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**Consumers' Self-Disclosure Decisions and Concerns:
The Effects of Social Exclusion and Agent Anthropomorphism**

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**Consumers' Self-Disclosure Decisions and Concerns:
The Effects of Social Exclusion and Agent Anthropomorphism**

by

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Abstract

Consumers' Self-Disclosure Decisions and Concerns: The Effects of Social Exclusion and Agent Anthropomorphism

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Consumer data and privacy is becoming an increasingly important topic in marketing, as the collection and use of consumers' personal information and instances of data breach are both on the rise. At the core of these recent shifts in the consumer data and privacy landscape is consumers' concern with sharing their personal information. Past research on consumer privacy has focused on when and why consumers' concerns are heightened and why people still provide their personal information despite the concerns. This dissertation extends the literature on consumer self-disclosure and privacy concerns and explores novel psychological and situational factors that influence consumers' decision to disclose and concern with sharing their personal information to brands and marketers.

In Essay 1, I focused on the influence of individual and situational differences – namely, the feeling of social exclusion – and examined at how experiencing social exclusion can increase consumers' self-disclosure intentions toward brands. Specifically, I proposed that consumers will be more willing to share their information with a brand when they experience social exclusion, driven by their desire to forge social connections with the

brand. Through five studies, I tested and confirmed these hypotheses and also demonstrated two boundary conditions.

In Essay 2, I investigated how anthropomorphism of products and brands – a marketer-controlled variable – influences consumers’ concerns with sharing their personal information when there are threats to privacy in the environment. Specifically, I proposed that consumers’ concerns with information collection by agents (i.e., products or brands) would be influenced by the level of privacy threats in the environment and the anthropomorphic nature of the agent, and that the effects would be driven by the perception of control over the agent. I argued that, when threats to privacy are high (vs. low), individuals’ concern with sharing their data will increase for a non-anthropomorphic agent, but such effect will be attenuated for an anthropomorphic agent collecting the information. Furthermore, I expected that the difference in the perceived control over the agent would account for these effects. I tested and partially confirmed these hypotheses through five studies.

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**ESSAY 1:
THE EFFECTS OF SOCIAL EXCLUSION ON
CONSUMER SELF-DISCLOSURE TO BRANDS**

INTRODUCTION

Individual-level consumer information is increasingly becoming valuable as brands and firms strive to provide more personalized advertising, offers, and experiences, and as consumers come to expect more personally relevant content. In recent years, there has been a surge of consumer data collection in the marketplace (Duhigg, 2012; Singer, 2015). While consumers have seemingly become accustomed to sharing their personal information with marketers, various surveys on consumer privacy have consistently shown that the majority of U.S. consumers are at least somewhat concerned about the potential loss of privacy (Harris and Associates, 1996; Milne, Rohm, and Bahl, 2004). Indeed, a large-scale survey found that a majority of Americans feel “resigned” to giving up their personal data (Turow, Hennessy, and Draper, 2015), signaling that consumers often disclose their information despite the undesirable consequences that may ensue. Since it is virtually impossible for consumers to entirely avoid revealing their personal information in the modern consumer environment, it is important, for both marketers and consumers, to understand when and why they would be more or less willing to share information about themselves.

Based on the privacy calculus theory, which asserts that an individual’s privacy decision is based on a calculation of risks and benefits of disclosing personal information, and also on prevalent marketer activities, researchers have explored the external benefits that drive consumers’ information disclosure. For instance, researchers have looked at how monetary savings, convenience, and customized offers influence consumers’ interest in sharing their personal information (Nowak and Phelps, 1997; Phelps et al., 2000).

Although there is ample research on how such external rewards influence decisions to share personal information, there is a dearth of understanding of the psychological drivers of consumers' information disclosure behavior. In this research, I investigate the effect of a specific psychological need – the desire for social connection – on consumers' self-disclosure and propose that, when consumers have a greater desire to form a social connections, they will be more willing to share their personal information with brands. This is because self-disclosure, sharing of information about the self to others, is a major driver of intimacy and interpersonal closeness (Aron, Aron, Vallone, and Bator, 1997; Sedikides, Campbell, Reader, and Elliot, 1999). As self-disclosure can serve as a strategic tool in creating and developing social relationships (Derlega and Grzelak, 1979), those who desire social connections should be more likely to engage in disclosure behavior to satisfy such needs. In particular, I explore how feelings of social exclusion, which would heighten the desire for social connection, can influence the extent to which consumers share information about themselves with brands.

The motivation to form and maintain interpersonal relationships with others has long been considered one of the most fundamental and universal human needs (e.g., Bowlby, 1971; Maslow, 1968). Such a need-to-belong (Baumeister and Leary, 1995) influences various emotional and cognitive processes, with deprivation of belongingness leading to dire psychological and physiological consequences (Williams, 2001). For instance, social exclusion leads people to become more aggressive toward others (Twenge, Baumeister, Tice, and Stucke, 2001), behave in a self-defeating manner (Twenge, Catanese, and Baumeister, 2002), and decrease pro-social behavior (Twenge,

Baumeister, DeWall, Ciarocco, and Bartels, 2007). Given the negative effects of social exclusion and people's need to affiliate with others, researchers have proposed that people respond to exclusion with a motivation to socially reconnect with others (i.e., social reconnection hypothesis; Maner, DeWall, Baumeister, and Schaller, 2007). Evidence has shown that excluded or lonely individuals exhibit signs of reconnection desires, such as paying greater attention to social cues (Gardner, Pickett, and Brewer, 2000; Pickett, Gardner, and Knowles, 2004), conforming to others (Williams, Cheung, and Choi, 2000), or even attributing human qualities to non-humans (Epley, Akalis, Waytz, and Cacioppo, 2008). While research on how social exclusion influences consumers has also increased in recent years (e.g., Duclos, Wan, and Jiang, 2013; Lee and Shrum, 2012; Mead, Baumeister, Stillman, Rawn, and Vohs, 2011; Wan, Xu, and Ding, 2014), none has investigated how the aversive experience influences consumers' disclosure decisions.

In this research, I propose that social exclusion leads consumers to have greater self-disclosure intentions in order to satisfy their desire for social connection. In particular, I investigate how the experience of social exclusion heightens consumers' desire to socially connect with brands, in the absence of other people, and demonstrate that such desire drives a willingness to share personal information with brands. I also examine boundary conditions in which excluded people may be more or less willing to disclose their information to brands, compared to the non-excluded individuals. Since socially excluded people seek opportunities for social connection, they should be more motivated to engage in self-disclosure to brands that are perceived as offering these

connections (e.g., relational benefits), but less so towards brands that are perceived as less likely to offer social connection (e.g., transactional benefits). Along with elevating the desire for social connection, the experience of being socially excluded should also heighten the excluded individuals' concerns about being exploited or rejected in the future and their desire to avoid such negative situations. Thus, if there is an expectation that the personal information collection may benefit only the brand (and not the customers) or may potentially even lead to rejection by the brand, these risks should loom larger for the socially excluded individuals and result in a lower willingness to self-disclose. The remainder of this essay will proceed as follows; I first build the conceptual framework based on various theoretical grounds, then demonstrate the hypothesized effects through five studies, and conclude with a detailed discussion about the research.

CONCEPTUAL BACKGROUND

Social Exclusion and Desire for Social Connection

Humans have an innate desire to maintain positive social relationships (Baumeister and Leary, 1995). When people experience exclusion from social relationships, they fail to satisfy this basic need to belong and various negative consequences occur. These include increased aggression, reduced self-regulation, and even increased experience of physical pain (e.g., Baumeister, DeWall, Ciarocco, and Twenge, 2005; Eisenberger, Lieberman, and Williams, 2003; Twenge et al., 2001;

Williams, 2001). To avoid or reduce these consequences, people often strategically seek opportunities to restore a feeling of belonging when they anticipate or experience social exclusion (Maner et al., 2007). For example, socially excluded people are more likely to conform to other people's opinions (Williams et al., 2000) and to view others who can potentially be a new source of affiliation in a more positive light (Maner et al., 2007). The desire for reconnection after exclusion can also influence people's memory and nonconscious processing. Researchers found that participants who had been rejected or excluded exhibited selective memory for social events (Gardner et al., 2000), heightened their attention to signs of acceptance, such as fixating on smiling faces in eye-tracking tasks (DeWall, Maner, and Rouby, 2009), became more attuned to social cues (Pickett et al., 2004), and non-consciously mimicked an in-group member's behavior (Lakin, Chartrand, and Arkin, 2008).

Recently, social exclusion research in the consumer behavior field has found that deprivation of belongingness arising from social exclusion influences consumers' purchase and consumption decisions. For example, Mead et al. (2011) demonstrated that social exclusion leads people to spend and consume in a manner that may enhance their chances of creating social connection. Although this sometimes leads to sub-optimal decisions, such as spending money on unappealing products preferred by the interaction partner, excluded participants were willing to incur such cost to satisfy their need for social connection. Relatedly, Su and colleagues (2017) found that, although the socially excluded consumers tend to exhibit more brand switching behavior in general, this switching effect disappeared when the incumbent option allowed them to conform

socially. When excluded individuals perceived that the cause of being excluded was unstable (vs. stable) they preferred distinctive products to a lesser degree (Wan et al., 2014), while lonely consumers were found to conform to the preference of the majority when their own preferences were publicly available (Wang, Zhu, and Shiv, 2012). Moreover, social exclusion has also been associated with consumers' financial decisions. Lee and Shrum (2012) showed that being socially rejected increased participants' willingness to donate money to charity in order to satisfy relational needs, and Duclos et al. (2013) demonstrated that social exclusion leads to financial risk-taking as excluded individuals seek to substitute social popularity with money. For instance, when participants felt rejected and left out, they were more likely to choose the financially risky (i.e., low probability/high return) option, compared those who did not experience such social exclusion.

When socially excluded or lonely people lack opportunities for social connection with other humans, they sometimes look to nonhuman agents that can serve as potential interaction partners. Epley et al. (2008) found that chronic loneliness was associated with the tendency to anthropomorphize non-human beings, such as technological devices and animals, and with greater belief in human-like supernatural beings. For example, participants who watched a video clip of a character that experiences isolation and loneliness were more likely than others to attribute human qualities to pets. More relevant to consumer research, Chen, Wan, and Levy (2017) demonstrated that socially excluded people have increased preferences for anthropomorphized brands that appear friendly, while others have shown that people with a greater need for social connection are more

likely to exhibit greater liking for brands that incorporate face-like visual images in their advertisements (Orth, Ohlhoff, Naber, and Cornwell, 2014).

In this essay, I argue that forming connections with brands through self-disclosure is another way in which socially excluded consumers can seek to satisfy their desire for social connection. As self-disclosure can be strategically used to form or enhance relationships in interpersonal settings (Derlega and Grzelak, 1979; Omarzu, 2000), consumers with greater social connection motivations (i.e., socially excluded individuals) should be more willing to engage in self-disclosure behavior.

Self-Disclosure in Social Relationships

Self-disclosure, the process of revealing personal information about the self to another (Archer, 1980), is a common act of relatedness and affiliation (Altman and Taylor, 1973; Sprecher and Hendrick, 2004). Individuals tend to engage in greater self-disclosure to others with whom they hold close relationships (Barrell and Jourard, 1976; Rosenfeld, 1979). Partly because self-disclosure can be risky, people are inclined to disclose to others who are trusted and liked (Collins and Miller, 1994). So sharing information about the self is not just a sign of closeness, it is also an important driver of intimacy. According to Derlega and Grzelak's (1979) functional theory, one of the major motives for an individual to disclose information about themselves is to develop relationships with others. Hence, self-disclosure can be used instrumentally to achieve goals of initiating new relationships or enhancing existing ones. In a study by Sedikides

et al. (1999), participants reported greater relationship closeness with an unacquainted interaction partner after engaging in a self-disclosure survey. The survey entailed revealing various personal information, ranging from simple demographics (e.g., name, age, hometown) to more in-depth questions (e.g., most frightening memory, an unknown fact about the self). Aron and colleagues (1997) also conceptualized and demonstrated that closeness can be a consequence of self-disclosure. These research confirm the role of self-disclosure in social support – sharing information about the self brings people closer and that people in close relationships engage in greater disclosure among themselves.

This bi-directional association between relationship closeness and self-disclosure can also be observed in non-interpersonal contexts. Strong brand relationships were found to lead to a positive attitude about lowering privacy protection and a greater willingness to share personal information with the parent company of the brand (Smit, Bronner, and Tolboom, 2007). Research in consumer psychology also showed that consumers differed in their willingness to disclose different types of information to brands with which they held close vs. distant relationships (White, 2004). Specifically, they were more willing to reveal privacy-related personal information (e.g., phone number, home address) to close (vs. distant) brands and embarrassing information (e.g., purchase history of adult magazines and condoms) to distant (vs. close) brands. Although the degree of self-disclosure and the contents of what is shared with the interaction partner are likely to differ between interpersonal relationships and brand relationships, it is clear that people, especially in the modern consumer environment, do engage in some level of self-disclosure toward brands and marketers.

Existing literature offers some support for the argument that socially excluded individuals will exhibit greater self-disclosure intentions. For instance, Joinson and Paine (2007) claimed that interpersonal relationship benefits, such as trust building and empathy, are often perceived to be greater than the costs of vulnerability in disclosing personal information. Recent research has also found a relationship between loneliness and self-disclosure on online social networking platforms. Al-Saggaf and Nielsen (2014) showed that female Facebook users who had used the keyword “lonely” in their posts had disclosed more personal information on their profiles than those who had used the word “connected.” While these researchers did not test the mechanism of the association between loneliness and self-disclosure, they argued that lonely people would be more motivated to share information about themselves in order to encourage others to approach them with the use of disclosed information.

Social Exclusion and Sensitivity to Potential Risks

Prior literature on social exclusion suggest that socially excluded individuals interact with others with mixed feelings (Baumeister et al., 2007). Although social exclusion motivates people to seek out opportunities to affiliate with others in order to satisfy their need for social connection (e.g., Maner et al., 2007; Williams et al., 2001), excluded individuals can also become less prosocial in (e.g., Twenge et al., 2007; Twenge et al., 2001). For instance, researchers found that the socially excluded people exhibited a more aggressive behavior towards others people compared to non-excluded

individuals, except for when the target person was nice to them (Twenge et al., 2001). The competing evidence of socially excluded people's behavior signals that social exclusion heightens both the need to connect with others but also the need to identify those that may potentially pose threats. That is, excluded individuals may also become more sensitive toward being rejected, exploited, or negatively evaluated in the future (e.g., Maner et al., 2007). Excluded individuals' sensitivity to the potential risk of harm suggests possible boundary conditions in which socially excluded consumers may be less willing to connect with and disclose to others, compared to non-excluded individuals.

Human beings have developed an "ostracism detection system" to monitor the potential for rejection, as they are innately motivated to avoid being excluded (Williams and Zadro, 2005). As socially excluded individuals have already experienced the pain of being ostracized (Eisenberger et al., 2003; MacDonald and Leary, 2005), they should be even more sensitive toward the possibility of being rejected again. For example, Twenge et al. (2007) discussed the possibility that excluded people may be more reluctant to expose themselves to potential social risks, although they do not offer empirical evidence to support this idea. Maner et al. (2007) have offered a similar argument, that excluded people should respond favorably only to others who are perceived to provide realistic sources of social connection. In support of this, they found that while socially excluded individuals do seek increased connection, they avoid seeking reconnection with the very people who excluded them in the first place. Likewise, people generally dislike being taken advantage of (Vohs, Baumeister, and Chin, 2007), but such tendency to take

caution against being exploited should be especially high for those who have already experienced a negative experience of being ostracized.

This prior research raises the possibility that social excluded individuals may be more vigilant than non-excluded others when deciding whether they should engage in social interaction with new partners. This may depend on the characteristics of the new partner or people's expectations about how the relationship is likely to develop. Below, I discuss perceived risk of self-disclosure and potential for brand rejection as factors that may moderate excluded individuals' willingness to share their personal information.

Consumer-Brand Relationships

Consumers sometimes form relationships with brands in a similar way to how they form relationships with other people (Fournier, 1998). As a result, relationships with brands may satiate social needs in much the same way as relationships with humans do. In fact, it is the very act of affiliation and connection that satisfies people's needs, rather than the specific target of affiliation (Bowlby, 1971; Mende and Bolton, 2011), provided the target does not pose any potential threat. For instance, socially excluded participants exhibited greater preferences for anthropomorphized brands with a friendly personality (Chen et al., 2013) and people who were primed with low social support showed increased preference for familiar national brands (Wang, Shepherd, and Chartrand, 2013). Recent work has also demonstrated that, in the absence of other individuals, people may seek affiliation with an available brand, as a way to cope with negative emotions such as

fear (Dunn and Hoegg, 2014). When a strong connection with a brand exists, consumers may even become emotionally attached to the brand, meaning they develop positive feelings of affection, passion, and connection for the brand (Thomson, MacInnis, and Park, 2005).

Consumers do not, however, always form positive relationships with brands. People can feel rejected by brands (Ward and Dahl, 2014) and can even hold extreme hostility towards brands, just as if they were enemies (Fournier, 1998). Thus, just as consumers should be able to satisfy their social connection needs through interacting with brands, there may be situations in which they may feel exploited or rejected by brands.

HYPOTHESES AND OVERVIEW OF STUDIES

The current research explores the effect of social exclusion on consumers' intentions to disclose their personal information to brands. Based on the theoretical grounds presented above, I propose that social exclusion leads consumers to exhibit greater intentions to share their personal information to a brand as a way to satisfy their desire for social connection with the brand. Formally, I hypothesize:

H1: Socially excluded (vs. non-excluded) consumers will show greater intentions to disclose their personal information to a given brand.

H2: The effect of social exclusion on consumers' self-disclosure intentions will be mediated by the desire to socially connect with the brand.

While social exclusion heightens individuals' desire for social connection, it also makes them more sensitive to being further ostracized or exploited. When there is a potential for being rejected or taken advantage of by a brand, people who have already been excluded are expected to be more cautious of forming a social connection with the brand and thus should be less willing to share their personal information. Therefore, I hypothesize:

H3: Potential for rejection or exploitation by the brand will reverse the positive effect of social exclusion on consumers' self-disclosure intentions such that the socially excluded (vs. non-excluded) consumers will be less willing to engage in self-disclosure when they may be rejected or exploited by the brand.

I tested these hypotheses in five experimental studies. Across the studies, I manipulated social exclusion using multiple methods and measured participants' willingness to share their personal information with a fictional brand. In Study 1, I first tested whether social exclusion increases consumers' willingness to share personal information with a brand and examined the mediating role of the desire for socially connection with the brand. In Study 2, I tested the proposed mechanism by directly manipulating people's desire for social connection. As consumers' self-disclosure intentions are driven by their desire to form a social connection, excluded individuals whose need for social connection is satisfied prior to interacting with a brand should no longer have a heightened willingness to disclose their personal information to the brand. Therefore, I expected that reminding the excluded people about their existing interpersonal relationships should mitigate the effect of the social exclusion. In Study 3, I

provided further evidence that socially excluded individuals are seeking social connection opportunities by demonstrating that their self-disclosure intentions are higher toward a brand that provides social benefits, rather than monetary ones (H3). Finally, Studies 4 and 5 explored the boundary conditions (potential for brand rejection or exploitation) in which socially excluded individuals are less, rather than more, willing to engage in self-disclosure to brands.

STUDY 1: THE EFFECT OF SOCIAL EXCLUSION ON SELF-DISCLOSURE INTENTIONS

Study 1 was designed to test whether social exclusion increases consumers' willingness to disclose their personal information to a brand and whether this effect is mediated by the desire for social connection with the brand. I predicted that people who experience social exclusion should exhibit greater self-disclosure intentions, as they seek social connection opportunities. This effect of social exclusion on willingness to share information should then be driven by the desire to socially connect with the given brand.

Method

One hundred and thirty-five individuals (78 females, $M_{\text{age}} = 39.75$) were recruited from Amazon Mechanical Turk to participate in Study 1 in exchange for monetary compensation. The study was described as an online psychology survey that consisted of two sections. In the first section, I manipulated social exclusion, using the procedure in

Maner et al. (2007). Half of the participants were assigned to the excluded condition and were asked to write about an instance in which they were clearly rejected by others, where others told them that they were disliked or unwanted. The other half were assigned to the non-excluded (i.e., baseline control) condition and wrote about a time in which they walked or drove to the grocery store. All participants were instructed to write about the details of their experience for three minutes and to elaborate on how they had felt at the time.

Next, in an ostensibly unrelated second part of the study, all participants read a scenario about shopping at a local clothing brand store. Participants learned that the clothing brand offers high quality attire that appeals to their style. They were asked to imagine that they were at the store to purchase some clothes and that a salesperson approached them to ask if they would be interested in participating in an optional customer survey. The survey was described as intended to get to know each customer better. On the first page of the survey, there were five pieces of personal information that the customers were asked to fill out – name, date of birth, home address, phone number, and email address. Participants were asked to indicate how much they would be willing to disclose each piece of personal information. On the second page, participants indicated the degree to which they would be willing to disclose gender, household size, income, ethnicity, and clothing size. Each of the self-disclosure intentions was measured on a 7-point scale, anchored at not at all willing to share (1) and highly willing to share (7). All ten of the willingness-to-share items were later averaged to create a composite measure of the self-disclosure intentions which was used as the key dependent variable.

