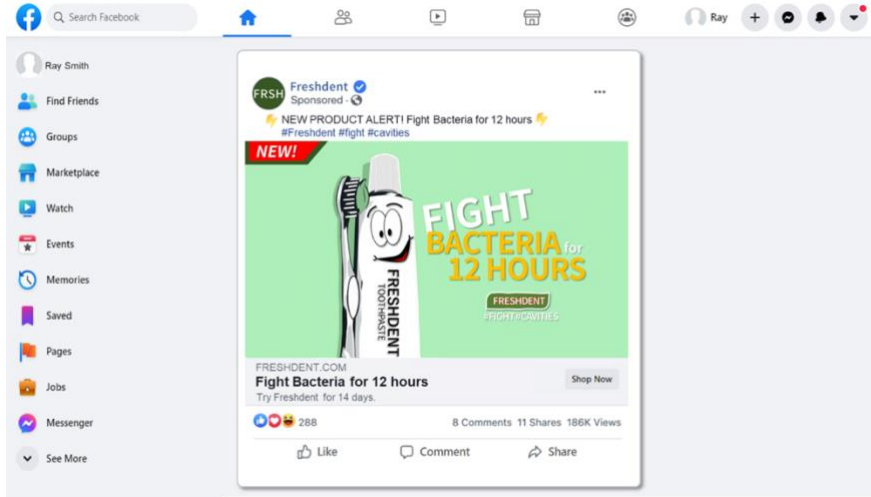
(Control & Hedonic benefit)



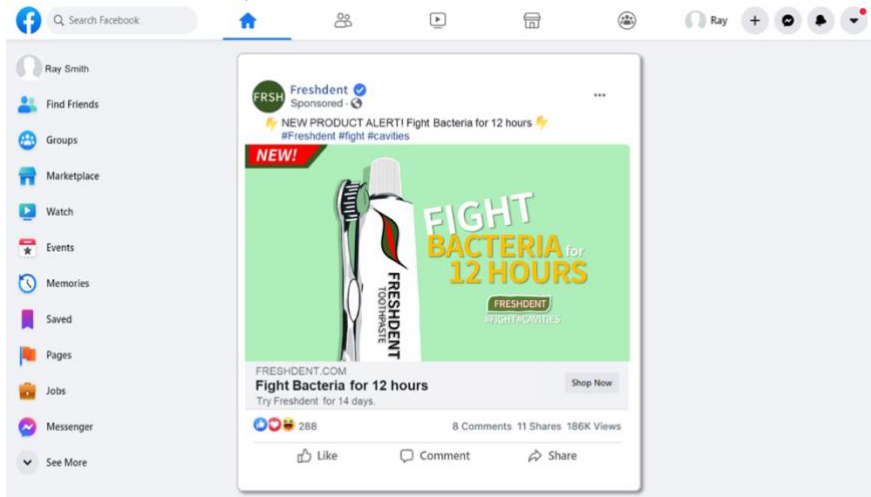
(Anthropomorphic brand character & Utilitarian benefit)



(Brand anthropomorphism & Utilitarian benefit)



(Control & Utilitarian benefit)



<Anthropomorphism>

- It seems almost as if the toothpaste has its own beliefs and desire.
- It seems almost as if the toothpaste has consciousness.
- It seems almost as if the toothpaste has a mind of its own.

<Message Benefits>

- The advertising message focused on the Feeling of the product for me.
- The advertising message focused on the Functionality of the product for me.

<Product Involvement>

- Purchasing toothpaste requires a lot of thought.
- I am very concerned about purchasing toothpaste.

<Motivation>

Q. Please indicate the extent to which you agree or disagree with the following statements.

I would like to engage (e.g., read, share, or like content) with the brand on social media because the ad that I just saw...

(Information seeking)

- The toothpaste information is useful
- I want to know what other people think about the product
- I can get information about this toothpaste
- It helps me in forming an opinion about the toothpaste
- It lets me keep up with the issues relevant to me

(Socializing)

- Lets me stay in touch with people with the same interests
- Lets communicate me with people with the same interests
- Lets me meet new people with the same interests
- Lets me feel connected to others
- Lets me stay in contact with like-minded people

(Entertainment)

- Is enjoyable
- Is entertaining
- Is exciting
- Is fun
- It helps me amuse myself
- I enjoy sharing my finds with other

<Intention to Behavioral Engagement>

Q. Please indicate the extent to which you agree or disagree with the following statements.

(Consuming)

- I intend to view pictures of this brand on social media.
- I intend to watch videos about this brand on social media.
- I intend to read this brands’ posts, user comments, or product reviews on social media.
- I intend to like or follow the brand pages (e.g., become a fan of or following).

