

## **To Share is Human: How Sharing Labels Encourage Personal Consumption**

### **Abstract**

Food manufacturers recently started labeling certain multi-portion packages of indulgent goods as meant for sharing. This type of labeling is, at face value, an indicator that the product is not meant entirely for personal consumption. While this packaging strategy aims to assist consumers in modulating their food intake, empirical evidence does not exist to support such a claim. Across four studies, we present and test a conceptual framework to explain why sharing labels may ironically encourage (rather than reduce) consumption of indulgent foods by eliciting a sense that other humans are affiliated with the product. Our work contributes to the literature by documenting the indulgent consequence of sharing-cues and providing evidence of a psychological link between sharing-cues and perceptions of human presence. Our findings also caution marketers and policy makers on the use of sharing-related labels.

**Keywords: Sharing, Sharing-cues. Attribution, Human Presence, Indulgence, Labeling, Packaging**

## INTRODUCTION

In recent years, some of the world's largest food manufacturers, representing half of the global confectionary market, have begun labelling multi-portion packages as meant for sharing (i.e. "Sharing Size") with the expressed objective of encouraging more mindful food intake (Clabaugh 2017; Mars Incorporated 2017). For example, Mars, Inc. labels two-serving packages of M&M's chocolate candy as "Sharing Size" (Clabaugh 2017) and McDonald's has recently introduced a new "Share Box" with four sandwiches (Okell 2019). This type of labeling is, at face value, an indicator that the product is not meant entirely for personal consumption. However, strategies have been employed in the past to indicate multi-portion sizes for consumers (e.g., "King Size" and "Super Size"), which begs the question as to why manufacturers and foodservices are shifting to a use of sharing-cues instead. With such an overwhelming adoption of this strategy in the marketplace for indulgent foods, scientific literature remains scarce as to whether sharing-cues can indeed enhance consumer well-being by moderating consumption.

A growing stream of research has investigated different models of sharing including collaborative and market-mediated consumption (e.g., rental cars and public parks; Bardhi and Eckhardt 2012) giving rise to multiple definitions of sharing and concerns about the term's (mis)use (Belk 2014). However, across all variations of the definition, the basis of this construct is that it operates as a social tie among individuals and groups (Godelier 2011; Price and Belk, 2016). Indeed, through life experiences, humans acquire knowledge that sharing is "a communal act that links us with other people" (Belk 2010).

In this paper, we propose that sharing-related package cues activate this perceptual link between the experience of sharing and the presence of other humans, which leads consumers to

sense that a product with a sharing label is affiliated with other people, even when others are not physically present in the consumption context. Recent work has demonstrated that package cues, such as a handwritten label, can elicit a sense of “psychological human presence.” That is, human cues can lead consumers to perceive the presence of others even in their physical absence (Schroll et al. 2018). Furthermore, extant research demonstrates that social presence (Hagen et al. 2017; McFerran et al., 2009; McFerran et al., 2010) or even humanized products (i.e., anthropomorphized products; Hur et al. 2015) can motivate indulgent food choices and consumption. Taken together, this line of work documents that indulgence arises from physical or perceptual human presence because it makes way for self-serving attributions, such that consumption responsibility is either personally rejected (Hagen et al. 2017) or assigned to the product as an “additional agent” in the context (Hur et al. 2015).

In this paper, we present and test a conceptual framework to explain why sharing-cues may ironically encourage (rather than reduce) consumption of indulgent foods. We theorize that, in the physical absence of other humans and without assigning human traits to the product, merely sensing that a product exhibits a human connection is enough to create a path for external attribution of consumption responsibility. Following the evidence that human presence can affect indulgence through the process of attribution, we propose, and empirically demonstrate, that sharing-related package labels may increase indulgent consumption by facilitating self-serving external attributions (i.e., the diffusion of consumption responsibility to the product).

Our work makes several theoretical and substantive contributions. First, we contribute to the burgeoning literature on sharing by providing evidence of how the mere activation of the thought of sharing presents a perceptual link to human involvement that can have downstream effects on consumer behavior. To this extent, we extend recent work on psychological human

presence (e.g.; Schroll et al. 2018) by identifying sharing-related cues as a previously unexplored antecedent to perceptions of human affiliation. In doing so, we are the first to present scientific evidence of a psychological link between sharing-cues and perceptions of human presence. We also contribute to the literature on human presence by demonstrating the enhancing effect of perceptions of human affiliation on indulgent consumption. Our work also contributes to previous research on self-serving attributions (e.g.; Hur et al. 2015) by demonstrating that sharing-related product cues may facilitate external attributions of consumption blame to the product. Finally, the present research carries considerable managerial implications: Given the proliferation of both business models and promotional campaigns that encourage sharing (Clifford 2017), our work educates marketers and policy makers on the potential downstream consequences of sharing-cues.