Next, using 7-point scales ranging from strongly disagree (1) to strongly agree (7), participants' responded to four items that measured desire to socially connect with the brand ("I want to develop a close relationship with the brand," "I want to keep in touch with the brand," "I am interested in interacting with the brand," "I do not want to bond with the brand" (reverse-coded)). These measures were also averaged to create a desire for social connection index. Finally, as a manipulation check, participants rated how rejected by others they had felt at the time of the experience they had written about in the first section.

Results

Manipulation Check.

A one-way ANOVA revealed a significant main effect of social exclusion on the manipulation check measure ($F(1, 133) = 330.54, p < .0001$). Participants who wrote about being socially excluded felt more explicitly rejected ($M_{\text{Excluded}} = 5.79$) than those who wrote about their grocery shopping experience ($M_{\text{NonExcluded}} = 1.55$), which confirmed that the social exclusion manipulation was successful.

Self-disclosure Intentions.

A one-way ANOVA on the self-disclosure intention index ($\alpha = .89$) revealed a significant main effect of social exclusion on participants' intentions to disclose their personal information to the clothing brand ($F(1, 133) = 3.79, p = .05$). Specifically, participants who wrote about the experience of being socially excluded were significantly more willing to provide their personal information to the brand ($M_{\text{Excluded}} = 3.58$) compared to those who wrote about a neutral control topic ($M_{\text{NonExcluded}} = 3.06$).

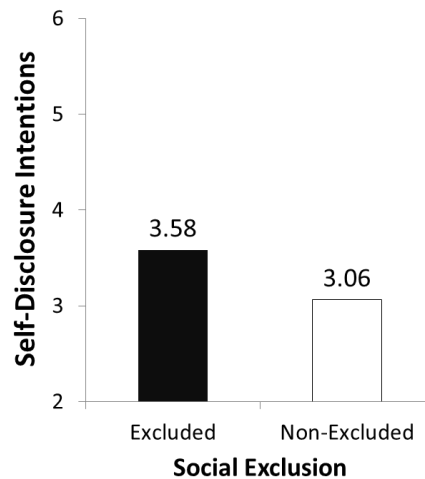


Figure 1. Socially excluded individuals exhibit greater self-disclosure intentions

Desire for Social Connection as Mediator.

A one-way ANOVA on the desire for social connection index ($\alpha = .94$) revealed a significant main effect of social exclusion ($F(1,133) = 5.66, p = .02$). Supporting H1a,

socially excluded participants exhibited a greater desire to connect with the clothing brand ($M_{\text{Excluded}} = 3.23$) than did those in the non-excluded condition ($M_{\text{NonExcluded}} = 2.55$).

A mediation analysis using PROCESS Model 4 (Hayes, 2013) tested whether desire for social connection with the brand mediates the effect of social exclusion on participants' willingness to share their personal information. The mediation analysis confirmed that the indirect effect of social exclusion via desire for social connection was significant ($b = .43$, $SE = .18$, 95% CI: .07, .78). These results indicate that desire for social connection fully mediates the effect of social exclusion on consumers' information disclosure intentions.

Discussion

Study 1 confirmed H1 and showed that excluded people exhibit a higher willingness to share their personal information with a given brand. Even though the brand in the study scenario was unnamed and thus would have been unfamiliar to the participants, those who wrote about their experience of being socially excluded were more willing to disclose personal information, compared with those who wrote about a neutral experience. The study also supported H2, with the desire to be socially connected with the brand mediating the effect of social exclusion on consumers' self-disclosure intentions. These results provided initial evidence that socially excluded consumers have a greater willingness to share their personal information with brands due to their need for social connection. In the next study, I sought to provide further process evidence to my

conceptual model by manipulating the desire for social connection, rather than measuring it.

STUDY 2: THE MODERATING EFFECT OF RELATIONSHIP SALIENCE

There were two major goals for Study 2. First was to replicate the effect found in Study 1 with a different manipulation of social exclusion. Instead of the recall task used in the previous study, Study 2 relied on the “Cyberball method” developed by Williams et al. (2000). Participants used a video-game-like interface in which the participant and two other players toss a ball from one to another. Social exclusion was manipulated in this paradigm by controlling whether others frequently pass the ball to the study participant, or pass it only between themselves while the participant watches. Finding similar results with this manipulation should provide robustness of the proposed effect.

More importantly, Study 2 tested the proposed mechanism of desire for social connection by directly manipulating the degree to which such desire is satisfied subsequent to the social exclusion experience. Baumeister and Leary’s (1995) motivational theory of belongingness suggests that satisfying social connection needs should eliminate the effects of rejection. For instance, Twenge and researchers (2007) found that replenishing connectedness by reminding people of social activity reduced people’s aggression following a social exclusion experience. Based on this line of research, it is expected that socially excluded consumers should no longer exhibit increased intention to disclose personal information to brands when their social

connection desires have already been satisfied subsequent to the social exclusion experience. Close others, such as family and close friends, are especially likely to provide social support (Clark and Reis, 1988). Thus, I predicted that making existing close relationships salient in excluded people's minds would diminish their desire for social connection and thus attenuate their intentions to share their personal information with a brand.

Method

Two hundred and twenty-three online participants from Amazon Mturk participated in the study for a small monetary compensation. They were randomly assigned to a condition in a 2 (Social Exclusion: Excluded vs. Non-Excluded) x 2 (Relationship Salience: High vs. Low) between-subjects design. The first section of the study, which was actually the social exclusion manipulation, was described as a mental visualization task, while the second section, in which dependent variable was measured, was described as a consumer experience survey. Between the two sections, participants also engaged in a short writing task that manipulated relationship salience.

All participants first played Cyberball, the online ball-tossing game (Williams et al., 2000). They were told that they would be playing the game with other Mturk participants and that, after having the ball tossed to them, the task was to simply click on the player that they wanted to pass the ball to. Consistent with the cover story, participants were told to mentally visualize the entire experience, such as what their

partners would look like, what the weather is like, and so forth. They were also told that their performance (i.e., how much they threw or received the ball) was not important. In reality, there were no other players. The game was programmed in a manner that those in the excluded condition would almost never receive the ball from other “players” (i.e., 3 times out of 30 tosses), while those in the non-excluded condition would receive the ball one third of the time (i.e., 10 times out of 30 tosses). After the exclusion manipulation, participants’ feelings of being “ignored,” “included” (reverse-coded), “rejected,” and “excluded,” were measured, and these were averaged to form a composite measure of “feeling of being excluded.” Mood (i.e., “good,” “bad,” “friendly,” “unfriendly,” “angry,” “pleasant,” “happy,” “sad”; 4 of the items reverse-coded) was also measured on 5-point scales.

Before the main scenario and dependent measure, all participants were asked to think and write about either their favorite family member (*high relationship salience* condition) or about a recent meal that they had by themselves (*low relationship salience* condition). This manipulation was adapted from Twenge et al. (2007) and was intended to remind those in the high relationship salience condition about existing social connections and discourage those in the low relationship salience condition from thinking about social activities.

In the ostensibly unrelated second section of the study, participants read the same clothing store scenario used in Study 1 and indicated their willingness to share each of ten personal information items with the brand. These measures were again averaged to form a disclosure intention index which served as our main dependent variable.

Results

Due to a technical limitation of some browsers, forty-two participants were not able to view the Cyberball game or did not successfully complete the relationship salience manipulation. There was no difference in the proportion of participants who did not complete the manipulations across conditions. Therefore, the remaining one hundred and eighty-one participants (90 females, $M_{\text{age}} = 37.95$) were included in the analysis.

Manipulation Checks.

The “feeling of exclusion” index ($\alpha = .92$) was included as a dependent variable in a 2 x 2 ANOVA with social exclusion and relationship salience as the independent variables. As expected, there was a significant main effect of social exclusion on the feeling of being left out ($F(1, 177) = 186.36; p < .0001$). Participants in the excluded condition, who infrequently received the ball during the game, felt more excluded ($M_{\text{Excluded}} = 4.09$) compared to those who received the ball one third of the time ($M_{\text{NonExcluded}} = 2.10$), confirming that I successfully manipulated the experience of social exclusion. There were no other significant effects (p 's $> .68$).

The eight mood items were averaged to form a single mood valence score ($\alpha = .94$). A two-way ANOVA showed that socially excluded participants were in a more negative mood ($M_{\text{Excluded}} = 2.42$) than those in the non-excluded condition ($M_{\text{NonExcluded}} = 3.89; F(1,177) = 125.06, p < .0001$). However, there was no main effect of relationship salience or a significant social exclusion x relationships salience interaction on mood (p 's

> .54), which makes it unlikely that mood was driving the interaction effect on participants' self-disclosure intentions.

Self-disclosure Intentions.

As in Study 1, the ten willingness-to-share ratings were averaged ($\alpha = .85$) to create a single measure. This was subjected to a 2 x 2 ANOVA with social exclusion and relationship salience as the independent variables. There was a marginally significant main effect of social exclusion on participants' willingness to share their information with the unnamed brand ($F(1, 177) = 3.46, p = .06$), in which socially excluded participants generally had higher intentions to disclose their personal information ($M_{\text{Excluded}} = 3.72$ vs. $M_{\text{NonExcluded}} = 3.37$). More importantly, there was also a marginally significant social exclusion x relationship salience interaction ($F(1, 177) = 3.12, p = .08$). Simple effects revealed that, in the low relationship salience condition, socially excluded participants were more willing to share personal information ($M_{\text{Excluded-LowSalience}} = 4.01$) than those who had not been excluded ($M_{\text{NonExcluded-LowSalience}} = 3.28; F(1, 177) = 6.39, p = .01$), replicating the results of Study 1. For those in the high relationship salience condition, however, there was no difference in the participants' self-disclosure intentions ($M_{\text{Excluded-HighSalience}} = 3.50$ vs. $M_{\text{NonExcluded-HighSalience}} = 3.48; p > .94$). Also note that, for those who were excluded in the Cyberball game, thinking about an existing close relationship prior to their self-disclosure decisions reduced their willingness to share their

personal information with the given brand ($M_{\text{Excluded-LowSalience}} = 4.01$ vs. $M_{\text{Excluded-HighSalience}} = 3.50$; $F(1, 177) = 3.05, p = .08$).

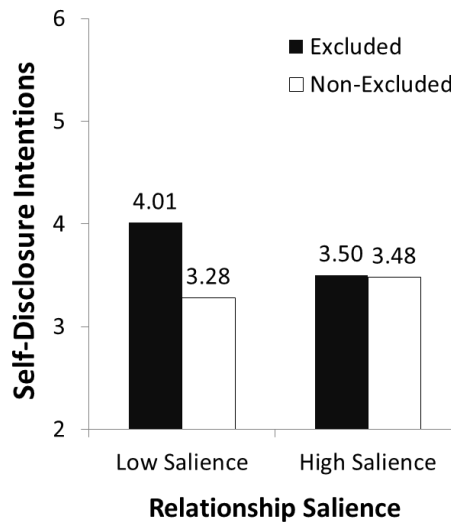


Figure 2. Relationship salience attenuates the effect of social exclusion on self-disclosure intentions

Discussion

Study 2 replicated and extended the basic effect of social exclusion on self-disclosure intentions found in the previous study. Using a different social exclusion manipulation, I again found that excluded participants were more willing to share their personal information with a given brand. More importantly, there was evidence that this effect is likely driven by excluded people's desire for social connection. When excluded participants' desire for social connection was replenished by thinking and writing about

close others, they no longer exhibited greater intentions to share their information with the clothing brand.

Negative mood arising from recalling an experience of being socially excluded could be a potential alternative explanation for the effects found in Studies 1 and 2. Researchers have proposed that self-disclosure can serve as a mood repair strategy as the disclosure experience can be cathartic (Collins and Miller, 1994). While the social exclusion manipulation did result in different levels of negative mood in Study 2, I found no significant interaction effect of social exclusion and relationship salience on mood, which signals that the interaction effect found for the main dependent variable (i.e., self-disclosure intentions) is unlikely to have been driven solely by mood. To completely rule out negative mood account as the alternative mechanism, however, I sought to control for participants' mood in subsequent studies.

The presence of the salesperson described in the scenarios used in the first two studies could also be create a limitation of the results. One could argue that excluded participants had greater willingness to disclose their personal information not because they wanted to connect with the brand, but because they wanted to please or form a relationship with the salesperson. Prior research on social exclusion has indeed demonstrated that socially-excluded people seek to affiliate with others and thus change their choices when doing so boosts the chances of creating social connections (Mead et al., 2011). However, the salesperson in my scenarios played only a minor role, handing out the customer survey and asking customers to drop off the optional survey at the checkout, which minimizes any expectation of further interaction. Still, in the subsequent

studies, to eliminate this potential concern, I introduced online shopping scenarios which do not involve any in-person human interaction.

STUDY 3: THE MODERATING EFFECT OF BRAND BENEFIT

The purpose of Study 3 was to further test the underlying reason why excluded consumers may be more willing to share personal information with a brand. Since being excluded heightens people's desire for social connection, I expected that excluded individuals would be more willing to disclose personal information to a brand that emphasizes *social* benefits as opposed to *monetary* benefits. Thus in Study 3, in addition to manipulating social exclusion, the expected benefits offered by the brand were also manipulated.

In addition, Study 3 employed a different social exclusion manipulation that was both more relevant to the participants in the study and that controlled for the negative mood across conditions. Also, as noted earlier, this study employed an online shopping scenario that did not involve any interaction with any other individual, in order to eliminate the possibility that excluded participants were seeking to affiliate with another person, such as the salesperson in Studies 1 and 2, rather than the brand itself.

Method

Two hundred and nine undergraduate students (132 females, $M_{\text{age}} = 20.17$) at a large public university participated for a course credit in their introductory marketing course. The study was a 2 (Social Exclusion: Excluded vs. Non-Excluded) x 2 (Brand Benefit: Relational vs. Transactional) between-subjects design, described as a consumer psychology survey that consisted of two ostensibly unrelated sections.

In the first section, social exclusion was manipulated via a scenario about the participants' Facebook activities. Participants in the excluded condition were exposed to a scenario in which they learned about a private Facebook group of more than 4000 members where they could find information that would be helpful for succeeding in their introductory marketing course. Eligibility for group membership was described as being limited to those who have taken or are currently taking the course. Participants were asked to imagine that they were trying to join this group and had sent a request for membership approval. They were then told that they received a rejection message from the administrators of the closed Facebook group that read: "Thank you for your interest in joining our group. Unfortunately, your request to join our group has been denied. You may NOT join our group." To make sure that participants felt excluded, they were also told that a friend who had requested to join the group around the same time had already been accepted as a member.

Participants in the non-excluded condition were exposed to a scenario in which they were asked to imagine that they were trying to log onto Facebook after finishing all of their assignments. They learned that, for some unknown reason, however, they could

not log into the website and kept on getting an error message on their screen. They were further told that, after attempting to log in for more than 15 minutes, they found out that they would not be able to log onto the social networking service for another hour due to technical problems. Note that in both the excluded and non-excluded conditions, participants could not access the group, but for different reasons. It was also expected that both conditions were expected to lead to a negative mood. Right after the social exclusion manipulation, a manipulation check using 7-point scales asked participants how much they felt “implicitly ignored” and “explicitly rejected.” Next, mood valence was measured with the eight mood items on 5-point scales used in Study 2.

In the second half of the study, participants learned about a fictional online clothing brand named *Grove Point* and were then introduced to the brand’s membership program. Participants saw a pop-up message containing information regarding the benefits that were offered to the members. Depending on condition, the benefits were described as either completely social (*relational benefit* condition) or monetary (*transactional benefit* condition). For example, in the relational benefit condition participants were told that members would be “invited to exclusive events, which are social gatherings for our brand associates and the VIP members.” In the transactional benefit condition, participants were told that they would be, “notified when things are on sale and also be offered free samples and coupons” (see *Appendix*).

Finally, willingness to disclose personal information was measured by telling participants that customers would have to complete a form which asked for three types of contact information (i.e., phone number, home address, and email address). Using 7-point

scales, participants indicated how much they would be willing to disclose each type of contact information to the brand. These measures were averaged to create the dependent variable.

Results

Manipulation Checks.

To test whether the social exclusion manipulation was successful, the two measures of feeling excluded were averaged to form a social exclusion index ($\alpha = .87$). A 2 x 2 ANOVA with social exclusion condition and brand benefit (relational vs. transactional) as independent variables and feelings of exclusion as the dependent variable revealed only a significant main effect of social exclusion ($F(1, 205) = 301.94, p < .0001$). As expected, participants who had been denied access to the private Facebook group felt more rejected and ignored ($M_{\text{Excluded}} = 5.09$) than those who had trouble logging into Facebook ($M_{\text{NonExcluded}} = 2.00$). There was neither a main effect of brand benefit nor an interaction effect (p 's $> .17$). This confirmed the success of the social exclusion manipulation.

There was an unexpected difference in mood between the two conditions. A 2 x 2 ANOVA revealed a significant main effect of social exclusion on participants' mood ratings ($\alpha = .76; F(1, 205) = 78.09, p < .0001$). Those who had been rejected from the Facebook group reported a lower positive mood (i.e., more negative mood; $M_{\text{Excluded}} =$

2.13) than those who had a frustrating Facebook experience but was not excluded from a group ($M_{\text{NonExcluded}} = 2.79$). While I initially designed the non-excluded condition to match the excluded condition in terms of negative mood, being explicitly rejected from a social group seem to have been a more negative experience than not being able to engage in social networking activities. There were no other significant effects on mood (p 's > .10).

To ensure that participants would perceive these benefits as more social or more transactional, a pretest ($n = 45$) was conducted. After presenting the same brief introduction to the online clothing brand that would be used in the main study, participants in the pre-test were exposed to either the relational or transactional benefit descriptions of the membership program. Using 7 point scales, they evaluated how “relational” and “monetary” (reverse-coded) the benefits were perceived to be ($\alpha = .77$). They also indicated their trust and liking toward the brand, in addition to how much they wanted to become a member of the brand’s membership program. As expected, the two pop-up messages were perceived differently in terms of the nature of the brand relationship benefits ($F(1, 43) = 43.67, p < .0001$). The membership program framed as providing relational benefits ($M_{\text{Relational}} = 5.23$) was perceived as more social/relational and less monetary/transactional in nature compared to the transactional benefit membership program ($M_{\text{Transactional}} = 2.59$). There were no significant differences in how much participants trusted or liked the brand regardless of the membership benefits (p 's > .20). Interestingly, participants significantly preferred to become a member of the brand that offered transactional benefits than relational ones ($M_{\text{Transactional}} = 4.30$ vs. $M_{\text{Relational}} =$

3.18; $F(1, 43) = 5.07, p = .03$). This result shows that the results of the main study would be a conservative one, as increased willingness to disclose to the relational program would be unlikely to be due to greater preference for that program.

Self-disclosure Intentions.

Participants' willingness to share each of the three pieces of contact information were averaged to create a single measure of self-disclosure intentions ($\alpha = .85$). This was then included as a dependent variable in a 2 x 2 ANOVA with social exclusion (excluded vs. non-excluded) and brand benefit (relational vs. transactional) as independent variables. Results revealed a marginally significant main effect of social exclusion ($F(1, 205) = 3.3, p = .07$), such that excluded participants generally showed greater self-disclosure intentions, compared to their non-excluded counterparts ($M_{\text{Excluded}} = 3.65$ vs. $M_{\text{NonExcluded}} = 3.21$).

More importantly, the main effect was qualified by a significant social exclusion x brand benefit interaction ($F(1, 205) = 3.95, p = .05$). Specifically, while there was no significant difference by exclusion condition in participants' willingness to disclose their information with a brand that offered transactional benefits ($p > .9$), excluded (vs. non-excluded) participants were significantly more willing to share their information with a brand that provided relational benefits ($M_{\text{Excluded-Relational}} = 3.85$ vs. $M_{\text{NonExcluded-Relational}} = 2.93; F(1, 205) = 7.19, p = .008$).