(Contributing)

- I intend to engage in conversations about this brand on brand’s social media page (e.g., comment, ask questions, and share questions).
- I intend to share this brand’s posts (e.g., videos, audio, pictures, or images) on my own social media page.
- I intend to recommend brand-related content (videos, audio, pictures of images) about this brand to my social media contacts (e.g., retweet).

(Creating)

- I Intend to upload brand-related content (e.g., videos, audio, picture, or images) about this brand on my on my social media page.
- I intend to initiate posts related to this brand on my social media page.
- I intend to post pictures/graphics related to this brand on my social media page.
- I intend to hashtag on my posts related to this brand on my social media page.
- I intend to write reviews and forum threads related to this brand on my social media page.

All above items are measured on a 7-point, Likert scale (1= Strong disagree, 7 = Strongly agree)

Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)

<Perceived ad pleasure>

This ad pleases me 1 2 3 4 5 6 7 This ad annoys me
 This ad makes me happy 1 2 3 4 5 6 7 This ad makes me unhappy
 I have fun with this ad 1 2 3 4 5 6 7 I am bored with this ad
 I find this ad amusing 1 2 3 4 5 6 7 I find this ad boring
 This ad makes me feel good 1 2 3 4 5 6 7 This ad makes me feel bad

<Attitude toward the ad>

Bad 1 2 3 4 5 6 7 Good
Dislike 1 2 3 4 5 6 7 Like
Uninteresting 1 2 3 4 5 6 7 Interesting
Unfavorable 1 2 3 4 5 6 7 Favorable
Unappealing 1 2 3 4 5 6 7 Appealing

<Attitude toward the band>

Unappealing 1 2 3 4 5 6 7 Appealing
Bad 1 2 3 4 5 6 7 Good
Unpleasant 1 2 3 4 5 6 7 Pleasant
Unfavorable 1 2 3 4 5 6 7 Favorable
Unlikable 1 2 3 4 5 6 7 Likable

<Processing Fluency>

Difficult to understand 1 2 3 4 5 6 7 Easy to Understand
Difficult to process 1 2 3 4 5 6 7 Easy to process

<Brand Familiarity>

Q. Please indicate the extent to which you are familiar with *Freshdent* brand.

- 1) Not at all familiar
- 2) Moderately unfamiliar
- 3) Slightly unfamiliar
- 4) Neither familiar nor unfamiliar
- 5) Slightly familiar
- 6) Moderately familiar
- 7) Very familiar

Q. How likely are you talking to a professional (e.g., dentist) about the dental brand / product?

- 1) Extremely unlikely
- 2) Moderately unlikely
- 3) Slightly unlikely
- 4) Neither likely nor unlikely
- 5) Slightly likely
- 6) Moderately likely
- 7) Extremely likely

<Demographic>

Q. What is your gender?

- 1) Male
- 2) Female
- 3) Non-binary / third gender
- 4) Prefer not to say

Q. What year were you born (e.g., 1990)? _____

Q. What is the highest degree or level of school you have completed?

- 1) Less than high school diploma
- 2) High school graduate, diploma or the equivalent (for example: GED)
- 3) Some college, but no degree
- 4) Associates Degree (for example: AA, AS)
- 5) Bachelor's degree
- 6) Some graduate school or graduate degree

Q. Please indicate the average amount of time spent on social media daily.

- 1) Less than 30 mins.
- 2) 30 – 60 minutes
- 3) 61 – 90 minutes
- 4) 91–120 minutes
- 5) 121– 150 minutes
- 6) 151 minutes or more

<Debriefing message>

Thank you for participating as a research participant in the present study concerning your view of social media and social media advertising. The present study does not use the real brand. This study tests whether the message claims influence the perception toward the social media advertising and brand.

Again, we thank you for your participation in this study.

If you know of any friends or acquaintances that are eligible to participate in this study, we request that you do not discuss it with them until after they have had the opportunity to participate. Prior knowledge of questions asked during the study can invalidate the results. We greatly appreciate your cooperation. If you have any questions regarding this study, please feel free to ask the researcher Nah Ray Han (email: nahray@uga.edu).

Thanks again for your participation.