## **CONCEPTUAL FRAMEWORK**

### **Sharing & Human Affiliation**

Sharing is the process of “distributing what is ours to others” and vice versa (Belk 2007). As presented by Belk (2010), the characteristics of sharing (i.e., social inclusion, non-ceremonial, absence of reciprocity, sense of dual ownership) are different from gift-giving or commodity exchange (i.e., reciprocal, ceremonial, context of ownership transfer). Sharing is also distinct from market-mediated collaborative access (e.g., subscriptions to Netflix or Zipcar), which requires a value exchange that is often longitudinal and dictated in a top-down approach (Bardhi, et al. 2012).

The inherent nature of sharing is intertwined with a sense of human contact and a communal social network (Belk 2010; Schanes & Stagl 2019). Humans regularly share information, time, space, belongings, products, and in particular, food; our first instance of sharing occurs at birth when we receive mothers' milk (Belk 2007). Previous research has demonstrated how repetitive experiences over time can establish a perceptual link between two concepts in memory. For example, an environmental cue related to one concept can activate another (Higgins 1996; Bargh 2002), and can even have an automatic effect of perception on action (Bargh and Chartrand, 1999). Importantly, a perceptual link between two concepts becomes more accessible to memory recall as the link becomes stronger through experience (Berger and Fitzsimons, 2008).

As such, consumers hold a complex network of knowledge about the human experience that is readily accessible (Forster and Liberman (2007), which certain product cues are able to activate (Schroll et al. 2018; Troisi & Gabriel 2011). Following this line of thinking, we theorize that due to the multitude of sharing experiences over a consumer's lifetime, the perceptual link between sharing and human involvement becomes highly accessible and, therefore, is readily activated by any sharing-related contextual cues. As a result, we predict that sharing-cues elicit a sense that an object is affiliated with other humans.

### **Human Presence in a Consumption Context**

The physical presence of others in a consumption context can have an effect on product evaluations, encourage indulgent choice, and lead to increased consumption volume (Argo, et al. 2005; McFerran et al., 2009, 2010). For example, McFerran et al. (2009, 2010) observed that

consumers were influenced by what other people in their social context consumed. Moreover, Parker et al. (2019) found that consumers purchased and consumed more food in social contexts where food was shared among a group of people. However, social interaction is not always required for consumers to be influenced by social others, since the mere detection that others are part of the context that affects consumption behavior (Argo, et al. 2005).

In the physical absence of others, products that are imbued with human traits (i.e., anthropomorphized) can satisfy social needs (Hadi & Valenzuela 2014; Mourey et al. 2017) and mitigate self-conflict in tempting consumption settings (Hur et al. 2015). Additionally, recent work demonstrates that the mere detection of human involvement with a product, even in the absence of anthropomorphic product traits, can elicit a sense of human presence that influences perceptions and behavior. For example, when a handmade (versus machine-made) process is detected, products such as soap or serveware are perceived to be imbued with love (Fuchs et al. 2015). Relatedly, package labels with a handwritten font can motivate “psychological human presence,” or the perception that a product is imbued with a touch of humanity (Schroll et al. 2018).

Taken together, the literature suggests three distinct paths in which perceptions of human presence may influence consumption contexts. First, humans may be physically or perceptually present as observers, consumers, or agents in the consumption process. Second, the product may be imbued with human traits (i.e., anthropomorphized) to then be perceived as a human in the context. Or, third, the product may be perceived as imbued with a human essence due to some evidence that it was touched by others (e.g.; handwriting, handmade aesthetic). In the current work, we extend this research by proposing a new avenue through which human presence may impact consumption. We theorize that product cues (i.e. package labels) can activate associative

knowledge to yield a sense that other humans are peripherally affiliated with the context or object. Then, as sharing-cues activate the knowledge that sharing involves other people, we hypothesize that packages with sharing labels elicit a sense that the product is affiliated with other humans.