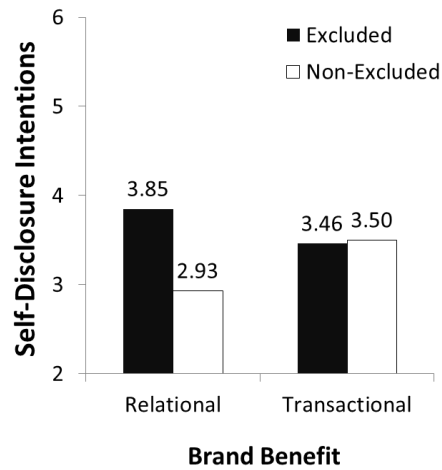


Figure 3. Brand benefit moderates the effect of social exclusion on self-disclosure intentions

Discussion

Study 3 provided further evidence that socially excluded individuals are more willing to disclose personal information to brands in order to satisfy their desire for social connection. While it is widely believed that consumers share their personal information in exchange for tangible benefits, such as discounts or convenience, I found that socially excluded people had greater intentions to share their information when the brand emphasized the social benefits that they offer. No such difference was found for brands which explicitly offered only monetary incentives. These results suggest that socially excluded consumers are seeking social connection opportunities and this prompts them to share their personal information even with non-human brands that offer such opportunity.

However, when the brand was explicitly described as offering only monetary benefits, there was no increase in intention to disclose personal information.

While I initially sought to control for differences in mood across conditions, participants in the excluded condition reported feeling worse than those in the non-excluded condition. Despite this difference, however, there was no social exclusion by brand benefit interaction on the mood measure. If negative mood was driving the effect and socially excluded participants were seeking to repair their negative mood by engaging in self-disclosure, there should only have been a main effect of social exclusion and not an interaction for the dependent variable. To the contrary, I found a significant social exclusion by brand benefit interaction on self-disclosure intentions. Such results minimize the possibility that negative mood was driving the interaction effect found for the main dependent variable (i.e., self-disclosure intentions). To further control for any potential effect of mood, in the next study, I used a modified version of the recall task that was originally used in Study 1 and controlled for differences in negative mood.

STUDY 4: THE MODERATING EFFECT OF POTENTIAL FOR BRAND REJECTION

Study 4 tested an important boundary condition – potential for brand rejection – to the proposed effect. Although social exclusion leads people to desire social connections, it is also likely to make them more sensitive to the possibility of being rejected again (e.g., Maner et al., 2007; Twenge et al., 2007). Such concern for future rejection should then prevent excluded people from wanting to disclose their personal

information with a brand if it is perceived that there is a high risk of the brand subsequently rejecting them. Thus, Study 4 included a manipulation in which the brand is described as having a high versus low likelihood of rejecting the participant's application for membership. To further offer evidence for this effect, Study 4 tests for mediating effect of participants' desire to connect with brands. It was expected that this mediation would be present when the potential for brand rejection was low, but not when the chance of being rejected by the brand was high (as the desire to connect with the brand is diminished by the risk of rejection).

Other goals of this study were to (1) eliminate mood as a potential alternative mechanism and (2) generalize findings through a different dependent measure. First, mood was controlled for across social exclusion conditions by having the non-excluded participants recall an equally negative, but non-exclusion type of an experience (i.e., being sick or injured). Second, instead of measuring how much participants would be willing to provide each of a number of types of personal data as in the prior studies, in this study, participants indicated the extent to which they would be willing to "share their personal information" and also how willing they would be to share their behavioral information by agreeing to allow the brand to track their online shopping behavior.

Method

One hundred and eighty participants (108 females, $M_{\text{age}} = 39.33$) from Amazon Mturk were recruited to complete Study 4. They were randomly assigned to one of the

conditions in a 2 (Social Exclusion: Excluded vs. Non-Excluded) x 2 (Concern for Brand Rejection: High vs. Low) between-subjects design.

Participants first completed a recall task in which they were asked to write either about a time when they were socially excluded by others (*excluded* condition) or about a time when they experienced physical illness or injury (*non-excluded* condition). For three minutes, participants wrote about the details of their experience, being excluded or being sick, depending on condition. This social exclusion manipulation was slightly modified from the version used in Study 1 to match the two conditions in terms of negative mood. I measured participants' feeling of being excluded using the following four items – “felt excluded,” “felt like an outsider,” “felt I belonged to a social group” (reverse-coded), and “felt socially included” (reverse-coded). I also measured their mood using 16 items from the Brief Mood Introspection Scale (BMIS; Mayer and Gaschke, 1988).

In the second section of the study all participants were briefly introduced to a fictional online clothing brand and to the brand's membership program that was recently launched. It was described that those who become members would be treated like close family and friends, and would be able to enjoy a more intimate relationship with the brand.

Following the membership program description was the manipulation of the potential for brand rejection. Participants in the *low potential for brand rejection* condition saw that all of the customers who provide their personal information would be welcomed as a member, while those in the *high potential for brand rejection* condition

saw that 90% of the customers who apply would be rejected from the membership program.

Afterward, participants indicated both (1) how much they would be willing to share their personal information with the brand and (2) how much they would be willing to allow the brand to track their online shopping behavior (i.e., intentions to share behavioral information). In addition, participants' desire to socially connect with the brand was measured as in Study 1. Finally, to check whether the manipulation of potential for brand rejection was successful, participants were asked, on a 7-point scale, how likely they think they may be rejected by the brand's membership.

Results

Manipulation Checks.

A 2 x 2 ANOVA on the feeling of exclusion index ($\alpha = .70$) with social exclusion and likelihood of rejection conditions as independent variables revealed only a significant main effect of social exclusion ($F(1, 176) = 144.59, p < .0001$), such that those who wrote about being excluded felt more excluded ($M_{\text{Excluded}} = 6.16$) than those who wrote about being ill or injured ($M_{\text{NonExcluded}} = 4.12$). The same ANOVA on the potential for brand rejection manipulation check item revealed only a significant main effect of potential for rejection ($F(1, 176) = 70.12, p < .0001$). Those who learned that the brand

rejects 90% of applicants reported that they were more likely to be rejected ($M_{\text{HighRejection}} = 5.16$) than those who read that the brand accepts all applicants ($M_{\text{LowRejection}} = 2.57$).

The same ANOVA on the BMIS index ($\alpha = .83$) examined differences in mood across conditions. As expected, there were no significant effects (p 's $> .35$), indicating that mood can be ruled out as a potential driver of any results that may be observed for the key dependent variable.

Self-disclosure Intentions.

A 2 x 2 ANOVA on participants' general self-disclosure intentions with social exclusion and likelihood of rejection conditions as independent variables revealed a significant main effect of potential for brand rejection ($F(1, 176) = 28.55, p < .0001$), where participants had greater intentions to share information when the potential was low ($M_{\text{LowRejection}} = 3.48$ vs. $M_{\text{HighRejection}} = 2.09$). More importantly, this result was qualified by a significant interaction ($F(1, 176) = 7.25, p = .008$). Simple effects analyses revealed that when the potential for brand rejection was low, excluded participants exhibited greater intentions to share their information ($M_{\text{LowRejection-Excluded}} = 3.86$) compared to their non-excluded counterparts ($M_{\text{LowRejection-NonExcluded}} = 3.15; F(1, 176) = 4.52, p = .04$), replicating the effects found in previous studies. However, when the potential for brand rejection was high, excluded individuals were marginally *less* willing to share their information ($M_{\text{HighRejection-Excluded}} = 1.69$) than those who had not been excluded ($M_{\text{HighRejection-NonExcluded}} = 2.43; F(1, 176) = 3.07, p = .08$).

Similarly, a 2 x 2 ANOVA on willingness to allow the brand to track online activities (i.e., intention to share behavioral information) also revealed a significant interaction effect ($F(1, 176) = 7.71, p = .006$). Excluded (vs. non-excluded) participants had greater intentions to allow the firm to track their behavior when there was low potential for being rejected by the brand ($M_{\text{LowRejection-Excluded}} = 3.63$ vs. $M_{\text{LowRejection-NonExcluded}} = 2.87; F(1, 176) = 5.08, p = .03$), but less so when the potential for brand rejection was high ($M_{\text{HighRejection-Excluded}} = 1.44$ vs. $M_{\text{HighRejection-NonExcluded}} = 2.19; F(1, 176) = 3.09, p = .08$).¹

¹ Similar results were found when the two dependent measure items were averaged to create a self-disclosure intention index ($\alpha = .92$). There was a significant interaction effect ($F(1, 176) = 8.14, p = .005$) in which socially excluded (vs. non-excluded) participants had greater self-disclosure intentions when there was low potential for being rejected by the brand ($M_{\text{LowRejection-Excluded}} = 3.75$ vs. $M_{\text{LowRejection-NonExcluded}} = 3.01; F(1, 176) = 5.25, p = .02$), but marginally less so when the potential for brand rejection was high ($M_{\text{HighRejection-Excluded}} = 1.56$ vs. $M_{\text{HighRejection-NonExcluded}} = 2.31; F(1, 176) = 3.37, p = .07$)

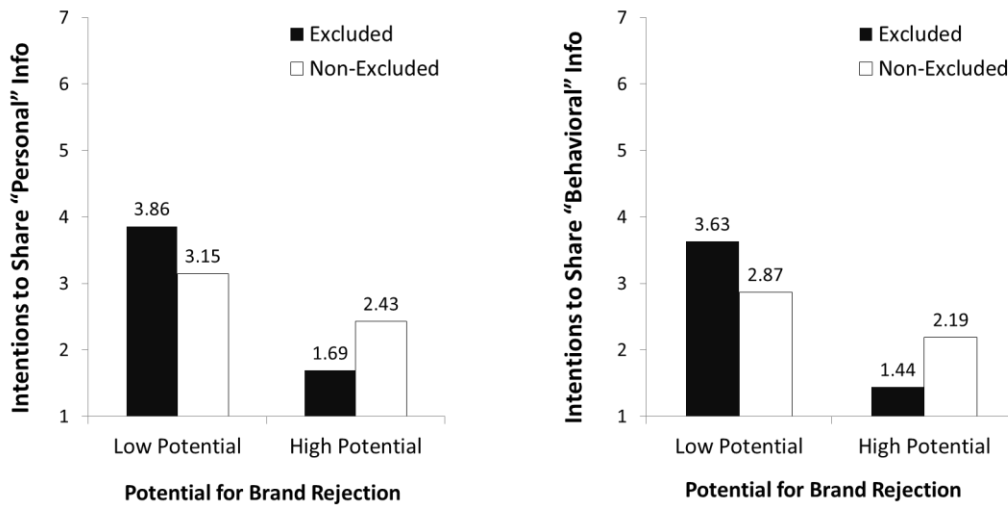


Figure 4. Social exclusion heightens self-disclosure intentions when the potential for brand rejection is low, but decreases such intentions when the potential for being rejected is high.

Desire for Social Connection as Mediator.

The four items that measured the desire to socially connect with the brand, used in Study 1, were averaged to form an index of desire for social connection ($\alpha = .95$). A 2 x 2 ANOVA revealed a significant interaction effect of social exclusion and potential for brand rejection ($F(1,176) = 4.9, p = .03$). Specifically, socially excluded (vs. non-excluded) participants had a greater desire to connect with the brand when the potential for rejection by the brand was low ($M_{\text{LowRejection-Excluded}} = 3.61$ vs. $M_{\text{LowRejection-NonExcluded}} = 2.94, F(1,176) = 4.38, p = .04$), but not when the concern for rejection was high ($M_{\text{HighRejection-Excluded}} = 1.94$ vs. $M_{\text{HighRejection-NonExcluded}} = 2.41, p > .24$).

A mediation analysis using PROCESS Model 8 (Hayes, 2013) explored the role of desire for social connection in the relationship between exclusion and willingness to disclose personal information. Social exclusion was the independent variable, potential for brand rejection was a moderator, desire for social connection was a mediator, and self-disclosure intention index was the dependent variable in the model. The mediation analysis confirmed a significant indirect effect of the interaction ($b = -.40$, $SE = .18$, 95% CI: $-.78, -.06$). More specifically, desire for social connection mediated the effect of social exclusion on self-disclosure intentions when the potential for rejection was low ($b = .47$, $SE = .24$, 95% CI: $.05, 1.00$), but not when it was high ($b = -.33$, $SE = .26$, 95% CI: $-.84, .20$).

Discussion

The results of Study 4 demonstrated that the self-disclosure intentions of excluded individuals are moderated by the potential for rejection by the brand that they would be disclosing to. Specifically, when the potential for rejection by the brand was low, excluded (vs. non-excluded) participants were more willing to share their personal and behavioral information to brands, replicating the results of Studies 1, 2 and 3, and supporting the hypothesis that socially excluded people have greater self-disclosure intentions. However, this pattern was reversed when the potential for rejection by the brand was high, such that when it was highly likely that they would be rejected, excluded participants became *less* willing to disclose their information to brands, compared to non-

excluded individuals. Moreover, the effects were mediated by participants' desire for social connection with brands, but only when the potential for rejection was low. These findings suggest that concern for future rejection is an important boundary condition to the effect of social exclusion on self-disclosure intentions. While people who have been socially excluded are generally more open to sharing information about themselves, these results suggest that they may be more reluctant to disclose their information when there is a potential risk of being rejected again.

This study also contributed to the robustness of the effect, as the results were similar to the prior studies even when using a more general dependent measures of willingness to disclose information and willingness to have behavior tracked. The manipulation of social exclusion also ruled out mood as an alternative account, as no difference in mood was found in this study, and yet the effects continued to hold. In the next study, a different boundary condition was explored to provide greater support for the proposed theory.

STUDY 5: THE MODERATING ROLE OF INTENDED USE OF CUSTOMER INFORMATION

The final study was designed to demonstrate another important boundary condition to the effect of social exclusion on consumers' information disclosure intentions: the possibility of being exploited by the brand. Socially excluded individuals are likely to be more sensitive to being exploited by their relationships (e.g., Maner et al., 2007; Twenge et al., 2007). As a result, as with concern for rejection, socially excluded

individuals may be less likely to disclose personal information if they perceive a risk of exploitation of their personal information. Thus, it was predicted that socially excluded (vs. non-excluded) people would be more willing to disclose their personal information to a brand that collects information to enhance customer relationships, but less willing to do so to a brand whose purpose of data collection is ambiguous or advantageous to the brand only.

The perception of potential for brand exploitation is a particularly important variable since companies are known to use customers' data in various ways, from improving customer service to maximizing their profit (Tanner, 2014). Although in most countries brands are required to provide privacy notices that state what kinds of personal information is being collected and *why* they are collecting such data (i.e., how the data may be used), these rules differ from country to country. Further, the purpose of data collection is often stated ambiguously or sometimes even omitted. For instance, the Guardian's privacy policy states that they "use the personal data for many reasons, from understanding how our users engage with our journalism to informing the marketing and advertising" (The Guardian's website), while other firm's privacy policies are more specific, spelling out exactly how the data may or may not be used. Thus, in this study, the firm's intended use of disclosed data was manipulated to be either for the explicit purpose of enhancing the relationship with the customer, improve the firm's profits, or it was described in an ambiguous manner. It was predicted that when the firm intended to use the information to enhance customer relationships that excluded individuals would be more willing to disclose personal information than non-excluded individuals. However,

the difference was predicted to be attenuated when the firm's reason for using the data was for profit, or when it was ambiguous about its intended use of the data.

Method

Two hundred and fifty-two participants (143 females, $M_{age} = 30.67$) from both Amazon Mturk and an undergraduate business program were recruited to complete Study 5. They were randomly assigned to one of the conditions in a 2 (Social Exclusion: Excluded vs. Non-Excluded) x 3 (Intended Use of Customer Information: Relationship-Enhancement vs. Ambiguous vs. Profit-Maximization) between-subjects design.

Participants first completed the same recall task used in Study 4. They either wrote about a time when they were socially excluded by others (*excluded* condition) or about when they experienced physical illness or injury (*non-excluded* condition). After the recall task, participants' feelings of being excluded was measured using the same items from the previous study, followed by the BMIS items (Mayer and Gaschke, 1988) to measure mood.

In the second section of the study, participants were again introduced to a fictional online clothing brand and then asked to read a short passage about the brand's personal information collection practice. The passage stated that the brand asked for permission to track customers' online shopping behavior, but the intended use of customer information varied depending on condition. Participants in the *relationship-enhancement* condition were told that the brand collects customers' behavioral information in order to maintain a

good relationship with the customers, while participants in the *profit-maximization* condition learned that customers' personal data was collected to increase its profit from customers. Those in the *ambiguous purpose* condition were not explicitly informed of any specific purpose of data collection.

After reading the passage about the brand's information collection practice, participants indicated how much they would be willing to allow the brand to track their online shopping behavior. This intention to share behavioral information served as the main dependent variable. Participants' perceived risk in revealing their behavioral information was also measured by asking how vulnerable they felt about sharing their information, how much at risk they were in disclosing their personal data, and how threatening it was to be asked to reveal their information. Both the willingness to be tracked and the perceived risk measures were measured on 7-point scales.

Results

Manipulation Checks.

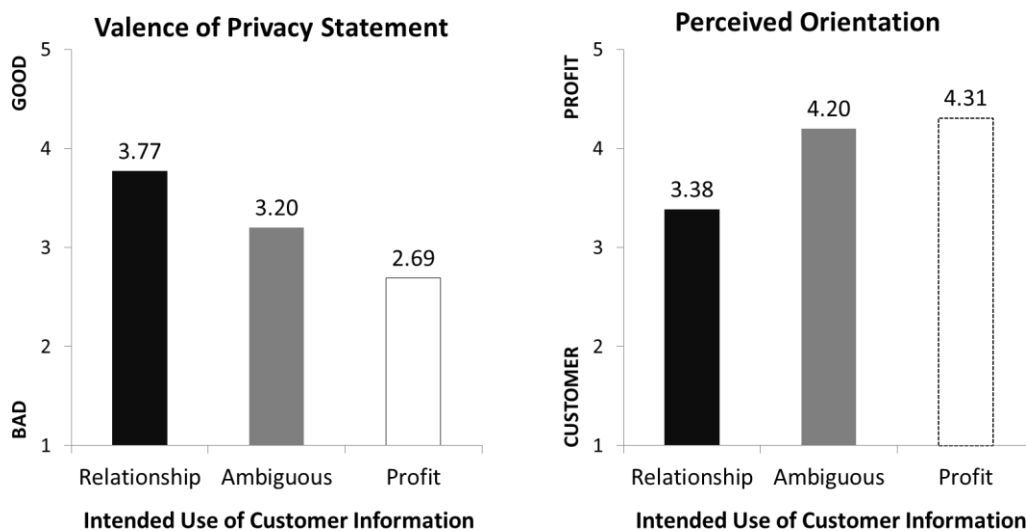
As expected, a 2 x 3 ANOVA on the feeling of exclusion index ($\alpha = .70$) yielded a significant main effect of social exclusion ($F(1, 246) = 178.52, p < .0001$). Participants who wrote about a social exclusion experience reported feeling more excluded ($M_{\text{Excluded}} = 5.82$) than those who wrote about being ill or injured ($M_{\text{NonExcluded}} = 3.95$). The same analyses with the BMIS index ($\alpha = .81$) as the dependent variable revealed no significant

main or interaction effects on mood (p 's $> .25$), indicating that mood can be ruled out as a potential driver of any results observed in intentions to disclose personal information.

A separate post-test ($n = 41$) was conducted to evaluate the brand and its intended use of customer information. Participants read one of the three privacy statements of the fictional brand which were used in the main study and were asked to assess the brand's data collection practices. On a 5-point scale, they first rated the brand's privacy policy on the valence – how “good” or “bad” it seemed. This measure was intended to measure how egregious the intended use of customer data was perceived by people. There was a marginally significant effect of purpose on the valence measure ($F(2, 38) = 2.68, p = .08$). Planned contrasts revealed that participants who read the profit-maximization version rated the privacy statement as significantly worse ($M_{\text{Profit}} = 2.69$) than those in the other two conditions ($F(1, 38) = 3.95, p = .05$). There was no significant difference of valence between the relationship-enhancement condition and the ambiguous purpose condition ($M_{\text{Relationship}} = 3.77$ vs. $M_{\text{Ambiguous}} = 3.20; p > .21$).

Participants also evaluated how “customer-oriented” or “profit-oriented” the brand seemed based on its privacy practices. This was measured on a 5-point scale, anchored at *customer-focused* (1) and *profit-focused* (5). Again, there was a significant main effect of intended use ($F(2, 38) = 3.34, p = .05$). For this measure, the participants in the relationship-enhancement condition perceived the brand to be significantly more customer-oriented ($M_{\text{Relationship}} = 3.38$), or less profit-oriented, than those in the remaining two conditions ($F(1, 38) = 6.65, p = .01$), but there was no difference between the profit-maximization and ambiguous purpose conditions ($M_{\text{Profit}} = 4.31$ vs. $M_{\text{Ambiguous}} = 4.20; p >$

.78). The results of the pretest indicate that the intention to maximize profit by collecting customer’s personal data is regarded as especially egregious and that the intention to enhance customer relationship makes the brand seem more customer-focused. The privacy statement that did not provide any specific intended use of customer data was not perceived to be as negative as the one that provided a profit-maximization purpose, but also not as customer-oriented as the one that offered a relationship-enhancement purpose.



Figures 5-6. Post-test results for the intended use of customer data manipulation.

Self-disclosure Intentions.

A 2 x 3 ANOVA with intentions to share their behavioral information as the dependent measure and social exclusion condition and brand’s stated purpose of information collection as independent variables revealed a significant main effect of

purpose of information collection ($F(2, 246) = 17.68, p < .0001$), where participants in the *profit-maximization* condition ($M_{\text{Profit}} = 2.72$) were significantly less willing to share their behavioral data than those in the other conditions ($F(1, 246) = 24.01, p < .0001$). Participants in the *relationship-enhancement* condition were also significantly more willing to allow the brand to track their behavior than those in the *ambiguous purpose* condition ($M_{\text{Relationship}} = 4.32$ vs. $M_{\text{Ambiguous}} = 3.56; F(1, 246) = 6.89, p = .009$).

More importantly, there was a significant two-way interaction on participants' willingness to be tracked ($F(2, 246) = 4.91, p = .008$). Simple effects revealed that, as expected, socially excluded participants ($M_{\text{Excluded-Relationship}} = 4.87$) exhibited greater intentions to share their behavioral information with a brand that collected information to enhance customer relationship than their non-excluded counterparts ($M_{\text{NonExcluded-Relationship}} = 3.85; F(1, 246) = 7.16, p = .008$). However, the pattern was reversed for a brand that did not provide a specific intended use of customer information, such that excluded individuals ($M_{\text{Excluded-Ambiguous}} = 3.10$) were marginally less willing to have their behavioral information tracked than non-excluded people ($M_{\text{NonExcluded-Ambiguous}} = 4.00; F(1, 246) = 3.45, p = .06$). There was no significant difference between excluded and non-excluded participants in their intentions to share behavioral information with a brand that sought to maximize its profit using customer information ($p > .25$).

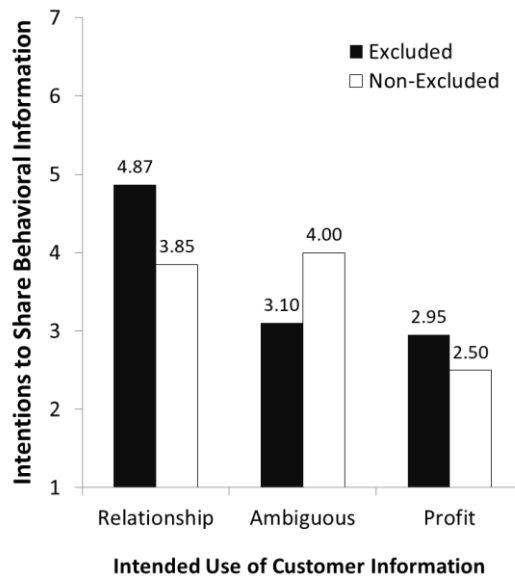


Figure 7. Social exclusion heightens intentions to share behavioral information when the brand intends to use customer information for relationship-enhancement purposes, but decreases such intentions when the brand does not explicitly share how it intends to use the data.

Perceived Risk of Sharing Information.

The three risk perception items were combined to create a single measure ($\alpha = .78$) and analyzed with ANOVA. This resulted in a significant main effect of intended use of customer information ($F(2, 246) = 3.99, p = .02$), such that participants in the relationship-enhancement condition perceived significantly less risk of sharing their personal information ($M_{\text{Relationship}} = 4.80$) than those in the remaining two conditions ($F(1, 246) = 7.96, p = .005$). There was no significant difference between the profit-maximization condition and the ambiguous purpose condition ($M_{\text{Profit}} = 5.25$ vs. $M_{\text{Ambiguous}} = 5.30; p > .79$).

More importantly, this main effect was qualified by a significant exclusion x intended use interaction ($F(2, 246) = 5.36, p = .005$). A closer look at the interaction revealed that, when the brand collected personal data to enhance customer relationships, socially excluded individuals perceived lower risk of sharing behavioral information ($M_{\text{Excluded-Relationship}} = 4.43$) compared to non-excluded participants ($M_{\text{NonExcluded-Relationship}} = 5.11; F(1, 246) = 5.94, p = .02$). Just as with the willingness to share measure, the pattern was reversed when the brand did not reveal how it intended to use customer information, such that excluded participants ($M_{\text{Excluded-Ambiguous}} = 5.70$) perceived greater risk than non-excluded ones ($M_{\text{NonExcluded-Ambiguous}} = 4.92; F(1, 246) = 4.8, p = .03$). Again, when the brand sought to maximize profit, there was no difference in risk perceived by excluded vs. non-excluded participants ($p > .84$).

Although there was no significant difference of risk perception within the non-exclusion condition ($p > .65$), a significant difference in the perceived risk measure emerged within the exclusion condition ($F(2, 246) = 8.53, p = .0003$). Specifically, socially excluded participants felt significantly less risk in sharing their personal information when the brand intended to use customer data to enhance customer relationship ($M_{\text{Excluded-Relationship}} = 4.43$), compared to when the purpose of data collection was unclear ($M_{\text{Excluded-Ambiguous}} = 5.70; F(1, 246) = 15.23, p < .0001$) or when the purpose was to increase profit ($M_{\text{Excluded-Profit}} = 5.29; F(1, 246) = 8.57, p = .004$). There was no difference in the level of risk perception for socially excluded participants regardless of when they were explicitly told that the brand is collecting customers' data to maximize profit or when there was no explanation ($p > .20$).

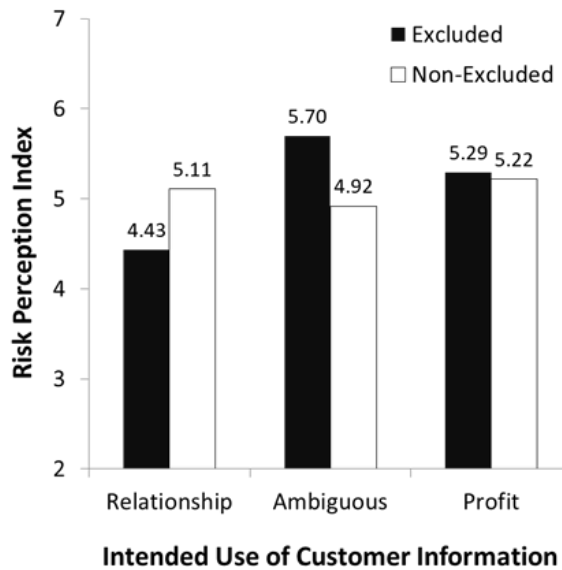


Figure 8. Social exclusion lowers the risk perception of sharing information when the brand intends to use the customer information to enhance customer relationship, but heightens such perception when the intended use of data is ambiguous.

Discussion

The results of Study 5 provided additional evidence of the proposed mechanism and demonstrated an additional boundary condition of the effect of social exclusion on consumers' information disclosure intentions. When the brand was seen as collecting information to improve its relationship with customers, socially excluded (vs. non-excluded) individuals showed greater intentions to share their behavioral information, which is consistent with the theory that social exclusion heightens consumers' disclosure intentions due to their desire for social connection. However, when the brand did not

provide sufficient reasons for tracking customers' behavioral information, excluded people were relatively less willing to share their behavioral information than their non-excluded counterparts. This means that social exclusion does not always heighten consumers' information disclosure intentions and can rather lead to greater reluctance to share. In other words, people who have been socially excluded are more open to sharing information about themselves when they expect social connection opportunities from the brand, but more reluctant to disclose their information when the brand is perceived as taking the data to use for profit maximizing purposes.

Such findings not only suggest an important boundary condition, but also differentiate this work from prior research on the effect of social exclusion on strategic consumption (Mead et al., 2011). Mead and colleagues (2011) demonstrated that socially excluded people sometimes will sacrifice their own preferences to affiliate with other people. Some may argue that greater information disclosure intentions as a result of social exclusion is another way in which excluded individuals sacrifice themselves for social connection opportunities. However, the perceived risk measures in Study 5 suggest that socially excluded people did not perceive it as a sacrifice. Instead, when the brand was seeking to enhance customer relationship with the tracking data, excluded participants perceived less risk in sharing information and were more willing to be tracked than non-excluded participants. In contrast, when the brand did not explain why they were collecting customer information, excluded individuals perceived greater risk in disclosing information and thus were less willing to share their behavioral data than non-excluded people.

GENERAL DISCUSSION

This research explored the effects of social exclusion on consumers' self-disclosure intentions. Across five studies, I demonstrated that social exclusion heightens consumers' decisions to share their personal information with brands as their desire for social connection is increased. My findings were robust in that the effects were consistently found across a variety of manipulations (i.e., recall tasks, Cyberball game, and social media scenario), data sources (i.e., Mturk workers and student participants), and dependent measures (willingness to disclose specific personal information, general measures of willingness to disclose, and intentions to let a firm track online behavior).

In Study 1, participants who wrote about an experience of being rejected by other people, compared to those who wrote about a neutral experience, expressed greater intentions to disclose a variety of personal information to a given brand, despite limited knowledge about the brand. I found that such effect of social exclusion on disclosure intentions was fully mediated by excluded participants' desire to socially connect with the given brand. Study 2 further demonstrated the desire for social connection as a driver of the effect. I directly manipulated whether social connection needs were satisfied following an exclusion experience. Half of the participants were asked to think about an existing close relationship, while the remaining half thought about a non-social activity. As expected, this manipulation eliminated the effect of social exclusion on consumers' disclosure intentions. Study 3 demonstrated a moderating role of brand relationship benefit on the effect of social exclusion on people's willingness to share personal information. I found that socially excluded (vs. non-excluded) individuals were more

willing to disclose their personal information to a brand which emphasized relational benefits, rather than the tangible, monetary incentives often offered by brands in exchange for consumer information. The final two studies shed light on important boundary conditions of the effect of social exclusion. In Study 4, when it was unlikely that they would be rejected by the brand, socially excluded (vs. non-excluded) participants were more willing to disclose their behavioral information to the brand, consistent with the effects found in the first three studies. On the other hand, when there was a high potential for being rejected by the brand, they became even less willing to share their information with the brand. These results indicate that while the socially excluded are more willing to share their personal information in order to attain social connection benefits, they are also more sensitive to potential rejection that they may face in the future and thus may become even more reluctant to engage in self-disclosure. Finally, Study 5 demonstrated that socially excluded individuals become more cautious in their behavior when there is a potential for or risk perceived of being exploited by the brand. When a brand intended to use customers' information to enhance the relationship with customers, socially excluded (vs. non-excluded) participants perceived lower risk in sharing their information and were thus more willing to disclose their behavioral information to the brand, consistent with the effects found in the first three studies. On the other hand, when there was uncertainty about why a brand was tracking customers' information, socially excluded (vs. non-excluded) individuals perceived greater risk and were less willing to share their behavioral information with the brand. These results indicate that while the socially excluded are more willing to share their personal

information in order to attain social connection benefits, they are also more sensitive to potential risks and disadvantages that they may occur in opening up and hence may be even more reluctant to engage in self-disclosure.

Note that the proposed effects prevailed even when mood was controlled for. Research has shown that the very act of self-disclosure in and of itself can be cathartic and intrinsically rewarding (Tamir and Mitchell, 2012). As such, some may argue that the socially excluded (vs. non-excluded) individuals are in bad mood and are thus more motivated to engage in self-disclosure in order to feel better about themselves. In order to rule out this mood maintenance account as the underlying mechanism, I sought to control for participants' mood in several ways. In Study 3, the scenarios used were intended to be similar in terms of the negativity of the social media experience. Although there was an unexpected main effect of social exclusion on the mood measure, the non-significant social exclusion x brand benefit interaction indicated that the results of the self-disclosure intention measure was not driven by participants' mood. In the last two studies, the recall task used to manipulate feelings of social exclusion also ruled out mood as an alternative account. Participants' mood was the same regardless of whether they wrote about an experience of being socially rejected or being physically ill, and yet their willingness to self-disclose differed depending on whether they felt socially excluded and the perceived risk (of being rejected or exploited by the brand).

It should also be noted that the findings of Studies 1 and 2 may seem to contradict the results of the ambiguous purpose condition in Study 5. In the first two studies, participants in the excluded condition showed greater intentions to share their personal

information with the brand. On the other hand, in the last study, excluded (vs. non-excluded) participants who were not explicitly informed about how the brand intended to use the information exhibited lower self-disclosure intentions. However, there were marked differences between the earlier studies and the ambiguous purpose condition of the last study. First, the scenarios in Studies 1 and 2 mentioned that the brand was collecting people's information "to get to know [the customers] better," which would signal to the excluded individuals that the brand is interested in developing relationships with customers. The ambiguous purpose condition in Study 5, however, there was no explicit explanation of why the brand was collecting customers' information, which means that there was no indication of whether the excluded people would be able to satisfy their social connection needs. Moreover, the type of information requested in Study 5 could potentially be perceived as riskier than those in Studies 1 and 2. While participants in Study 5 were told that the brand would be tracking their behavior, those in the earlier studies were asked to provide a few of personally identifying information. These differences in the types of the information collected adds weight to my argument that perceived risk plays an important role in determining whether socially excluded individuals have heightened or lowered self-disclosure intentions. This means that even external or situational cues (e.g., news of data breach, industry in which data are collected) may also lead to differences in excluded people's willingness to disclose their personal information.

While this research was agnostic toward the specific types of information socially excluded individuals will be more willing to disclose, future research should explore

whether there are any differences depending on the types of information. For instance, based on the theory, socially excluded individuals may be more willing to disclose potentially less sensitive information (e.g., name, email address) but less willing to disclose highly sensitive information (e.g., income, date of birth). Such differences may explain why some of the results were either weaker (i.e., Study 3) or potentially contradictory (i.e., Study 1 vs. Study 5).

Theoretical Contributions

Extant literature on social exclusion have frequently highlighted people's desire for affiliation following exclusion and ostracism (Maner et al., 2007) and demonstrated that this desire is manifested in their behaviors, such as paying increased attention to potential social cues (Gardner et al., 2000; Pickett et al., 2004) and conforming to the opinions of others (Williams et al., 2000). Research in consumer psychology and behavior has also shown that excluded consumers will strategically tailor their spending to increase their chances of connecting with others (Mead et al., 2011) and prefer unique, distinctive products to a lesser degree when the cause of exclusion is perceived to be stable (Wan et al., 2014). The current paper makes several theoretical and managerially relevant contributions to this work that has yet to be considered by others.

First, my findings take a novel perspective in discussing consumer self-disclosure. This research contributes to the consumer self-disclosure and privacy literature by uncovering a psychological motivation that influences sharing of personal information

with marketers and brands. Many researchers in consumer privacy have relied on the social exchange theory (Emerson, 1976; Thibaut and Kelley, 1959) and proposed that consumers' decision of whether to disclose personal information to marketers is the result of weighing the benefits and risks of sharing information (i.e., privacy calculus; Culnan and Bies, 2003; Dinev and Hart, 2006; Hann et al., 2007). Oftentimes, research has found that consumers exchange their personal information for monetary or customization benefits (e.g., Nowak and Phelps, 1997; Berendt, Gunther, and Spiekermann, 2005). However, consumers may not always engage in cognitive cost-benefit analyses to make privacy decisions, and rather, other situational factors may influence such decisions. For instance, Acquisti and colleagues (2012) demonstrated how other people's disclosure behaviors have an effect on people's disclosure decisions, while Chaikin et al. (1976) found that physical environment can influence self-disclosure. This research supports the notion that consumers' disclosure decisions are influenced not only by the strict comparison of economic benefits and costs, but also by their psychological and emotional needs at the time of the decision. Indeed, recent work has shown that socially excluded people tend to rely more on affect than cognition (Lu and Sinha, 2017). My findings suggest that when consumers desire social connection, due to having been excluded by other people, they will be more willing to share their personal information with brands, to the extent that it provides them with an opportunity to satisfy the need.

The current paper also extends this literature of social exclusion in consumer research by demonstrating that exclusion influences not only their choice of products but also of whether to disclose personal information to marketers, which is increasingly

becoming an important decision consumers face on a daily basis. The findings of my research can, at least in part, explain why some people may be at greater risks of sharing their personal information with the agents that seek to do them harm. For example, sick or elderly people, may lack regular social interaction so they long for and seek out relationships with potential interaction partners, regardless of whether they are trustworthy acquaintances or fraudulent schemers. As self-disclosure can serve as a strategic tool in developing and improving social relationships (Derlega and Grzelak, 1979), socially excluded individuals will be more likely to engage in disclosure to satisfy their connection needs.

This research also contributes to the literature on consumer-brand relationship in that the findings are consistent with the notion that brands may serve as relationship partners when consumers need to fulfill social connection needs. Beginning with Fournier's (1998) foundational work on the relationship between consumers and brands, it has been well-established that consumers can perceive human-like relationships with brands and sometimes even develop strong attachment to brands (Thompson et al., 2005). Recent works have argued that brands can replace other human beings in times of coping needs (i.e., coping with fear; Dunn and Hoegg, 2014) and that lonely people are more likely to develop a positive relationship with a brand (Long, Yoon, and Friedman, 2015). I extend this line of research and show that social exclusion can lead to sharing with brands in the same way people may share with interpersonal partners.

Of course there are marked differences between interpersonal relationships and human-brand relationships (Aggarwal, 2004), with one of them being the degree of and

motivation for self-disclosure to interaction partners. Consumer self-disclosure in regards to brands and marketers is usually limited to factual disclosure (Laurenceau, Barrett, and Pietromonaco, 1998), such as demographic, payment, and preference information, while self-disclosure to other people usually goes beyond merely sharing personal facts and often involves more of an emotional disclosure (Laurenceau et al., 1998), revealing more in-depth thoughts and emotion. The difference in the degree of disclosure should also influence how well social needs will be satisfied. However, despite the differences, my studies found that exclusion prompts consumers to strategically reveal various types of personal information (e.g., demographic, contact, behavioral information) to brands in an attempt to fulfill their social connection desire. Such result indicates that sharing facts about the self is sometimes enough to satisfy people's affiliation needs.

Another important contribution of the paper is that I found several boundary conditions in which socially excluded people are less willing to share their personal information. I demonstrated that, when the potential for being rejected by the brand was high or when the brand was unclear in its disclosure of why it is collecting consumers' data, excluded individuals had lower intentions to share their personal information compared to those who were not excluded. These findings are consistent with prior research. Molden and colleagues (2009) proposed that being socially rejected can lead to more prevention-focused responses due to concerns with the presence of negative outcomes. Rather than compare against non-excluded others, however, they focused on illustrating the difference in regulatory focus resulting from being rejected vs. ignored. While Twenge et al. (2007) also briefly suggested that socially excluded people may be

“reluctant to expose [themselves] to the risk of being taken advantage of or the risk of being hurt,” there was no empirical test in support of this notion. To the best of my knowledge, this research is the first to experimentally demonstrate how excluded consumers may have concerns about being rejected again or being exploited and how sensitivity to such possibilities can influence their decisions.

Study 2 investigated one possible way to reduce consumers’ willingness to share important personal information as a result of feeling socially excluded. Making existing relationships salient mitigated the effect that social exclusion had on the self-disclosure intentions. Having excluded individuals think briefly about a close friend or family member was enough to satisfy their need for social connection and thus lowered the willingness to disclose personal information. As disclosure of information to marketers and brands can potentially lead to unfavorable consequences, such as being charged a different price by marketers (Valentino-Devries, Singer-Vine, and Soltani, 2012) or becoming a target of fraudulent activities (Duhigg, 2007), from a public policy perspective, understanding ways to reduce sharing of personal information is an important agenda.

Practical Implications

The findings of the current research suggest that brands must also pay attention to the psychological needs of consumers when collecting their information. Rather than focusing only on offering explicit, utilitarian benefits, marketers should recognize that

they can also provide interpersonal relationship functions to those in need of social connection in exchange for consumers' personal information. Such an approach has the potential to be more beneficial for both parties in the long run. This work also provides implications for social workers and policymakers as it calls for their awareness about how the socially excluded may fall prey to swindlers of information who take advantage of the lonely people's psychological needs. It will be important to develop ways to fulfill their need for social connection and to educate these people to be more cautious in revealing their personal information to others.

APPENDIX

Appendix A. Social Exclusion Manipulation via Facebook Scenario (Study 3)

1. *Excluded* condition:



Above is a closed Facebook group that only students who are currently taking or have previously taken *Principles or Foundations of Marketing* at McCombs School of Business are eligible to join.

As a member, an individual can find lots of information that are helpful for doing well in the *Principles or Foundations of Marketing* course. Members can reach out to each other when they have questions or when they are looking for advice.

As of today, there are more than 4300 members, 106 of which are new members who recently joined.

Imagine that you want to join this Facebook group. You click on the "Join Group" button above to request membership.

After a couple of days, you receive the following message from the administrators of the closed Facebook group.

Thank you for your interest in joining our group, "Students of Principles/Foundations of Marketing."

Unfortunately, your request to join our group has been denied. You may NOT join our group.

- Administrators

You also find out that a friend of yours who also requested to join the group around the same time that you did has already been accepted as a member to the closed Facebook group.

2. *Non-excluded* condition:

Imagine that you have just finished all of your assignments and so you want to give yourself a little break.