### **Human Presence & Self-Serving Attribution of Consumption Responsibility**

The presence of other humans, physical or perceived, has been shown to facilitate self-serving external attribution of consumption responsibility. For example, consumers tend to indulge more when they can attribute food serving responsibility to someone else (e.g., a dining server) as opposed to the self (Hagen et al. 2017). In the physical absence of other humans, Hur et al. (2015) demonstrated that anthropomorphizing a tempting product can also reduce self-conflict and, consequently, increase consumption of indulgent foods because anthropomorphism provides an “additional agent” to which consumption responsibility can be assigned. Relatedly, in the absence of humans, physical or perceived, Argo and White (2012) observed that consumers may diffuse consumption responsibility directly to the product package if it provides information to suggest the presence of an external influence on consumption. To this extent, while our proposition is that sharing-cues provide a perceptual *link* to humans as opposed to a perception that the product *is* human, we theorize that merely sensing that the product is affiliated with other humans may facilitate the diffusing of consumption responsibility to the product. Therefore, we predict that sharing-related package labels may increase personal consumption by eliciting perceptions that the product is affiliated with other humans, which, in turn, facilitates product-directed attributions of consumption responsibility.

## **Food Type As A Boundary Condition**

Food is generally categorized dichotomously as indulgent or non-indulgent (Brough and Chernev, 2011; Chernev and Gal, 2010, Chernev 2011; Wilcox et al., 2009). Given that indulgent foods may threaten long-term health goals, consumers anticipate negative affect to arise from the consumption of indulgences, which typically hinders consumption (Hagen et al. 2019, Kivetz and Simonson 2002). On the flip-side, non-indulgent foods do not engender a negatively-valenced consumption barrier, and, thus, do not incur such an inhibitory effect on their intake. In line with this thinking, Hagen et al. (2017) observed that the physical presence of others increased consumption of indulgent foods but not for healthy foods. Therefore, we hypothesize that, while the proposed conceptual model is activated by a sharing-label regardless of food type, we predict an increase in consumption in the case of indulgent foods but not of non-indulgent foods.

## **The Current Research**

To summarize, we posit that sharing requires the presence of others and thus the word “sharing” may activate a sense that humans are affiliated with the context or object. Human presence, physical or perceived, increases indulgent consumption because it creates a pathway for external attribution of consumption responsibility. That is, in the absence of humans, external attribution can be product-directed. Therefore, we propose that consumption is greater for food products that yield a sharing label on the package compared to products without a sharing label (H1) because consumers sense that the product is affiliated with other humans, which makes way



for product-directed attribution of consumption responsibility (H2). Further, while this serial mechanism is independent of food type, we expect to observe increased consumption to be present for indulgent foods but not for non-indulgent foods (H3).

-----Insert Figure 1 approximately here-----

We test our predictions in a set of four studies. Study 1 demonstrates the detrimental effect of sharing-labels on consumption (H1) in a controlled lab setting. Study 2 provides further support for H1 in a natural environment via a quasi-field experiment. Study 3 provides evidence for the underlying mechanism by demonstrating that perceptions of human-affiliation and product-directed external attributions underlie the effect of sharing-labels on consumption (H2). Finally, study 4 provides further support for the underlying process (H2) and establishes food type as a boundary condition for the effect of sharing-labels on consumption (H3). Importantly, our studies collectively rule-out possible alternative explanations, including perceived anthropomorphism and differences in perceived portion size.

## **STUDY 1**

The purpose of this study was to demonstrate our first hypothesis that sharing-labels promote consumption of indulgent foods (H1). In this consumption study, we sought to isolate the effect of a sharing label by controlling for portion size and using a food product that is commonly labeled for sharing (M&M's chocolate candies) in a controlled lab setting.

## Method

*Participants, Design and Procedure.* One hundred and nine undergraduate students (67% female,  $M_{\text{age}} = 23.32$ ) from a large Northeastern university participated in the study in exchange for partial course credit. Participants were randomly assigned to one of two conditions (sharing-label vs. control) in a one factor between-subjects design. The study was presented to participants as an effort to evaluate a product. In the lab, participants were seated in individual booths and each received an identical portion of M&M's candy (90 grams, equivalent to the "sharing-size" package) in a sealed plastic bag. To manipulate the sharing cue on the package, the bag of candy was labeled as "Chocolate Candy, Sharing Size" in the sharing label condition while it was labeled as "Chocolate Candy" in the control condition (images provided in the MDA). Participants were instructed to eat as much of the candy as they wished while they completed a product evaluation survey.