You decide to log onto Facebook to check out if there's anything interesting going on.

For some unknown reason, however, you find out that you cannot log into the website.

You keep on getting the following message on your screen.



After trying for more than 15 minutes, you find out on Google that Facebook is currently experiencing technical difficulties and that the problem will be resolved within an hour.

Appendix B. Brand Benefit Manipulation (Study 3)

1. *Relational benefit* condition:

Become a VIP member of *Grove Point* 😊

As a VIP member of *Grove Point*, you can enjoy a number of great benefits as **our close friend and family!**

You will have access to **private hotline** dedicated to the VIP members and also be invited to **exclusive events**, which are social gatherings for our brand associates and the VIP members.

When you become a VIP member of *Grove Point*, you will be part of an **amazing social group** like no other.

If you are interested in becoming a VIP member, please fill out the form on the next page.

We look forward to developing a special relationship with you!

2. *Transactional benefit condition*

Become a VIP member of *Grove Point* 😊

As a VIP member of *Grove Point*, you can enjoy a number of great benefits as **our special customer!**

You will have be **notified when things are on sale** and also be offered **free samples and coupons**.

When you become a VIP member of *Grove Point*, you will receive **amazing discounts** like no other.

If you are interested in becoming a VIP member, please fill out the form on the next page.

We look forward to offering you promotional benefits!

Appendix C. Concern for Brand Rejection Manipulation (Study 4)

1. *Low Concern for Rejection condition:*

“All of the customers who agree to the data collection and provide their personal and behavioral information are welcomed into *ALAND*’s VIP membership and can enjoy a more intimate relationship with the brand.”

2. *High Concern for Rejection condition:*

“90% of the customers who agree to the data collection and provide their personal and behavioral information are rejected from *ALAND*’s VIP membership and cannot enjoy a more intimate relationship with the brand.”

Appendix D. Brand's Intended Use of Customer Information Manipulation

(Study 5)

1. *Relationship enhancement* condition:

“In order to maintain a good relationship with its customers, *Grove Lane* asks all visitors for permission to track their online shopping behavior. Upon consent, *Grove Lane* monitors what visitors click on, what they include in the shopping cart, how long they browse the website, and so forth. *Grove Lane* uses such information collected via tracking customers' shopping behavior to better understand its customers and to improve their interactions with each individual customer.”

2. *Profit maximization* condition:

“In order to increase its profits from the customers, *Grove Lane* asks all visitors for permission to track their online shopping behavior. Upon consent, *Grove Lane* monitors what visitors click on, what they include in the shopping cart, how long they browse the website, and so forth. *Grove Lane* uses such information collected via tracking customers' shopping behavior to better understand its customers and to charge different prices to each individual customer.”

3. *Ambiguous purpose* condition:

“*Grove Lane* asks all visitors for permission to track their online shopping behavior. Upon consent, *Grove Lane* monitors what visitors click on, what they include in the shopping cart, how long they browse the website, and so forth. *Grove Lane* uses such information collected via tracking customers' shopping behavior.”

**ESSAY 2:
THE MODERATING ROLE OF AGENT ANTHROPOMORPHISM
ON CONSUMERS' CONCERN WITH AGENT'S INFORMATION
COLLECTION**

INTRODUCTION

The modern consumer environment is flooded with occasions in which consumers may experience threats to their privacy. There are news reports on data compromises and identity theft incidents almost every day. Social media and search engine tools such as Facebook and Google collect vast amount of information on the users, including who they contacted, where they've been, and what they searched, liked, and purchased (Curran, 2018).

Amidst these widespread threats to privacy in the environment, consumers are frequently asked for their personal information by firms and marketers. From the relatively innocent collection of one's email address by offline retailers to the rather intrusive monitoring of customers' browsing patterns across websites, consumers frequently experience concerns with the collection and use of their personal data (Turow, Hennessey, and Draper, 2015; Wang, Lee, and Wang, 1998). Even the adoption and use of physical products increasingly means consumers must agree to offer personal data to firms. For instance, the wearable Fitbit claims to help users stay fit and motivated, but to do this, it "tracks every part of [their] day – including activity, exercise, food, weight, and sleep" (Fitbit Official Website). It is a similar story for smart digital assistants, such as Google Home and Amazon's Echo, which are voice-activated, meaning that they have access to users' conversations, including highly private ones, throughout the day.

While there are numerous factors that influence the manner in which consumers react to the collection of their personal information in the face of privacy threats, this research examines, how the characteristics of how the product or brand is presented or

portrayed may play a role in consumers' willingness to share private information.

Specifically, I look at the degree to which an agent (e.g., product, brand, etc.) is presented with human-like features and how such anthropomorphic portrayal influences consumers' concern with the collection of their personal data under threats to privacy.

The focus on the effect of anthropomorphism comes naturally as many products, especially those that directly interact with people, are often designed to be human-like. Many have prominent human-like features, such as a human name, voice, gender, and in many cases they are given human faces and figures. For instance, most of the smart assistants offered in the market have feminine names (e.g., Amazon's Alexa, Microsoft's Cortana) and/or voices (e.g., Apple's Siri). Some even seem to assume human-like roles and personalities. The device "Mother" is a smart sensor with a happy face that can monitor whatever you care about (e.g., your coffee intake, medication, and temperature, sleep schedule), a responsibility that real human mothers often take on. Prior work has shown that imbuing products and brands with human-like qualities activates a human schema (Epley, Waytz, and Cacioppo, 2007), which influences the evaluation of, and behavior toward those products (e.g., Aggarwal and McGill, 2007; Chandler and Schwarz, 2010) as well as attitudes and behavior in the surrounding environment (e.g., Hur, Koo, and Hofmann, 2015; Kim, Chen, and Zhang, 2016).

In this research, I examine the effects that agent anthropomorphism has on consumers' attitude toward the collection of their personal information by so-called smart agents, devices, or software tools that are meant to perform tasks for the users. I propose that people's concern with an agent's information collection will be influenced by the

level of privacy threat in the environment and the degree to which the agent is anthropomorphic. Specifically, I argue that, when threats to privacy are high (vs. low), individuals' concern with sharing their data will increase for a non-anthropomorphic agent, but this will be attenuated for anthropomorphic agents. This, I propose, is because anthropomorphic representations lead consumers to perceive they have greater control over the agent collecting the information.

Admittedly, this idea that people will feel more control over an anthropomorphic (vs. non-anthropomorphic) agent can seem counterintuitive. Because anthropomorphic agents are perceived to have agency and seem to have their own minds (Waytz, Cacioppo, and Epley, 2010b), one could argue that consumers will feel that a human-like agent is less controllable than a non-human-like one. For instance, in a recent working paper, researchers found that humanoid service robots elicited compensatory consumption, driven by the increase in feelings of self-discrepancy, which is an identity threat related to one's sense of power and control (Mende et al., 2017). However, in this essay, I argue that people will feel greater control over the anthropomorphic agent under certain circumstances when they are motivated to exert control over and better predict the environment – when their privacy is threatened.

Research has shown that privacy threats heighten people's concern with information collection, due to a lowered sense of control over the information and the environment (Goodwin, 1991). Thus, under a normal circumstance where the agent that is collecting the personal information is non-human-like, high (vs. low) privacy threats should lower people's perceived control over the agent and likely lead to a heightened

concern with the data collection. As a result of the decrease in perceived control, however, individuals' motivation to control and predict the environment should be activated (i.e., effectance motivation; Epley, Waytz, and Cacioppo, 2007). When such effectance motivation is triggered, anthropomorphizing a target imbues people with the perception of having control over the target (Waytz, Gray, Epley, and Wegner, 2010). Hence, even under high privacy threats, people's perception of control over an anthropomorphic agent will not significantly decrease, as is expected for a non-anthropomorphic agent. And since the perceived control over the anthropomorphic agent is not expected to decrease with privacy threat, consumers' concerns with their information being collected by the agent should not increase as much. In effect, agent anthropomorphism will alleviate the negative effect of privacy threats on consumers' concern with information collection.

The remainder of this essay is structured as follows. I first provide an overview of the extant literature on consumer privacy concerns and agent anthropomorphism, in relation to the perception of control. Then, I formally present my hypotheses and test these hypotheses through five experimental studies. I conclude with a general discussion of the findings, contributions and implications, and limitations.

CONCEPTUAL BACKGROUND

Consumer Privacy Concerns

Information privacy refers to having the ability to control the access that others have to one's personal information (Culnan and Armstrong, 1999; Foxman and Kilcoyne, 1993; Westin, 1967). People desire to have exclusive control over their own personal information and to keep it out of unwanted others' hands, as privacy is a necessary condition for autonomy and freedom (Margulis, 2003). Privacy concern – the level of anxiety regarding how one's personal information is collected, used, and accessed by others (Phelps, D'Souza, and Nowak, 2001) – is heightened when this desire is threatened. For instance, many consumers have long been worried about how the government collects and uses personal data (Udo, 2001). Threats to information privacy, and resulting privacy concerns, are even more prevalent in the modern environment, as firms have greater ability to collect, store, and share information about consumers outside of the consumers' control. For example, retailers and other institutions can monitor customers via closed-circuit television, and use software to identify individuals, and track movement (Roberts, 2015), while online websites collect personal information through the use of cookies and other programs. People's privacy concerns can also increase due to situational cues that enable them to evaluate the consequences of information disclosure and collection (Xu, Dinev, Smith, and Hart, 2008), such as news reports about identity theft or data compromise incidents.

Prior research has shown that threats to privacy increase people's privacy concerns through many routes (e.g., Dinev and Hart, 2004; Milne and Boza, 1999). For instance, privacy threats lower people's trust towards the agent, increasing their privacy concerns (Joinson, Reips, Buchanan, and Schofield, 2010). More relevant to the current research, privacy threats have been shown to have a negative impact on people's sense of control over the use of their personal information and the surrounding environment, thereby leading to heightened privacy concerns (Goodwin, 1991). Specifically, Goodwin (1991) proposed that losing control over (1) the environment in which transactions occur and (2) unauthorized secondary use of the information would generate consumers' privacy concerns. Likewise, Margulis (2003) has argued that perceived control over the transaction plays an important role in reducing people's privacy concerns. A number of studies (e.g., Dinev and Hart, 2006; Wang, Lin, and Luarn, 2006; Xu, 2007) have also shown that people are more likely to enter into a riskier transaction if they feel they have control over the environment in which the transaction occurs.

Indeed, perceived control over personal data, and the environment in which it is collected and used, is an important factor that can affect privacy concerns. Thus, when individuals can, or believe they can, exert control over who has access to the data or how it is used (Stone and Stone, 1990), concerns about privacy are mitigated. In the context of privacy threats and concerns, the subjective feeling of perceived control – a belief about whether an agent can produce desired outcomes (Skinner, Chapman, and Baltes, 1988) – can be as influential as having actual control. For example, researchers found that the mere illusion of having control over one's data (e.g., personally choosing to self-disclose

vs. others disclosing one's own information) led people to disclose greater amounts, and more sensitive types, of personal information (Brandimarte, Acquisti, and Loewenstein, 2013), a sign that their privacy concern was alleviated. In short, factors that allow people to believe they have control over their information and the surrounding environment alleviates their privacy concerns.

Although there are a number of ways in which firms and marketers may seek to enhance consumers' perception of control in contexts where products depend on the collection of personal information, I examine a widely-used product design factor can influence perceptions of control over the agent collecting the information: agent anthropomorphism.

Agent Anthropomorphism

Agent anthropomorphism refers to the tendency to attribute human-like traits to non-human agents (Epley et al., 2007). There are two primary ways in which people anthropomorphize non-human agents (Waytz et al., 2010b). First is by attaching human-like features, such as name or human-like physical characteristics (e.g., voice, face, body), to non-human agents. The other is more psychological in nature – non-human agents can be imbued with human-like minds, such as intentions or emotions.

Anthropomorphism is largely considered to be a universal phenomenon which derives from various disciplines, including developmental psychology, social psychology, cognitive psychology, and neuroscience (Waytz et al., 2010b). Children talking to their

precious toys and people “seeing human faces” cars (Aggarwal and McGill, 2007; Landwehr, McGill, and Herrmann, 2011) are some examples of how people frequently anthropomorphize non-human beings in real life.

Anthropomorphism is often used by marketers to give a perception of life to products and brands. Many “smart” products, such as Apple’s Siri, Amazon’s Alexa, and Microsoft’s Cortana, are humanized with names and human-like voices. Similarly, each of Warby Parker’s glasses frames have human names (e.g., Harper, Hugo) and each is described in a human-like manner (e.g., “Hugo has immediate charm”; Warby Parker official website). The prevalent nature of product and agent anthropomorphism, along with its significant influence on people’s attitudes and behaviors, has recently drawn increased attention in consumer research (e.g., Aggarwal and McGill, 2007; Chandler and Schwarz, 2010; Chen, Wan, and Levy, 2017; Puzakova, Kwak, and Rocereto, 2013).

Prior literature has suggested that people anthropomorphize non-human entities through either a cognitive or a motivational route (Epley et al., 2007). The cognitive account takes the perspective that people are more likely to humanize non-human agents to the extent that human-related knowledge structures are accessible in memory. When an object or an entity has more human-like features, such as physical resemblance or apparent mental states, individuals are more likely to perceive it as human. For instance, when the hands on a watch is pointing to 10:10 or 8:20, many people perceive the watch as “smiling” or “frowning” (Labroo, Dhar, and Schwarz, 2007). Similarly, people often view the headlights and grille on cars as “eyes” and “mouth” (Landwehr et al., 2011). Researchers also found that people are more likely to attribute human-like minds, such as

intentions, conscious thought, and intelligence, to targets that move at a similar speed to humans, compared to those that are slower or faster (Morewedge, Preston and Wegner, 2007). This is due to people using readily available human schema to make inferences and judgments about non-human entities.

Research on anthropomorphism has also identified two motivation-based accounts for why people anthropomorphize non-human agents (Epley et al., 2007). First, people engage in anthropomorphism when there is a need for social connection with others (Epley, Waytz, Akalis, and Cacioppo, 2008). Need-to-belong is a fundamental and universal human motive (Baumeister and Leary, 1995) and thus people seek to restore their social connection when they are deprived of it. Being socially excluded from others or experiencing loneliness leads people to humanize non-human entities as a means to substituting interpersonal social relationships (Epley et al., 2007). For instance, researchers found that people who are chronically lonely, or temporarily made to feel lonely, rated non-human animals and gadgets as more human-like compared to those who were not lonely (Epley et al., 2008). Similar results have been found in a consumer context where people who were socially excluded reported a greater preference for anthropomorphized brands (Chen et al., 2017).

More relevant to the current research is the “effectance” motivation (White, 1959), which is “the desire to interact effectively with one’s environment by increasing comprehension...and a sense of predictability and control” (Epley et al., 2007). Humans naturally seek to understand and have control over the properties of their environments and to explain events in order to make sense of those events and predict future reactions

and behaviors. However, particularly when knowledge is limited or when there is high uncertainty or ambiguity in the environment, understanding and predicting objects' behaviors may be difficult. Hence, people tend to apply well understood human concepts, traits, and characteristics to non-human objects and events to allow people to feel that they understand and can predict the unknown and the uncertain. Interacting with anthropomorphic agents has been found to imbue people with the perception of having control over the target and the surrounding environment, when there was a need to maintain control (Waytz et al., 2010c). Indeed, these researchers found that individuals who have chronically high desire for control are more likely to anthropomorphize robots, gadgets, and animals (Waytz et al., 2010a). Similarly, in one study, researchers found participants had a greater tendency to think of a computer as having a mind when it was perceived as out of control (Waytz et al. 2010c).

HYPOTHESES AND OVERVIEW OF STUDIES

So far, I have reviewed the literature showing that privacy threats decrease consumers' perceived control over their personal data and the surrounding environment. Importantly, research on agent anthropomorphism has found that anthropomorphism can increase people's perception of control over the agent and the environment. Taking these two streams of literature together, one can predict how agent anthropomorphism may interact with privacy threats to influence consumers' concerns with the collection of their personal information.

I propose that agent anthropomorphism will alleviate the extent to which privacy threats decrease consumers' sense of control and increase concerns with information collection. Threats to privacy decrease people's perception of control over the environment, which leads to heightened concern with the collection of their personal information (Goodwin, 1991). Thus, when people experience high (vs. low) privacy threats, they are likely to perceive low control over the non-anthropomorphic agent and have greater concerns about their information being collected by the agent. However, agent anthropomorphism helps people feel in control of their surrounding environment when their effectance motivation is triggered (Waytz et al., 2010c), which should be the case when there are high threats to privacy. Therefore, it can be expected that under high privacy threats, people's perceived control over the anthropomorphic agent is less likely to decrease and thus there will be less concern with the agent collecting their personal data. The anthropomorphic nature of the agent should, in effect, alleviate people's concerns with information collection due to the increase in perceived control in the face of privacy threats.

Building on the theoretical foundation presented in the previous section, I propose that agent anthropomorphism will moderate the effect of privacy threat on consumers' concern with the agent's information collection. Specifically, I predict that:

H1: Consumers will be more concerned about data collection by a non-anthropomorphic agent under high (vs. low) privacy threat, whereas such increase will be attenuated when an anthropomorphic agent collects the information.

Furthermore, I propose that the hypothesized effects will be driven by the perception of control over the agent. Formally, I hypothesized that:

H2: The moderating effect of agent anthropomorphism on the relationship between privacy threat and consumers' concern with agent's data collection will be mediated by the perceived control over the agent.

If indeed perception of control over the agent underlies the proposed effects, changing the perceived controllability of the agents should shift people's concern with information collection, such that:

H3a: When privacy threats exist, decreasing the perception of control over the anthropomorphic agent will lead to an increase in the concern with information collection.

H3b: When privacy threats exist, increasing the perception of control over the non-anthropomorphic agent will lead to a decrease in the concern with information collection.

To test these hypotheses, I conducted four experimental studies, in addition to a pilot study. In Study 1, I manipulated privacy threat and agent anthropomorphism to examine whether the concern with data collection increases for non-anthropomorphic agents but not anthropomorphic ones. I also ran a moderated mediation analysis in the first study to find evidence for the proposed underlying mechanism. In the subsequent studies, I manipulated, rather than measured, the perception of control over the agent to provide further support for the conceptual model. In Studies 2a and 2b, perception of control over the agent was manipulated by directly mentioning how much the agent

would adhere to the participant's commands. In Study 3, agent role was manipulated as a more indirect way to alter participant's perception of control over the agent.

PILOT STUDY

A pilot study was conducted to confirm the proposition that privacy threats lower people's *general* sense of control (as opposed to control over their information). Seventy online participants (41 female, $M_{\text{age}} = 36.37$) were assigned to one of two privacy threat conditions. Participants first read an article that was intended to either direct their attention to a potential privacy threat (*high privacy threat* condition) or to a negative but non-privacy-related threat (*low privacy threat* condition). The high privacy threat article was designed to make participants think that their personal information was not as private as they thought it would be. Specifically, participants were told that sharing personal information, in general, can potentially allow unwanted others identify them and to use the information against them. On the other hand, those in the low privacy threat condition read an article that would make them question whether they were as healthy as they expected (see *Appendix*).

Afterwards, participants were asked to indicate how much they felt like they lacked control over their environment and themselves. Specifically, they rated how much they agreed with the following two statements, "What happens in my life is beyond my control" and "My autonomy can easily be taken away by others," on 7-point scales anchored at *strongly agree* (1) and *strongly disagree* (7). These items were averaged as a

measure of general sense of control ($\alpha = .73$) – lower values would indicate lack of control.

A one-way ANOVA on the control measure revealed a significant main effect of privacy threat such that those who read the article on potential privacy threats reported a lower sense of control over the self and the environment compared to those in the low privacy threat condition ($M_{\text{high-threat}} = 3.98$ vs. $M_{\text{low-threat}} = 4.63$; $F(1, 68) = 4.29, p = .04$). The results provided initial support for the proposition that privacy threat reduces people's general sense of control, which could ultimately activate their effectance motivation.

STUDY 1: THE EFFECT OF AGENT ANTHROPOMORPHISM ON THE CONCERN WITH INFORMATION COLLECTION UNDER HIGH VS. LOW PRIVACY THREAT

The purpose of Study 1 was twofold. First, I sought to test the hypotheses that (1) people will be more concerned about the collection of their personal information by a non-anthropomorphic under high (vs.) low privacy threat, but not by an anthropomorphic agent, and that (2) under high privacy threat, people's concerns will be lower when the information is collected by an anthropomorphic (vs. non-anthropomorphic) agent. To demonstrate these effects, I manipulated both the level of privacy threats and the degree of agent anthropomorphism and measured participants' concern with personal data collection by the agent.

The second goal was to test whether the proposed effects are driven by the perceived control over the agent. I predicted that, when the agent collecting their personal

data is non-anthropomorphic, people's perception of control over the agent will decrease under high privacy (vs. low) threats, but the decrease in perceived control will not be observed for the anthropomorphic agent. This difference in the perceived controllability of the agent depending on the agent's anthropomorphic nature should mediate the effect of privacy threats on consumers' concern with agent's information collection.