*Measures.* Unbeknownst to participants, consumption volume was recorded at the end of the session by weighing the amount of candy remaining in the bag; this constituted our main variable of interest. To maintain the cover story, we asked participants to evaluate the product while they consumed the candy ("Please evaluate the product on each of the following dimensions," 1 = Very Bad, 7 = Very Good; taste, quality, convenient, desirable, indulgent, fresh) and to report purchase likelihood ("How likely are you to purchase this product for your own consumption?" 1 = Not likely at all, 7 = Very likely), as well as willingness to pay for the product ("How much would you pay for this bag of candy in a grocery store? (\$)" open-ended). We also accounted for perceptions of caloric content of the product ("How many calories do you think this bag of candy contains?" open-ended), product familiarity ("How familiar are you with the type of chocolate you consumed today?" 1 = Not at all, 7 = Very Much), general liking for

the product (“Generally speaking, how much do you like chocolate?” 1 = Not at all, 7 = Very Much) and individual dieting behavior (“I am happy with my current weight” and “I am happy with my current health”; both reverse-coded and anchored 1 = Strongly Disagree, 7 = Strongly Agree). Participants finally reported their age and gender.

## Results

Three participants were excluded for incomplete data, resulting in 107 responses.

*Consumption volume.* An ANOVA revealed a main effect of sharing-label on quantity consumed ( $F(1, 105) = 7.51, p < .01$ ): participants in the sharing-label condition consumed more candy ( $M_{\text{Sharing}} = 31.07$  grams) than those in the control condition ( $M_{\text{Control}} = 16.49$  grams).

*Other measures.* No significant differences emerged for perceptions of product taste ( $M_{\text{Sharing}} = 5.80, M_{\text{Control}} = 5.72; F(1, 105) = .11, p = .75$ ), quality ( $M_{\text{Sharing}} = 5.46, M_{\text{Control}} = 5.43; F(1, 105) = .01, p = .92$ ), convenience ( $M_{\text{Sharing}} = 6.15, M_{\text{Control}} = 6.25; F(1, 105) = .20, p = .65$ ), desirability ( $M_{\text{Sharing}} = 4.65, M_{\text{Control}} = 4.47; F(1, 105) = .32, p = .58$ ), indulgence ( $M_{\text{Sharing}} = 4.85, M_{\text{Control}} = 4.64; F(1, 105) = .50, p = .48$ ), freshness ( $M_{\text{Sharing}} = 4.07, M_{\text{Control}} = 4.43; F(1, 105) = 1.06, p = .31$ ), or caloric content ( $M_{\text{Sharing}} = 294, M_{\text{Control}} = 358; F(1, 105) = 2.23, p = .14$ ). Further, there were no differences between conditions for purchase likelihood ( $M_{\text{Sharing}} = 4.50, M_{\text{Control}} = 4.47; F(1, 105) = .01, p = .94$ ), willingness to pay ( $M_{\text{Sharing}} = 1.50, M_{\text{Control}} = 1.43; F(1, 105) = .17, p = .68$ ), product familiarity ( $M_{\text{Sharing}} = 4.22, M_{\text{Control}} = 4.00; F(1, 105) = .48, p = .49$ ), general liking for the product ( $M_{\text{Sharing}} = 4.30, M_{\text{Control}} = 4.34; F(1, 105) = .02, p = .90$ ) or individual dieting behavior ( $M_{\text{Sharing}} = 3.81, M_{\text{Control}} = 4.25; F(1, 105) = 1.32, p = .25$ ).

## **Discussion**

Study 1 provides preliminary support for our hypothesized effect of sharing-labels on consumption (H1). Specifically, we found that participants consumed more candy when the package yielded a sharing label compared to when the same portion and package did not include such label. Furthermore, there is no evidence that the label effect could be alternatively explained by general product perceptions such as taste, indulgence, value, or caloric content.

While Study 1 provides preliminary evidence of our hypothesis that sharing labels yield greater personal consumption, there are some limitations to this experiment that we discuss here and seek to overcome in Study 2. First, although we provide evidence that perceptions of caloric content are not influenced by a sharing label, one could argue that the term “Sharing Size” is simply an indicator of larger portions, which in turn motivates personal consumption (Wansink and Park 2001). Second, the nature of this controlled lab experiment did not yield an opportunity to actually share any of the product and, therefore, our observed consumption effect could be due to laboratory limitations. In other words, if participants had the opportunity to share their candy, would they have consumed as much in the sharing-label condition?

-----Insert Table 1 approximately here-----

## **STUDY 2**

The purpose of study 2 was twofold. First, we aimed to replicate our previous findings in a real-world context where sharing was possible and second, we ruled out portion-related perceptions as an alternative explanation for our consumption effect (Geier et al. 2006; Scott et al. 2008; Wansink and Park 2001). If, indeed, participants in study 1 consumed more in the sharing-label (vs. control) condition because they perceived the food portion to be more generous, then any label suggesting a larger portion (e.g., “King Size”) should also increase consumption. We test and rule-out this alternative explanation in study 2.

## **Method**

*Participant, design and procedure.* Two-hundred and twelve undergraduate students (47% female,  $M_{\text{age}} = 22.35$ ) from a large Southwestern university were recruited to take part in the study in return for partial course credit. They were randomly assigned to one of three conditions (control vs. sharing vs. king-size) in a one-way between-subjects design. Participants were told that the purpose of the study was to evaluate a food product. In the lab, they each received a sealed plastic bag containing 9 pieces of individually-wrapped Rolo candy labeled as either “Chocolate Candy”, “Sharing Size” or “King Size” depending on the condition (images provided in the MDA). Under the pretext that food was not allowed in the lab, participants were instructed to complete a product evaluation survey without consuming the chocolate. Then, upon their conclusion of the lab session, they were told that they could keep the bag of candy and were sent a follow-up survey by email two days later to gauge their consumption of the product.

To maintain the cover story and to account for differences in general product expectations, we asked participants to evaluate the product in the lab (“How tasty do you expect

this candy to be?” “How indulgent do you expect this candy to be?” How fresh do you think this candy is?” How appetizing does this candy look?” and “How appealing is this candy?” 1 = Not at all, 7 = Extremely; How do you expect the quality of this candy to be?” 1 = Very poor quality, 7 = Very good quality) and to report purchase likelihood (“How likely are you to purchase this product for your own consumption?” 1 = Not likely at all, 7 = Very likely), as well as willingness to pay for the product (“How much would you pay for this bag of candy in a grocery store?” \$1-\$7 on a sliding scale). We also accounted for perceptions of caloric content of the product (“How many calories do you think this bag of candy contains?” Sliding scale anchored 0-500), product familiarity (“How familiar are you with the type of chocolate you consumed today?” 1 = Not at all, 7 = Very Much), general liking for chocolate (“Generally speaking, how much do you like chocolate?” 1 = Not at all, 7 = Very Much) and individual dieting behavior (“I am happy with my current weight” (reverse-coded), and “I am happy with my current health” reverse-coded; 1 = Strongly Disagree, 7 = Strongly Agree). Importantly, to rule out the alternative explanation that our findings are due to differences in perceived portion size, participants responded to the question: “How many servings does this bag contain?” (1 = A few servings, 7 = Many servings).

Our main dependent variables of interest were captured in the follow-up survey and included number of candies consumed, number shared, and number remaining in the bag (“Out of the 9 pieces of candy that were in the bag, how many did you eat/share with others/are still in the bag?” all open-ended). The follow-up survey also gauged product liking (How much did you like the candy?” (1 = Not at all, 7 = Extremely) and included an attention check to confirm that participants were reporting consumption from the bag of candy they took from the lab (“One last question: The label on your bag of candy said: sharing size / king size / chocolate candy”).

## Results

One hundred thirty-two participants (62% of lab participants) responded to the follow-up survey. Six participants were excluded due to multiple responses with inconsistent answers, resulting in 126 valid responses.