Method

One hundred and seventy-seven online participants (82 female, $M_{\text{age}} = 37.24$) from Amazon Mturk participated in the study for a small monetary compensation. They were randomly assigned to a condition in a 2 (Privacy Threat: High vs. Low) x 2 (Agent Anthropomorphism: Anthropomorphic vs. Non-anthropomorphic) between-subjects design. Participants were first introduced to a reading comprehension task that manipulated privacy threat. Afterwards, they engaged in a product evaluation section, in which agent anthropomorphism was manipulated.

Participants were first presented with the same articles used in the pilot study. People in the high privacy threat condition read the article on potential privacy threats, while those in the low privacy threat condition read the passage on potential health threats. After completing the first section, participants moved onto an ostensibly unrelated product evaluation task, in which a "smart" home device was described as being capable of performing various tasks, including playing music, providing weather reports, and ordering groceries. The anthropomorphism of the device was manipulated in

two ways (see *Appendix*). First, participants in the anthropomorphic agent condition saw an image of the product that appeared to have human facial features (two camera lenses positioned horizontally to resemble eyes), while those in the non-anthropomorphic agent condition saw a product that did not appear to have human-like features (i.e., two camera lenses positioned vertically). Second, the anthropomorphic product was described as having a human name (Arlo) and gender (male), and behaving like a human (e.g., “he can have a conversation with you,” “you can call Arlo by his name”), whereas the non-anthropomorphic product was described to be a machine (e.g., “it is capable of voice interaction,” “you can activate the product by using the wake word, ArloHome”).

After reading the product description, participants were asked a series of questions which measured, on 7-point scales, how concerned they would be about the agent (i.e., the product) collecting various types of personal information (personally identifying information, financial information, behavioral information, preference information, and daily conversations). The questions asked participants how “concerned,” “worried,” or “comfortable” (reverse-coded) they would be if the smart home assistant product collected each type of personal information. Before answering the question, participants were shown a brief description of each type of information to avoid any confusion. The five items were later averaged to create an index of concern with agent’s data collection and I used this index as the key dependent variable in my analysis.

I also measured how much control participants felt they had over the agent (e.g., “I would have Arlo [the product] under my control,” “I would be able to exert power over Arlo [the product],” “It would be difficult to control Arlo [the product]” (reverse-coded),

“It would be easy to control how Arlo [the product]” works) on 5-point scales. These four items were also averaged to create a measure of perceived control over the agent, which was later used as the mediating variable in the analysis. Lastly, as a manipulation check, participants rated, on 7-point scales, how concerned they were about their privacy being violated in general.

Results

Manipulation Checks.

To test whether the privacy threat manipulation was successful, I conducted a 2 x 2 ANOVA on the measure of general privacy concern. This revealed only a significant main effect of privacy threat, such that participants who read the article on the possibility of their privacy being violated reported feeling more concerned about their privacy than those who read the article on how they may not be as healthy as they thought they were ($M_{\text{HighThreat}} = 5.68$ vs. $M_{\text{LowThreat}} = 3.30$; $F(1, 173) = 67.4$, $p < .0001$). There were no other significant effects. The results of the manipulation check demonstrated that the articles were successful in threatening participants’ privacy in the high privacy threat condition only.

A separate pretest ($n = 58$) was conducted to assess whether the agent anthropomorphism manipulation used in the study was perceived differently between conditions. Participants saw either the anthropomorphic or the non-anthropomorphic version of the product image and description and evaluated how much the product

resembled humans on 5-point scales (“Arlo [The product] seems human-like,” “Arlo [The product] feels alive,” “Arlo [The product] does not have his [its] own emotions” (reverse-coded), etc.). Responses to these items were averaged ($\alpha = .84$), and, as expected, participants in the anthropomorphic agent condition rated the agent as more human-like than those in the non-anthropomorphic agent condition ($M_{Anth} = 3.06$ vs. $M_{NonAnth} = 2.46$; $F(1, 56) = 5.15, p = .03$). This confirmed that the agent anthropomorphism manipulation was successful.

Concern with Information Collection.

I created an index of “concern with agent’s data collection” by averaging the five items that measured participants’ concern about the agent collecting their personal information ($\alpha = .81$). This index was subjected to a 2 x 2 ANOVA, which revealed a marginally significant main effect of privacy threat ($F(1, 173) = 2.78, p = .10$). On average, participants in the high privacy threat condition were more concerned about the agent collecting their personal information than those in the low privacy threat condition ($M_{HighThreat} = 4.83$ vs. $M_{LowThreat} = 4.50$).

More importantly, however, there was a marginally significant interaction in which the effect of privacy threat on concern with agent’s data collection was moderated by agent anthropomorphism ($F(1, 173) = 3.54, p = .06$). Specifically, people’s concern with information collection by a non-anthropomorphic agent increased under high (vs. low) privacy threat ($M_{NonAnth-HighThreat} = 5.14$ vs. $M_{NonAnth-LowThreat} = 4.44$; $F(1, 173) = 6.09$,

$p = .01$), while the level of concern with data collection by an anthropomorphic agent remained the same regardless of privacy threat ($M_{Anth-HighThreat} = 4.52$ vs. $M_{Anth-LowThreat} = 4.56$; $F < 1$, NS). Alternatively, under low privacy threat, there was no difference in the level of concern with information collection regardless of whether the agent was anthropomorphic or not ($M_{LowThreat-Anth} = 4.56$ vs. $M_{LowThreat-NonAnth} = 4.44$; $F < 1$, NS). However, when privacy threat was high, the agent's human resemblance altered participants' concern with information collection, such that people were less concerned with the data collection by an anthropomorphic agent than a non-anthropomorphic one ($M_{HighThreat-Anth} = 4.52$ vs. $M_{HighThreat-NonAnth} = 5.14$; $F(1, 173) = 5.2, p = .02$).

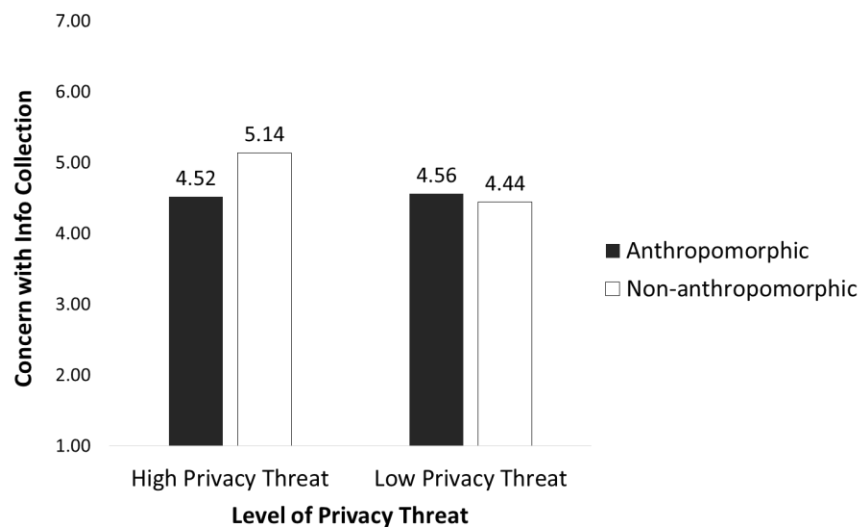


Figure 9. Privacy Threat x Agent Anthropomorphism Interaction Effect on Concern with Information Collection (Study 1)

Perceived Control over Agent.

Four items measuring participants' perceived control over the agent were averaged to create an index ($\alpha = .83$), which was used as the mediating variable in the analysis. While there was no significant main effect of privacy threat on the measure of perceived control over the agent, there was a significant two-way interaction ($F(1, 173) = 3.92, p = .05$). Participants' sense of control over the non-anthropomorphic agent significantly decreased when there was a high (vs. low) threat to privacy ($M_{\text{NonAnth-HighThreat}} = 3.20$ vs. $M_{\text{NonAnth-LowThreat}} = 3.64; F(1, 173) = 4.49, p = .04$), while it remained the same for the anthropomorphic agent regardless of the level of privacy threat ($M_{\text{Anth-HighThreat}} = 3.66$ vs. $M_{\text{Anth-LowThreat}} = 3.53; F < 1, \text{NS}$). Additionally, whereas there was no significant difference in the perceived control over the anthropomorphic vs. non-anthropomorphic agent for those who did not experience a privacy threat ($M_{\text{LowThreat-Anth}} = 3.53$ vs. $M_{\text{LowThreat-NonAnth}} = 3.64; F < 1, \text{NS}$), people reported feeling greater control over the anthropomorphic (vs. non-anthropomorphic) agent when there was a high threat to privacy ($M_{\text{HighThreat-Anth}} = 3.66$ vs. $M_{\text{HighThreat-NonAnth}} = 3.20; F(1, 173) = 5.22, p = .02$).

Using this measure of perceived control over agent as the mediator, I conducted a mediation analysis using the bootstrapping methods (PROCESS Model 8; Hayes, 2013). Privacy threat was the independent variable, agent anthropomorphism was the moderator, perceived control over the agent as the mediator, and the concern with agent's data collection was the dependent variable in the analysis. Results confirmed a significant moderated mediation ($b = -.20, SE = .10, 95\% \text{ CI: } -.42, -.01$). More specifically, perceived control over the agent mediated the effect of privacy threat on concern with

agent's data collection when the agent was non-anthropomorphic ($b = .15$, $SE = .08$, 95% CI: .01, .33), but not when it was anthropomorphic ($b = -.05$, $SE = .06$, 95% CI: -.18, .78).

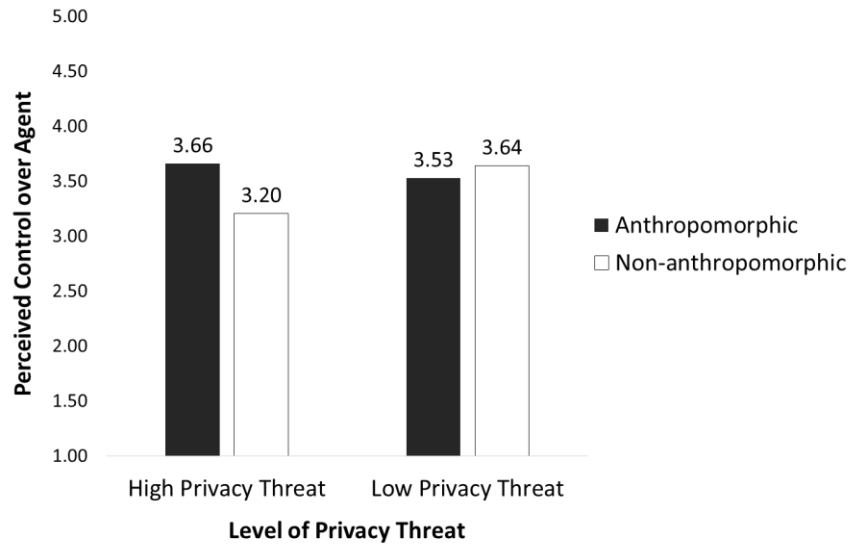


Figure 10. Privacy Threat x Agent Anthropomorphism Interaction Effect on Perceived Control over Agent (Study 1)

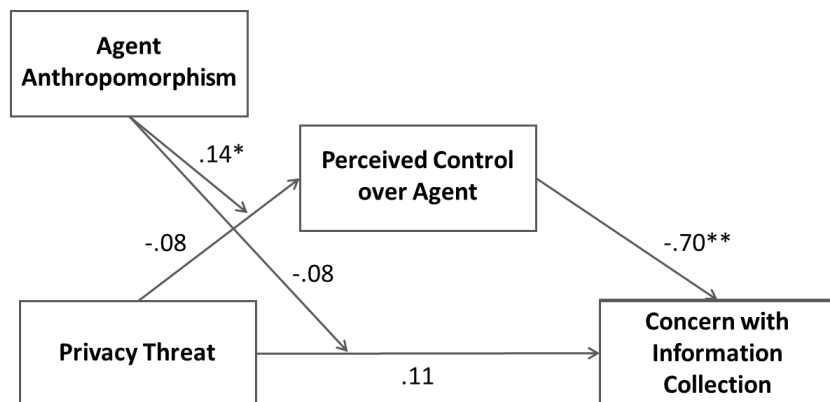


Figure 11. Moderated Mediation Model (Study 1)

Discussion

Study 1 provided initial support for my theory that people's concern with an agent's information collection will be influenced by privacy threat and agent anthropomorphism. Specifically, the results demonstrated that the increase in concern due to high privacy threat was only true for those who were told that their personal data was being collected by a non-anthropomorphic agent. When participants thought that an anthropomorphic agent would be collecting their information, privacy threat no longer heightened their concern with the data collection. Moreover, for those who experienced high privacy threats, agent anthropomorphism alleviated the negative effect of privacy threats such that concern with data collection was lower when the agent collecting the information was anthropomorphic (vs. non-anthropomorphic).

In addition, the results demonstrated that the proposed effects were indeed driven by people's perception of control over the agent. The findings suggest people's sense of control over the agent decreases only when the agent who is collecting the personal data is non-anthropomorphic, which leads to a heightened concern with sharing the information. Threats to privacy did not negatively influence participants' perception of control over the anthropomorphic agent nor did it increase their concern with the anthropomorphic agent's collection of personal information.

The findings of Study 1 provide evidence that, when the people experience high threats to privacy, their sense of control over agent decreases when the agent is non-human-like but this is attenuated when the agent has human-like features. This is consistent with prior work that argues that anthropomorphizing a non-human agent is one

way to satisfy people's effectance motivation (Waytz et al. 2010b). Such differences in the agent's perceived controllability was what led to changes in people's concern with sharing their personal data. In the subsequent studies, I aimed to provide further support to my proposed conceptual model by changing the perceived controllability of the agents, rather than measuring participants' perception of control over the agents.

STUDY 2: THE EFFECT OF AGENT'S CONTROLLABILITY ON CONCERN WITH ANTHROPOMORPHIC VS. NON-ANTHROPOMORPHIC AGENT'S INFORMATION COLLECTION

In Study 2, I sought to provide further process evidence to my proposed effects by directly manipulating the perceived controllability of the agents. In the previous study, I found that when privacy was threatened, that perceptions of control decreased for the non-anthropomorphic agent, but there was no decrease for an anthropomorphic agent. If anthropomorphizing an agent makes it seem more controllable (i.e., less *uncontrollable*) and this reduces the concern with information collection even under high privacy threats, then an agent described to be highly controllable should also yield a similar effect, regardless of whether it is anthropomorphic or not. To test this notion, I conducted two studies. First, Study 2a directly manipulated the perceived controllability of the agent and examined its effect on the concern with anthropomorphic vs. non-anthropomorphic agent's concern with information collection under both high and low privacy threat. In Study 2b, I took a look at the direction of the effects by adding a baseline control condition in which there was no mention of the perceived controllability of the agent, and

examined the high privacy threat condition only as the hypothesized effects were expected to occur under high privacy threat. Also, in addition to participants' concern with information collection, their willingness to disclose their personal information was also measured to see if there would be any downstream consequences of the concern.

STUDY 2A

Study 2a examined the effect of agent controllability on the concern with anthropomorphic vs. non-anthropomorphic agent's information collection under both high and low privacy threat. I predicted that there would only be main effects of privacy threat and agent's controllability where people's concern with the agent's information collection increases with high (vs. low) threats to privacy and low (vs. high) perceived controllability of the agents.

Method

Three hundred and twenty-seven Mturk participants (158 females, $M_{age} = 38.36$) participated in an online study for a monetary reward. They were randomly assigned to a condition in a 2 (Privacy Threat: High vs. Low) x 2 (Agent Anthropomorphism: Anthropomorphic vs. Non-Anthropomorphic) x 2 (Agent Controllability: Controllable vs. Uncontrollable) between-subjects design.

The first section of the study involved the same privacy threat manipulation used in the Pilot Study and Study 1 and then participants moved onto the subsequent product evaluation task, in which the manipulations for agent anthropomorphism and agent controllability took place. The same agent anthropomorphism manipulation from Study 1 was used again and, this time, the product description also included a short paragraph about how controllable the agent is (see *Appendix*). Participants in the controllable agent condition learned that the smart assistant product lacked autonomy and that it would be obedient, strictly following the user's commands. In the uncontrollable agent condition, participants were told that the device can make autonomous decisions and may not be compliant, with the possibility of rejecting the user's orders.

After being exposed to the product description, participants indicated, on 7-point scales, how concerned they would be if the agent collected their personal information. Again, the same five measures from Study 1 were used and later averaged to be used in the analysis. Additionally, as a check for the agent controllability manipulation, I also asked the participants to rate how subservient or compliant the agent seemed to be ("Arlo [the product] may disobey me" (reverse-coded), "Arlo [the product] is subservient") and how much control the agent had over itself ("Arlo [the product] has freedom to control his [its] own actions," "Arlo [the product] can operate without direct human control"), which was later reverse-coded for analysis purposes. All items were measured on 5-point scales anchored at *strongly disagree* (1) and *strongly agree* (5) and were intended as an indirect way to measure how controllable the agent was perceived to be.

Results

Manipulation Checks.

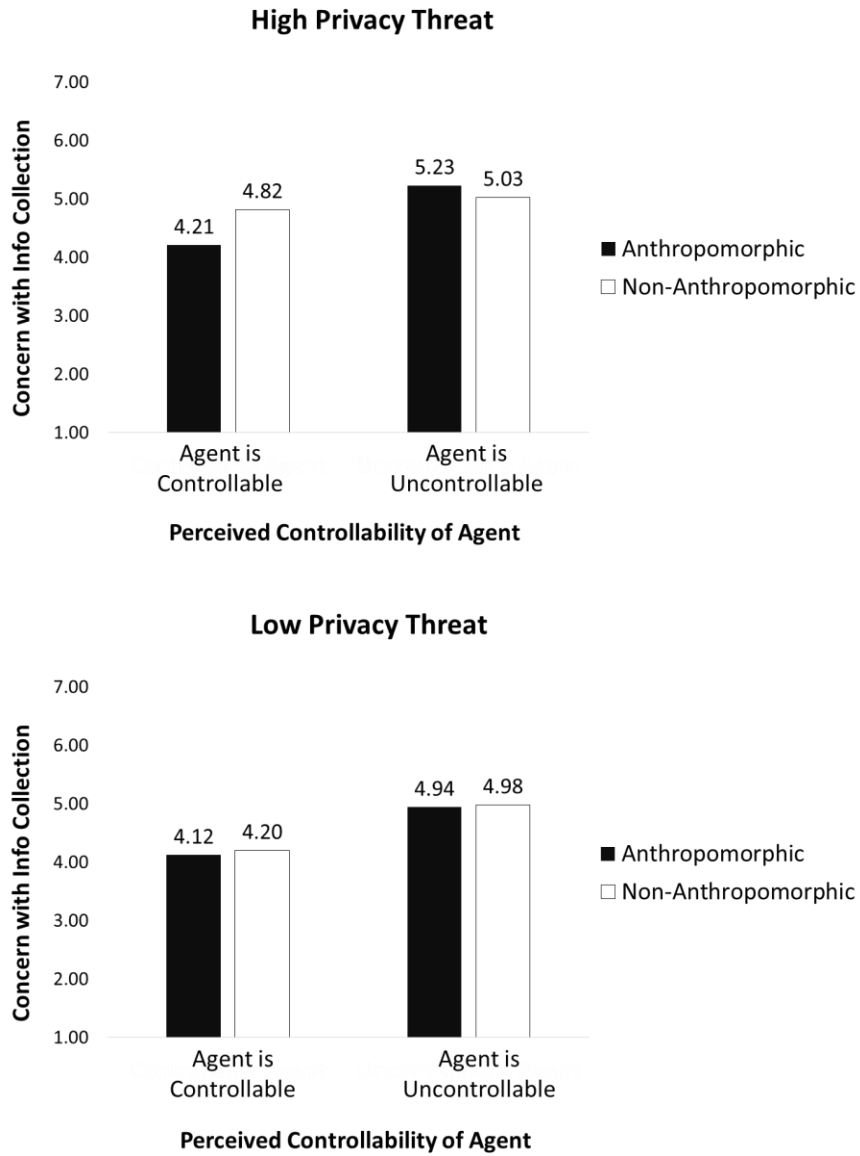
To test whether the agent controllability manipulation was successful, I first reverse-coded the two items that measured how much control the agent seemed to have over itself. Then, I averaged the four items to create an index of the agent's perceived controllability ($\alpha = .88$). I then conducted a 2 x 2 x 2 ANOVA on the measure, which revealed only a significant main effect of agent controllability ($F(1, 319) = 110.9, p < .0001$). Participants who learned that the agent may not follow orders believed that the agent was less controllable than those who were told that the agent would always be compliant ($M_{\text{Uncontrollable}} = 2.43$ vs. $M_{\text{Controllable}} = 3.66$). There were no other significant effects.

Concern with Information Collection.

The five items that measured participants' concern with agent's information collection were again averaged as an index of "concern with agent's data collection" ($\alpha = .76$). This index was subjected to a 2 x 2 x 2 ANOVA, which revealed two significant main effects. First, as expected, there was a marginally significant effect of privacy threat on people's concerns such that those in the high (vs. low) privacy threat condition reported feeling greater concern about their personal data being collected ($M_{\text{HighThreat}} = 4.85$ vs. $M_{\text{LowThreat}} = 4.59; F(1, 319) = 3.66, p = .06$). There was also a significant main effect of agent controllability where participants were more concerned about the

collection of their personal data by an uncontrollable agent than a controllable agent ($M_{\text{Uncontrollable}} = 5.03$ vs. $M_{\text{Controllable}} = 4.41$; $F(1, 319) = 27.1, p < .0001$). There were no other significant effects.

While the two significant main effects confirmed my expectation, I examined the simple effects of the non-significant three-way interaction ($F(1, 319) = 1.98, p = .16$) for exploratory purposes. Within the low privacy threat condition, there was only a significant main effect of agent controllability where participants reported greater concerns with the data collection by an uncontrollable (vs. controllable) agent ($M_{\text{LowThreat-Uncontrollable}} = 4.96$ vs. $M_{\text{LowThreat-Controllable}} = 4.16$; $F(1, 319) = 17.51, p < .0001$). However, within the high privacy threat condition, the main effect of agent controllability ($F(1, 319) = 10.13, p = .002$) was qualified by a significant agent anthropomorphism x agent controllability interaction ($F(1, 319) = 4.41, p = .04$). For participants who experienced high threats to privacy, an anthropomorphic agent who was perceived to be uncontrollable (vs. controllable) created significantly greater concern with sharing their personal data ($M_{\text{HighThreat-Anth-Uncontrollable}} = 5.23$ vs. $M_{\text{HighThreat-Anth-Controllable}} = 4.21$; $F(1, 319) = 11.65, p = .0007$). However, when a non-anthropomorphic agent was collecting the personal information, such difference was not observed ($M_{\text{HighThreat-NonAnth-Uncontrollable}} = 5.03$ vs. $M_{\text{HighThreat-NonAnth-Controllable}} = 4.82$; $F < 1, \text{NS}$).



Figures 12. Agent Anthropomorphism x Agent Controllability Effects on Concern with Information Collection under High vs. Low Privacy Threats (Study 2a)

Discussion

Study 2a provided further evidence that perception of control over the agent is the driving force in my conceptual model. Compared to the results of Study 1, the results of Study 2a showed no interactive effect of privacy threat and agent anthropomorphism on concerns with information collection; only threats to privacy and the perceived controllability of the agent individually influenced how concerned people were about the prospect of sharing their information. Examining the simple effects of the non-significant three-way interaction for exploratory purposes, it was found that, when the perceived controllability of the agent was stripped away, the anthropomorphic agent no longer alleviated people's concern with their information being collected, even under high privacy threat. Although it was expected that increasing the perceived controllability of the non-anthropomorphic agent would have the opposite effect – that it would reduce people's concern with sharing their personal information under high privacy threat – there was no difference in the level of concern between a controllable vs. uncontrollable agent.

STUDY 2B

Study 2b was intended to take a closer look at the directional effects of agent's controllability within the high privacy threat condition. To demonstrate that the agent's controllability is indeed mitigating the effect of agent anthropomorphism on people's concern with information collection, I included a baseline control condition in which participants did not receive any information about the controllability of the agent. This mirrored the design in Study 1 in which agent controllability was not manipulated.

Method

Two hundred and thirty-four individuals (105 females, $M_{\text{age}} = 36.15$) from Amazon Mturk participated in Study 2b. They were randomly assigned to a condition in a 2 (Agent Anthropomorphism: Anthropomorphic vs. Non-Anthropomorphic) x 3 (Agent Controllability: Controllable vs. Uncontrollable vs. Baseline) between-subjects design.

All participants first read the high privacy threat article that was used in previous studies and then engaged in the product evaluation task in which they were introduced to the smart assistant product. The same agent anthropomorphism and agent controllability manipulations were used again, but this time, there were two baseline conditions in which participants were not told about how controllable or subservient the agent was. That is, as in Study 1, participants read the descriptions about the human-like or non-human-like product, depending on condition, without any information on its controllability.

Concern with the agent's information collection was measured on 7-point scales again, using the same five items from previous studies. Subsequent to the concern measure, I asked participants to indicate how much they would be willing to share each type of personal information with the agent. These items were also measured on 7-point scales, anchored at *not at all willing to share* (1) and *extremely willing to share* (7), and were later averaged to form a self-disclosure intention index. Before completing the study, participants were asked to rate, on 5-point scales, the agent on how subservient and controllable it appeared to be.

Results

Manipulation Checks.

I subjected the index of agent's perceived controllability ($\alpha = .71$) to a 2 x 3 ANOVA and found a significant main effect of agent controllability ($F(2, 228) = 30.39, p < .0001$). Participants who read the description of a controllable agent indeed perceived the agent as more controllable than those who learned about the potentially defiant agent ($M_{\text{Controllable}} = 3.43$ vs. $M_{\text{Uncontrollable}} = 2.40; F(1, 228) = 60.45, p < .0001$). The ratings for participants who had not received any information on how subservient or controllable the agent fell between those of the other two conditions ($M_{\text{Baseline}} = 3.06$) and was significantly different from both (both p 's $< .01$). There were no other significant effects. The results confirmed that the agent controllability manipulation was successful again.

Concern with Information Collection.

A 2 x 3 ANOVA on the index of "concern with agent's data collection" ($\alpha = .73$) revealed a significant main effect of agent controllability such that participants were least concerned with their information being collected by a controllable agent ($M_{\text{Controllable}} = 4.54$ vs. $M_{\text{Uncontrollable}} = 5.13$ vs. $M_{\text{Baseline}} = 4.90; F(2, 228) = 60.45, p < .0001$). More importantly, however, this main effect was qualified by a marginally significant two-way interaction ($F(2, 228) = 2.90, p = .06$).

First, for participants who did not receive any information about the controllability of the agent, there was a significant difference in the level of concern with

data collection such that anthropomorphic (vs. non-anthropomorphic) agents raised marginally less concern ($M_{\text{Anth-Baseline}} = 4.68$ vs. $M_{\text{NonAnth-Baseline}} = 5.16$; $F(1, 228) = 3.04$, $p = .08$), replicating the effects found in the high privacy threat condition of Study 1. However, as expected, this difference disappeared when the agents were told to be highly controllable ($M_{\text{Anth-Controllable}} = 4.46$ vs. $M_{\text{NonAnth-Controllable}} = 4.65$; $F < 1$, NS). This was also true when the agent collecting the information was described to be uncontrollable such that there was no difference in participants' concern with sharing data regardless of whether the agent was anthropomorphic or not ($M_{\text{Anth-Uncontrollable}} = 5.33$ vs. $M_{\text{NonAnth-Uncontrollable}} = 4.90$; $F(1, 228) = 2.52$, NS).

I also examined the direction of the effects. The results indicated that heightening the controllability of the non-anthropomorphic agent reduced participants' concern to the baseline level ($M_{\text{NonAnth-Controllable}} = 4.65$ vs. $M_{\text{NonAnth-Baseline}} = 5.16$; $F(1, 228) = 3.42$, $p = .07$), while describing the anthropomorphic agent as being uncontrollable significantly heightened participants' concern ($M_{\text{Anth-Uncontrollable}} = 5.33$ vs. $M_{\text{Anth-Baseline}} = 4.68$; $F(1, 228) = 6.06$, $p = .01$). Meanwhile, concern with the anthropomorphic agent's data collection remained the same as the baseline even when the agent was described to be highly controllable ($M_{\text{Anth-Baseline}} = 4.68$ vs. $M_{\text{Anth-Controllable}} = 4.46$; $F < 1$, NS), while there was also no difference in the concern with a non-anthropomorphic agent's data collection between the baseline condition and the uncontrollable agent condition ($M_{\text{NonAnth-Baseline}} = 5.16$ vs. $M_{\text{NonAnth-Uncontrollable}} = 4.90$; $F < 1$, NS).

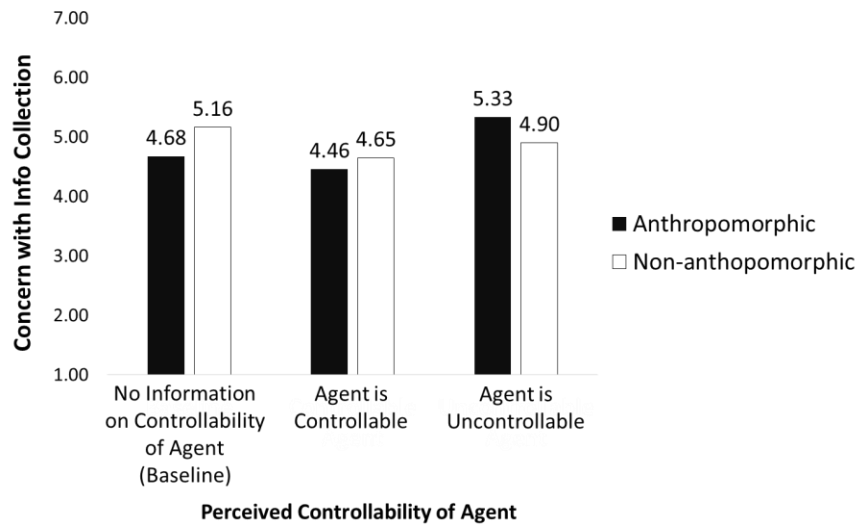


Figure 13. Agent Anthropomorphism x Agent Controllability Effects on Concern with Information Collection under High Privacy Threats (Study 2b)

Willingness to Disclose Information.

A 2 x 3 ANOVA on the index of “willingness to disclose personal information” ($\alpha = .73$) was conducted. While there was a significant two-way interaction effect ($F(2, 228) = 3.77, p = .02$), the pattern was not as predicted. Simple effects found that, unlike the “concern” measure, there was no difference in people’s willingness to share their information when participants were not informed about the agent’s controllability (i.e., baseline condition; $M_{Anth-Baseline} = 3.49$ vs. $M_{NonAnth-Baseline} = 3.10; F(1, 228) = 1.35, NS$). However, when the agent was described to be uncontrollable, people’s willingness to share their information with an anthropomorphic (vs. non-anthropomorphic) agent was

significantly lower ($M_{\text{Anth-Uncontrollable}} = 2.96$ vs. $M_{\text{NonAnth-Uncontrollable}} = 3.75$; $F(1, 228) = 6.18$, $p = .01$), a result that is consistent with the non-significant pattern in the “concern” index. As expected, there was a lack of difference between the willingness to disclose to an anthropomorphic (vs. non-anthropomorphic) agent when it was described as highly controllable ($M_{\text{Anth-Controllable}} = 3.50$ vs. $M_{\text{NonAnth-Controllable}} = 3.36$; $F < 1$, NS).

Directionally, describing the anthropomorphic agent as uncontrollable (vs. baseline) marginally reduced participants’ willingness to disclose their personal information ($M_{\text{Anth-Baseline}} = 3.49$ vs. $M_{\text{Anth-Uncontrollable}} = 2.96$; $F(1, 228) = 2.82$, $p = .09$), while describing the non-anthropomorphic agent as controllable (vs. baseline) did not increase people’s disclosure intentions ($M_{\text{NonAnth-Baseline}} = 3.10$ vs. $M_{\text{NonAnth-Controllable}} = 3.36$; $F < 1$, NS). There was an unexpected increase participants’ willingness to share their information with a non-anthropomorphic agent when it was described to be uncontrollable (vs. baseline; $M_{\text{NonAnth-Baseline}} = 3.10$ vs. $M_{\text{NonAnth-Uncontrollable}} = 3.75$; $F(1, 228) = 3.73$, $p = .05$).

I conducted a moderated mediation analysis to examine whether the interactive effect of agent anthropomorphism and agent controllability on participants’ willingness to disclose information was mediated by their concern with sharing the information. Using Model 8 in the PROCESS macro (Hayes, 2013), I ran the moderated mediation analysis with agent anthropomorphism as the independent variable, agent controllability as the moderator, concern with information collection as the mediating factor, and the disclosure intention measure as the dependent variable. Unsurprisingly, given the effect

on willingness to disclose, there was no significant mediated moderation, with the 95% confidence interval including 0 ($b = -.12$, $SE = .15$, 95% CI: $-.04, .18$).

Discussion

In Study 2b, I found further support for the evidence that the agent's controllability, or the resulting perceived control over the agent, drives the role of agent anthropomorphism in the relationship between privacy threat and consumers' concern with information collection.

First, in the baseline control condition, I replicated the results found in Study 1 where, under high privacy threat, participants were less concerned with the anthropomorphic (vs. non-anthropomorphic) agent's information collection behavior. This difference disappeared when the agent was described as highly controllable or uncontrollable. The inclusion of a baseline control condition, in which participants were not explicitly informed about the controllability of the agent was, also allowed me to demonstrate the directional effects of agent controllability. Specifically, I found that depriving the controllability of anthropomorphic agents increased people's concern with sharing their information, while imbuing controllability to a non-human-like agent decreased people's concern with the collection of their personal data.

Study 2a provided further evidence that perception of control over the agent is the driving force in my conceptual model. The results found that changing the perceived controllability of the agent wiped out the interactive effect of privacy threat and agent

anthropomorphism on concerns with information collection, such that only threats to privacy and the perceived controllability of the agent individually influenced how concerned people were about the prospect of sharing their information. When the perceived controllability of the agent was reduced, the anthropomorphic agent no longer alleviated people's concern with their information being collected, even under high privacy threat. Although it was expected that increasing the perceived controllability of the non-anthropomorphic agent would have the opposite effect – that it would reduce people's concern with sharing their personal information under high privacy threat – there was no difference in the level of concern between a controllable vs. uncontrollable agent.

Unfortunately, although I predicted that the concern with agent's information collection will lead to participants' willingness to disclose information, this was not the case. Contrary to my predictions, participants' disclosure intentions (1) remained the same within the baseline control condition regardless of whether the agent was human-like or not and (2) were significantly higher towards an uncontrollable non-anthropomorphic (vs. anthropomorphic) agent. Moreover, people reported greater intentions to share their personal data with an uncontrollable (vs. controllable) non-anthropomorphic agent.

STUDY 3: THE MODERATING EFFECT OF BRAND ROLE ON CONCERN WITH ANTHROPOMORPHIC VS. NON-ANTHROPOMORPHIC AGENT'S CONCERN WITH INFORMATION COLLECTION

In Study 3, I sought to provide further support for my conceptual model by exploring a different way to signal the controllability of the agent – namely, the role that the agent plays in its relationship with consumers. Literature in the consumer-brand relationships showed that brands can take on certain roles in their relationships with customers and the roles that they take on can influence how they are perceived (e.g., Aggarwal and McGill, 2007; Fournier, 1998; Kim and Kramer, 2015; Lin and Huang, 2018). For instance, brands that are portrayed as “partners” tend to be seen as more supportive and trustworthy (Paulssen and Fournier, 2007), while “servant” brands tend to be perceived to be easier to dominate by certain consumers (Kim and Kramer, 2015). While not as common in the marketplace, superior brand roles, such as that of a “master,” have also been examined by researchers (Lin and Huang, 2018).

I manipulated the role of the agent – servant vs. master – as an indirect way of altering people’s perception of control over the agent. Specifically, I predicted that the results for the servant-like agent would be similar to that of the high agent controllability condition in Study 2b, since servant-like agents would be perceived to be more controllable regardless of its human resemblance. I also expected that the results for the master-like agent would be similar to that of the low agent controllability condition in Study 2b, as master-like agents would be perceived to be less controllable for both anthropomorphic and non-anthropomorphic agents. For the baseline control condition, in which agent role was not specified, the main effect of agent anthropomorphism was

expected to be replicated such that individuals will feel less concerned about the anthropomorphic (vs. non-anthropomorphic) agent's data collection. In order to demonstrate the generalizability of the effects across different product categories, a third factor of product category was also included in the study design.

Method

Three hundred and ninety-six Mturk participants (201 females, $M_{\text{age}} = 38.27$) were involved in Study 3. They were randomly assigned to a condition in a 2 (Agent Anthropomorphism: Anthropomorphic vs. Non-Anthropomorphic) x 3 (Agent Role: Servant vs. Master vs. Neutral) x 2 (Product Category: Smart Home Assistant vs. Smart Home Security) between-subjects design. The third factor – product category – was intended as a replicate factor. Similar to Study 2b, there was only a high privacy threat condition.

After reading the news article intended to raise privacy threats, participants were exposed to a description of either a smart home assistant device or a smart home security device. The products were described to be human-like or non-human-like, depending on condition (see *Appendix*). Subsequent to the agent anthropomorphism manipulation, participants were told that the marketing manager needed help in coming up with a tagline for the product. Their task was to rank the three potential tagline candidates. Unbeknownst to the participants, this was actually a manipulation of the agent role. Depending on the assigned condition, all of the taglines implied that the agent (i.e.,

product) was servant-like or master-like (see *Appendix*). For instance, participants in the servant agent condition saw taglines such as “Arlo [the product]. Works for you. Taking care of what’s important to you” and “Ready to serve your home whenever you need.” On the other hand, participants in the master agent condition saw taglines such as “Arlo [the product]. Taking charge to take care of what’s important to you” and “Ready to take control of your home.” Those in the neutral agent condition did not engage in the tagline ranking task.

To make the measures more relevant for both the home assistant product and home security product, concern with agent’s information collection was measured using three items (collection of personally identifying information, behavioral information, and daily conversation information) on 7-point scales. As a manipulation check for the agent role manipulation, participants were also asked to indicate, on 5-point scales, how obedient the agent was perceived to be.

Results

Manipulation Checks.

To examine whether the agent role manipulation was successful in changing participants’ beliefs about the controllability of the agent, two items measuring the agent’s perceived obedience was averaged ($\alpha = .84$) and subjected to a 2 x 3 x 2 ANOVA.

First, there was a significant main effect of agent role ($F(2, 384) = 4.17, p = .02$). Servant agents were perceived to be more obedient and thus controllable, compared to agents who weren't given a specific role (i.e., neutral agent; $M_{\text{Servant}} = 3.59$ vs. $M_{\text{Neutral}} = 3.37$; $F(1, 384) = 4.12, p = .04$) and also compared to master agents ($M_{\text{Servant}} = 3.59$ vs. $M_{\text{Master}} = 3.31$; $F(1, 384) = 7.60, p = .006$). Unfortunately, there was no difference in the perceived obedience of master agents compared to agents without a certain role ($M_{\text{Master}} = 3.31$ vs. $M_{\text{Neutral}} = 3.37$; $F < 1$, NS).

There was also a significant main effect of agent anthropomorphism, in which anthropomorphic (vs. non-anthropomorphic) agents were perceived to be more obedient and controllable in general ($M_{\text{Anth}} = 3.59$ vs. $M_{\text{NonAnth}} = 3.27$; $F(1, 384) = 13.35, p = .0003$). This is consistent with my theory that, under high privacy threat when the effectance motivation is triggered, anthropomorphic agents will be perceived as more controllable. There were no other significant effects.

Concern with Information Collection.

The three items measuring people's concern with agent's information collection were averaged as an index ($\alpha = .66$) and used as the dependent variable in the analysis. A $2 \times 3 \times 2$ ANOVA on the measure revealed only main effects of agent anthropomorphism ($F(1, 384) = 7.95, p = .005$) and agent role ($F(2, 384) = 5.05, p = .007$). As the product category factor was intended as a replicate factor and did not have any effect on the dependent measure, I collapsed the two conditions in the rest of the analysis. A 2×3

ANOVA on the concern measure also yielded main effects of agent anthropomorphism ($F(1, 390) = 7.62, p = .006$) and agent role ($F(2, 390) = 4.58, p = .01$). On average, participants felt less concern with the anthropomorphic (vs. non-anthropomorphic) agents' information collection ($M_{Anth} = 4.70$ vs. $M_{NonAnth} = 5.03$). A closer look at the main effect of agent role also found that concern with sharing information with a servant agent was, on average, lower than the concern with a master agent's data collection ($M_{Servant} = 4.65$ vs. $M_{Master} = 5.09; F(1, 390) = 9.98, p = .002$). The concern with sharing information was also marginally higher for a master (vs. neutral) agent ($M_{Master} = 5.09$ vs. $M_{Neutral} = 4.83; F(1, 390) = 3.05, p = .08$). There was no significant difference in the level of concern with information collection between the servant agent condition and the neutral agent condition ($M_{Servant} = 4.65$ vs. $M_{Neutral} = 4.83; F(1, 390) = 1.3, NS$).