*Attention check.* Most participants correctly recalled the label on the chocolate bag they received in the lab (Sharing = 92.5%, King size = 89.6%, Control = 84.2%;  $\chi^2(6, N = 126) = 210.16, p < .0001$ )

*Consumption volume.* An ANOVA on number of candies consumed revealed a main effect of label ( $F(2, 123) = 9.31, p < .001$ ): participants in the sharing condition ( $M_{\text{sharing}} = 5.54$ ) consumed more candy than those in the control ( $M_{\text{control}} = 3.71, p < .001$ ) and those the king-size conditions ( $M_{\text{king-size}} = 2.83, p < .001$ ). No significant differences emerged between the control and king-size conditions ( $p = .18$ ). An ANOVA on number of candies shared revealed no significant differences across conditions ( $M_{\text{sharing}} = 1.84$  vs.  $M_{\text{control}} = 2.24$  vs.  $M_{\text{king-size}} = 2.58$ ;  $F(2, 123) = .79, p = .46$ ). In line with these observations, the analysis also revealed a significant effect on number on candies remaining in the bag ( $F(2, 123) = 4.85, p < .01$ ): participants in the sharing condition ( $M_{\text{sharing}} = 1.60$ ) had fewer candies left than those in the control ( $M_{\text{control}} = 3.03, p < .05$ ) and those in the king-size ( $M_{\text{king-size}} = 3.60, p < .01$ ) conditions. No significant differences emerged between the control and king-size conditions ( $p = .39$ ).

*Other measures.* No significant difference emerged for perceptions of portion-size ( $M_{\text{sharing}} = 3.77$  vs.  $M_{\text{king-size}} = 3.69$  vs.  $M_{\text{control}} = 3.89$ ;  $F(2, 123) = .14, p = .87$ ), ruling out the alternative explanation that our results are due to perceptions that the bag in the sharing size

condition contained more candy, which in turn encouraged greater consumption. Further, label type did not influence perceptions of product indulgence ( $M_{\text{sharing}} = 5.00$ ,  $M_{\text{king-size}} = 5.10$ ,  $M_{\text{control}} = 5.03$ ;  $F(2, 123) = .06$ ,  $p = .95$ ) or willingness to pay ( $M_{\text{sharing}} = 1.52$ ,  $M_{\text{king-size}} = 1.57$ ,  $M_{\text{control}} = 1.50$ ;  $F(2, 122) = .07$ ,  $p = .93$ ), which further rules out the alternative explanation that sharing labels affect consumption because they are a portion cue. Finally, there were no differences between conditions across any of the remaining product evaluation measures (all  $p$ 's > .1; See Table 1 for detailed results).

## **Discussion**

Study 2 provides further support, this time outside of the lab, for our prediction that sharing size labels encourage consumption. Specifically, when participants were given the opportunity to consume and share candy once they left the lab, those who received a bag with a sharing label consumed more candy than participants who received a bag labeled king size and those who received a bag with a control label (i.e., chocolate candy). Further, we observed no differences across conditions for actual sharing behavior, which suggests that a sharing label does not serve as a prime for sharing. This pattern of results also allows us to rule out portion-related perceptions as an alternative explanation (Geier et al. 2006; Scott et al. 2008; Wansink and Park 2001).

-----Insert Table 1 approximately here-----

## **STUDY 3**



Studies 1 and 2 consistently show that a sharing label encourages consumption of indulgent food and that this effect is not due to the sharing label acting as a portion-related cue. Study 3 provides evidence for the mechanism underlying the impact of a sharing label on personal consumption by demonstrating the mediating role of perceived human-affiliation and product-directed attribution of consumption responsibility (H<sub>2</sub>). We control for perceived portion-size once more, and provide evidence that the effect of sharing labels on perceived human affiliation is conceptually and empirically distinct from product anthropomorphism. Previous work suggests that perceptions of product anthropomorphism can arise spontaneously, even when a product is not explicitly imbued with human traits (Epley et al. 2007). Thus, while the stimuli employed in studies 1 and 2 were not anthropomorphized, anthropomorphism could explain our proposed effect (Hur et al. 2015). As such, in studies 3 and 4, we measure and rule-out perceived anthropomorphism as an alternative explanation.

## **Method**

*Participant, design and procedure.* One-hundred and fifteen undergraduate students (58% female,  $M_{\text{age}} = 21.29$ ) from a large Northeastern university took part in the study in return for partial course credit. Participants were randomly assigned to one of two label conditions (control vs. sharing) in a one-way between-subjects design. As in studies 1 and 2, participants were told that the purpose of the study is to evaluate a food product and were first presented with an image of a bag of mini KitKat. To manipulate whether the product packaging included a sharing cue or not, the bag was either labeled “Sharing-Size” or did not present a sharing-label

(see MDA). After viewing the image, participants proceeded to complete a “product evaluation survey.”