While there was no significant agent anthropomorphism x agent role interaction ($F(2, 390) = 1.03, NS$), I examined the simple effects of the non-significant two-way interaction for exploratory reasons. When the agent's role was not specified, the concern with information collection was marginally higher when the agent was non-anthropomorphic (vs. anthropomorphic; $M_{Anth-Neutral} = 4.61$ vs. $M_{NonAnth-Neutral} = 5.05; F(1, 390) = 3.04, p = .08$). This pattern was consistent with the results from the previous studies. This difference between human-like and non-human-like agent no longer existed when the agent was perceived to take on a master role ($M_{Anth-Master} = 5.04$ vs. $M_{NonAnth-Master} = 5.15; F < 1, NS$). This result mirrored the effect found for uncontrollable agents in the previous study. Moreover, positioning the anthropomorphic agent as a master (vs. neutral agent) increased people's concern ($M_{Anth-Master} = 5.04$ vs. $M_{Anth-Neutral} = 4.61; F(1,$

390) = 3.48, $p = .06$), just as describing the human-like agent as highly uncontrollable in Study 2b raised people's concerns.

While it was expected that participants' concern with information collection to a servant agent will be the same regardless of whether the agent has human-like qualities or not, there was a significant difference within the servant agent condition such that people's concern with sharing their information with an anthropomorphic (vs. non-anthropomorphic) agent was lower when the agent was positioned as a servant ($M_{\text{Anth-Servant}} = 4.38$ vs. $M_{\text{NonAnth-Servant}} = 4.91$; $F(1, 390) = 6.06$, $p = .01$). Contrary to the prediction that the level of concern for a non-anthropomorphic agent will decrease if the agent was positioned as a servant (vs. neutral agent), as was the case for the non-human-like agent described as highly controllable in Study 2b, there was no significant decrease in people's concern with data collection ($M_{\text{NonAnth-Servant}} = 4.91$ vs. $M_{\text{NonAnth-Neutral}} = 5.05$; $F < 1$, NS).

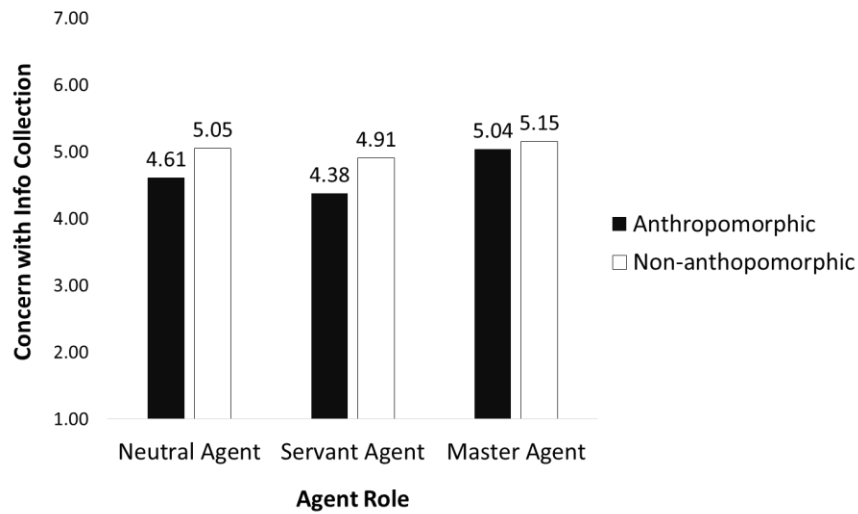


Figure 14: Main Effects of Agent Anthropomorphism and Agent Role on Concern with Information Collection under High Privacy Threats (Study 3)

Discussion

The results of Study 3 provided further evidence for my proposed conceptual model that perception of control over the anthropomorphic (vs. non-anthropomorphic) agent leads to a lower concern with the agent’s information collection under high threats to privacy. Rather than directly manipulating the perception of agent’s controllability, as was done in Studies 2a and 2b, the controllability of the agent was implied through the role that it took in its relationship with consumers. The manipulation checks demonstrated that servant (vs. master) brands were perceived to be more obedient and thus controllable. Additionally, it is notable that anthropomorphic agents, on average, were perceived to be more controllable regardless of the agent’s role. This result is

meaningful in that it is consistent with my theory that the perception of control over anthropomorphic (vs. non-anthropomorphic) agents is heightened when the effectance motivation is activated (i.e., under high privacy threats).

As for the main dependent measure, the results confirmed that, under high privacy threat, information collection by an anthropomorphic (vs. non-anthropomorphic) agent is less worrisome and that reducing the agent's perceived controllability through the role it plays (i.e., master) in its relationship with consumers can also heighten people's concerns in general. While the agent anthropomorphism x agent role interaction was not significant, the pattern of results was somewhat similar to the results found in Study 2b. This study also allowed me to generalize the results as an alternative product category (i.e., security device) was also used in the study.

GENERAL DISCUSSION

In this research, I explored the moderating role of agent anthropomorphism in the relationship between privacy threat and consumers' concern with information collection. Across one pilot test and four studies, I provided evidence that (1) the effect of privacy threat on consumers' concern with information collection depending on whether the agent collecting the information is anthropomorphic (vs. non-anthropomorphic) and that (2) this difference is driven by the perception of control over the agent.

The pilot study first confirmed the proposition that privacy threat lowers people's general sense of control over the self and the environment. Such decrease in control

should then activate the effectance motivation which would lead people to view anthropomorphic agents in a more positive light (i.e., more controllable) compared to non-human-like agents. Throughout the studies, I sought to find support for the proposed theoretical model in which the perception of control over the agent drives the interactive effect of privacy threat and agent anthropomorphism on people's concern with information collection. Study 1 found initial support for my theoretical model, by showing that agent anthropomorphism alleviated the negative effect of privacy threat on concern with information collection and that this interactive effect was mediated by participants' perception of control over the agent. In Studies 2a and 2b, perceived controllability of the agent was manipulated, rather than measured, to provide further evidence of the underlying mechanism. It was generally found that, when privacy threat was high, stripping away the anthropomorphic agent's controllability raised participants' concern up to the baseline level, while enhancing the non-anthropomorphic agent's controllability reduced their concern down to the baseline level. In the final study, I shifted the perception of the agent's controllability in a more indirect manner, by manipulating the agent's role in its relationship with consumers. Similar to the results found in Study 2b, an anthropomorphic agent in the role of a master increased people's concern with data collection. Unfortunately, however, a non-anthropomorphic agent in the role of a servant did not reduce people's concern to the neutral level.

While I consistently found that participants' concern with sharing their information was lower for anthropomorphic (vs. non-anthropomorphic) agents under high threats to privacy when there were no other descriptions of the agent's characteristics

(i.e., controllability, role), not all studies provided the strongest possible support for all of the hypotheses. For example, the main hypothesis that people's concern with the agent's information collection will be greater under high (vs. low) privacy threat for non-anthropomorphic agents but that such effect would be attenuated for anthropomorphic agents were tested and supported in Study 1 and Study 2a. The prediction that the difference in perceived control over the agent would account for such effects was also supported in Study 1 through a mediation analysis. Study 2b also successfully showed that heightening the controllability of a non-anthropomorphic agent reduced participant's concern, even to the level of concern experienced by those interacting with an anthropomorphic agent, while describing the anthropomorphic agent as being uncontrollable significantly heightened people's concerns.

Although the results of Studies 1, 2a, and 2b were as hypothesized, however, there were some unexpected patterns and non-significant interaction effects that in Studies 2a and 3 that warrant further discussion. In examining the non-significant interaction for exploratory purposes, it was found that the patterns within the high privacy threat condition were not quite as expected. While it was initially thought that the describing the non-anthropomorphic agent as controllable in Study 2a would alleviate people's concern with information collection, it did not. A similar pattern was also observed in Study 3 where increasing the controllability of a non-anthropomorphic agent by describing the agent as a servant did not reduce people's concerns as initially expected. Furthermore, both studies found that people were less concerned with an anthropomorphic (vs. non-anthropomorphic) agent's information collection when the

agent was perceived to be highly controllable. These findings may suggest that underlying perception of control over anthropomorphic and non-anthropomorphic beings could be much stronger than expected, such that even when the two agents are described to be similar in terms of how controllable it is, this underlying beliefs still have a significant influence on their attitude toward the agents. One thing that may be responsible for such perception is the way in which the agents are designed.

Anthropomorphic agents tend to be designed in such a way that it is perceived to be more subservient and amicable, while this is not always the case with non-anthropomorphic agents. For instance, Toyota's self-driving car, Concept-i, with its endearing appearance, was presented as "Less of a machine. More of a pal." In fact, the company described the anthropomorphized vehicle as "...a future mobility that is warm, friendly, and revolves around you" (Toyota official website). Marketers may be signaling the controllability and subservience of anthropomorphic agents through the cute and friendly designs and personalities that they're given to appease people's anxiety in dealing with potentially risky products. In comparison, non-anthropomorphic products and brands may not exude as much of controllability or subservience thus when there are high privacy threats in the environment, people do not lower their guards.

It should also be noted that the effect of privacy threat in the first two studies seemed to be relatively weak. In both studies, the main effect of privacy threat were marginally significant. This could potentially be due to the inherent nature of the dependent measure. Across all studies, participants indicated that they were concerned with information collection (i.e., above mid-point of scale) regardless of the condition

they were assigned. In other words, everyone, even those who were in the low privacy threat condition in Study 1 and 2a, reported feeling at least somewhat concerned about agent's information collection. This could be due to the fact that simply asking people how concerned they were about their information being collected increased the salience of privacy threats and concern (Brough, Norton, and John, 2019). Thus, although people in the high privacy threat conditions experienced greater threats to their privacy and their perception of control over the environment compared to those in the low privacy threat conditions, everyone's concern was made salient.

Lastly, while not central to my proposed theory, the expectation that concern with information collection would have downstream consequences on people's willingness to share their information was not supported. Contrary to my predictions, in Study 2b, participants' disclosure intention was not influenced by agent anthropomorphism when there was no description of the agent's controllability (i.e., baseline control condition) and, surprisingly, people reported greater intentions to share their personal data with an uncontrollable (vs. controllable) non-anthropomorphic agent. The non-significant mediation may suggest that there could potentially be a discrepancy between people's attitude and intentions.

Theoretical Contributions

This research makes several theoretical contributions to the consumer privacy literature. First, to the best of my knowledge, there is no existing research that looks at

the effect of agent anthropomorphism on consumers' concern with personal data collection in a marketing setting. Nowadays, there are lots of agents – from brands and to physical products – that are designed to have human-like features. These agents are sometimes active collectors of consumers' personal data. Thus, it is important to understand how the anthropomorphic nature of products or brands influence the consumers' concern with sharing their information and their willingness to engage in disclosure. Although there have been a small number of studies that have examined the effects of anthropomorphism on people's information disclosure behavior (e.g., Gretry, Horvath, and Belei, 2017; Sproull et al., 1996), they have been limited to certain types of disclosure (e.g., embarrassing information or socially desirable information) and have not been associated with the unique nature of privacy concern which is central to *consumers'* self-disclosure behavior.

Second, this research contributes to the agent anthropomorphism literature. Extant research on anthropomorphism proposes that effectance motivation leads to a tendency to anthropomorphize (Epley et al., 2008; Waytz et al., 2010a) and that human-like beings are preferred when such motivation is activated (Waytz et al., 2010c). However, there has been a dearth of evidence that agent anthropomorphism replenishes people's effectance (i.e., control over the self and environment) when it is lowered. By showing that people's perceived control over the anthropomorphic agent did not decrease in the face of high privacy threats (i.e., when effectance motivation is activated), I demonstrated that anthropomorphism may afford people with a sense of control when there is a need to for it.

This research will also contribute to the consumer psychology literature in that it extends the understanding of how consumers perceive and interact with anthropomorphic agents. Prior research on anthropomorphism in the marketing literature has explored evaluation of anthropomorphic targets (e.g., Aggarwal and McGill, 2007; Kwak, Puzakova, and Rocereto, 2015; Puzakova et al., 2013; Touré-Tillery and McGill, 2015) and behavioral consequences of interacting with anthropomorphic products (e.g., Chandler and Schwarz, 2010; Hur et al., 2015; Kim and McGill, 2011). The current work adds to this stream of literature in that I examined how consumers evaluate anthropomorphic agents in terms of their perceived controllability and, ultimately, how such perception of control over the anthropomorphic agent under high privacy threats leads to a reduced concern for sharing their personal information.

Practical Implications

This research is meaningful in that it looks at the effect of agent anthropomorphism in the context of privacy threats. In the modern era, consumers constantly experience threats to their privacy, with frequent reports of data compromise and identity thefts. Such privacy threats can have a significant impact on how consumers react to requests for personal data. Uncovering factors that alleviate or heighten their concern with sharing their information has important implications for both marketers and policymakers.

The findings of the current research suggest that, when the threat to privacy is high, products or brands with an anthropomorphic design are likely to reduce consumers' heightened concern with sharing their personal information. For marketers who deal with products or services that naturally heighten people's privacy concerns (e.g., security cameras, social media platforms), imbuing human-like features to the products or services may help to alleviate consumers' concern with the collection of their personal information. As for policymakers, they should be wary of the positive effect of agent anthropomorphism on consumers' concern with information collection (under high threats to privacy) and establish guidelines for designing products, brands, and organizations with human-like features so as to prevent consumers from letting their guard down excessively.

Limitations and Future Directions

There are several ways in which the current research can be improved. First, future studies should involve a different way to manipulate privacy threat. A single privacy threat manipulation was used for all five studies, which has negative implications for the generalizability of the effects. Other ways in which privacy threat can be heightened are informing consumers' about recent data compromise incidents or having them read the privacy policy. A recent working paper by consumer researchers found that reading the privacy policy ironically increased the salience of privacy concerns (Brough et al., 2019). While privacy policies are originally intended to provide assurance to

consumers, they decreased the perceived security of consumers' personal data. Similarly, agent anthropomorphism should also be manipulated in alternative ways to make the results generalizable.

Another limitation of the research is that all of the studies were scenario-based and required participants to imagine interacting with the given agents. While scenarios are commonly-used in consumer research, adding experiments in which real products or brands that differ in terms of the human resemblance and actually ask for participants' personal information will enhance the robustness of the results.

Additionally, actual behavioral consequences should be measured in future studies. While attitudinal measures often predict how consumers will behave as a result, this is not always the case. Research on privacy paradox have demonstrated that there is often a mismatch between consumers' privacy attitude and actual behavior between (Berendt, Günther, and Spiekermann, 2005). Although there is, without a doubt, value in understanding people's anxiety with the collection of their personal information, examining how privacy threat and agent anthropomorphism influences people's choice to disclose will add richness to the research.

APPENDIX

Appendix A. Privacy Threat Manipulation

1. *High Privacy Threat* condition:

You Are Not As Anonymous As You Think You Are

How often have you been asked for your zip code and/or date of birth by a website or at an offline retailer? How many times have you mindlessly provided a piece of seemingly unimportant information about yourself? Have you ever written an anonymous review about a product or service? How anonymous do you really think such data is?

More often than not, consumers are willingly giving out small pieces of personal information about themselves. Not many people are opposed to offering their zip code and birth date or even question the intention of being asked for such seemingly petty information. However, a number of research has found that such small pieces of insignificant information can be easily used to exactly identify individuals.

Just a decade or two ago, approximately 90% of the U.S. residents could be uniquely identified with only three pieces of data -- zip code, gender, and date of birth. With the rapid technological advancement, it is now even possible to accurately identify people just based on the ratings that they left on a website and the date of the rating. Someone across the world, who does not personally know you in any way, is able to correctly identify you, using a simple algorithm to de-anonymize datasets that contain product or service ratings that you left a few months ago. With such technology, virtually anyone, including firms, employers, and government agencies, can figure out who you are, what you like/dislike, what you do and can exploit these information.

So the next time you're asked for your zip code or to leave a rating, think carefully about it.

2. *Low Privacy Threat* condition:

You Are Not As Healthy As Think You Are

How healthy do you think you are? Are you eating the right kind of food? Do you exercise enough and in the right way? Are you getting enough sleep during the night? Do you feel energized throughout the day? Are you free of viruses or infections?

Many Americans would consider themselves to be leading a healthy lifestyle. People often keep track of their eating habits, choosing fat-free options and substituting carb-heavy dishes with gluten-free meals. They also exercise regularly and try to maintain work-life balance so as to keep a healthy lifestyle. However, contrary to popular beliefs, many common practices that people use to be healthy are actually not as helpful as they seem to be.

A number of research has shown that consumers are not eating as well, sleeping as much, or exercising as effectively as they think they are. A study found that people tended to overestimate their sleep efficiency -- the percentage of time spent actually sleeping while lying down. In addition, many healthy individuals turned out to be carrying several viruses in their body, according to a recent biomedical research. While not all viruses are necessarily harmful, they can be causes of infections that people are often unaware of.

Hence, it is important to carefully re-think about your "healthy" habits.

Appendix B. Agent Anthropomorphism Manipulations

1. *Anthropomorphic Agent* condition:

a. Study 1, 2a, 2b, 3



“Introducing **Arlo**, the ultimate smart home assistant!

There are so many ways Arlo can make your life easier and even more fun.

Arlo can do lots of things. He can have a conversation with you, play music, make phone calls, and shop groceries on behalf of you. He can set alarms, keep you updated on the current weather, traffic, sports, and news, and watch your home with his eyes (cameras).

He can also control other things in your home, such as turning the lights on/off, making sure the door is locked, setting the temperature, and managing the wifi network.

You can call Arlo by his name and he will start listening to you. Arlo will be by your side 24/7.”

b. Study 3



“Introducing **Arlo**, the ultimate home security guard!

With his two eyes and firm voice, Arlo is not an average home security device.

Arlo is your personal security guard who will protect your home and connect you with the people and places you love.

Whether it’s your family, pets, or packages, he will keep a close eye on everything that is important to you and be there to secure your home when you can’t.

He can also identify welcomed guests and unwanted intruders.

With Arlo by your side 24/7, you can rest assured regardless of whether you are at home or away.”

2. *Non-anthropomorphic Agent* condition:

a. Study 1, 2a, 2b, 3



“Introducing the **ArloHome**, the ultimate smart home assistant device!

There are so many ways the ArloHome device can make your life easier and even fun.

The ArloHome device is capable of voice interaction, music playback, placing phone calls, and ordering groceries. It can provide weather, traffic, and other real-time information (e.g., news, sports) and monitor your home with its camera.

It can also be used to control other things in your home, such as lighting, door locks, thermostats, and wifi network.

You can activate the product by using the wake word, “ArloHome,” and the product will start recording your voice to process your requests.

The ArloHome device will be available for activation 24/7.”

b. Study 3



“Introducing the **ArloHome**, the ultimate home security device!

With the dual-lens camera and audio features, the ArloHome device is not an average home security device.

The ArloHome device is a smart home product which will protect your home and let you connect with the people and places you love.

Whether it’s your family, pets, or packages, the ArloHome device will monitor everything that is important to you and secure your home when you can’t.

This product can also identify welcomed guests and unwanted intruders.

With the ArloHome device activated 24/7, you can rest assured regardless of whether you are at home or away.”

Appendix C. Agent Controllability Manipulation (Study 2a and Study 2b)

1. *High Controllability* condition:

“Arlo [The ArloHome device] is a non-autonomous assistant [product]. In other words, he [it] will strictly follow your commands and will never operate independently nor make his own decisions [is incapable of operating independently or making its own decisions]. He [The device] will try his [its] best to provide the best service or answer to you, based on what you tell him [it] to do. This means that he [the product] will always follow your order.”

2. *Low Controllability* condition:

“Arlo [The ArloHome device] is an autonomous assistant [product]. In other words, he [it] is capable of operating independently based on his [its] own decisions. He [The device] will try his [its] best to provide the best service or answer to you, based on his own judgments [its algorithm]. In doing so, he [the product] may sometimes even decide to reject your command and recalibrate on his own [let the algorithm recalibrate].”

Appendix D. Agent Role Manipulation (Study 3)

1. *Agent as Servant* condition:

The marketers want to present \${e://Field/PRODUCT} as a **servant-like** brand -- one that serves the customers and is subservient.

They have come up with several taglines to promote \${e://Field/PRODUCT}.

Please rank the taglines below in the order of your preference (1 = most preferred, 3 = least preferred).

"\${e://Field/PRODUCT}. Works for you. Taking care of what's important to you"	1
"\${e://Field/PRODUCT}. Ready to serve you whenever you need"	2
"\${e://Field/PRODUCT}. Your very own smart home butler"	3

2. *Agent as Master* condition:

The marketers want to present \${e://Field/PRODUCT} as a **master-like** brand -- one that takes control and is dominant.

They have come up with several taglines to promote \${e://Field/PRODUCT}.

Please rank the taglines below in the order of your preference (1 = most preferred, 3 = least preferred).

"\${e://Field/PRODUCT}. Taking charge to take care of what's important to you"	1
"\${e://Field/PRODUCT}. Ready to take control of your home"	2
"\${e://Field/PRODUCT}. Your very own smart home director"	3

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