We gauged imagined consumption by asking participants: “The bag of KitKat that you see in the picture above contains 15 pieces of candy. If you had a bag right now, how many pieces of KitKat do you think you would consume?” (sliding bar anchored 0-15). We then measured perceived human-affiliation using two items that best reflect our theorizing that the concept of sharing is intertwined with a sense of human contact and a communal social network (adapted from Gefen and Straub 2004): “There is a sense of human contact in this product” and “There is a sense of a network of people in this product” (1 = Strongly disagree, 7 = Strongly agree;  $r = .62, p < .001$ ). To gauge product-directed consumption attribution, we asked participants to report their agreement with the statement: “The product is fully responsible for my decision to consume the candy” (1 = Strongly disagree, 7 = Strongly agree; Hur et al. 2015). Participants were asked to evaluate the product (“Evaluate the product on the following dimensions” with 7-point scales anchored: dislike/like, bad/good, unappealing/appealing, unfavorable/favorable, low quality/high quality, unenjoyable/enjoyable; “What is your opinion of this candy’s taste?” 1 = Very bad, 7 = Very good) and to report willingness to pay (“How much would you pay for this bag of candy in a grocery store? (\$)”; sliding scale anchored \$0-\$9), product familiarity (How familiar are you with KitKat? (1 = Not at all, 7 = Extremely), consumption frequency (In general, how frequently do you consume chocolate”; 1 = Never, 7 = Frequently) and product anthropomorphism (Please indicate the extent to which this product resembles a person”; 1 = Not at all, 7 = Very Much). Following study 2, we also measured perceptions of caloric content (a sliding a bar anchored 0 and 1000) perceived portion-size, dieting behavior, and label recall.

## Results

Six participants were excluded for not completing the survey, resulting in 109 valid responses.

*Attention check.* Most participants in the sharing condition correctly recalled the label on their package (76%;  $\chi^2(4, N = 109) = 18.40, p < .01$ ).

*Imagined consumption volume.* An ANOVA revealed a significant main effect of label type ( $F(1, 107) = 7.12, p < .01$ ) on imagined consumption where participants in the sharing condition ( $M_{\text{sharing-size}} = 10.51$ ) reported greater consumption quantity than those in the control condition ( $M_{\text{control}} = 7.85$ ).

*Perceived human-affiliation and product-directed attribution.* As predicted, an ANOVA on perceived human-affiliation revealed a significant effect of label: perceptions of human-affiliation were significantly higher in the sharing condition ( $M_{\text{sharing-size}} = 4.58$ ) compared to the control condition ( $M_{\text{control}} = 3.94$ ;  $F(1, 107) = 4.99, p < .05$ ). An ANOVA on product-directed attribution revealed a similar (directionally consistent), although non-significant, pattern of results ( $M_{\text{sharing-size}} = 4.31$  vs.  $M_{\text{control}} = 4.00$ ;  $F(1, 107) = .73, p = .39$ ), which is in line with our theorizing (we do not predict a direct effect of label type on external attributions, but rather an indirect effect through perceptions of human-affiliation).

To test our full conceptual model, we ran a serial mediation model (Model 6, Hayes 2017) where perceived human-affiliation and product-directed attribution were introduced as serial mediators of the effect of sharing-label on consumption. In support of H<sub>2</sub>, a bootstrap

analysis with 10,000 resamples revealed a significant indirect effect with a 95% CI excluding zero ( $b = .08$ ;  $SE = .07$ ,  $CI_{95\%}$ , .0035 to .2904).

*Other measures.* No significant differences emerged on any of the remaining measures (all  $p$ 's  $\geq .07$ ; See Table 2 for detailed results). Importantly, no differences emerged on perceived product anthropomorphism ( $M_{\text{sharing-size}} = 3.42$ ,  $M_{\text{Control}} = 3.48$ ;  $F(1, 107) = .033$ ,  $p = .86$ ) or portion-related cues such as perceived portion-size ( $M_{\text{sharing-size}} = 4.25$ ,  $M_{\text{control}} = 4.28$ ;  $F(1, 107) = .01$ ,  $p = .93$ ), caloric content ( $M_{\text{sharing-size}} = 455$ ,  $M_{\text{control}} = 482$ ;  $F(1, 107) = .46$ ,  $p = .50$ ); or willingness to pay ( $F(1, 107) = 1.66$ ,  $p = .20$ ;  $M_{\text{sharing-size}} = 2.78$ ,  $M_{\text{control}} = 2.41$ ).

## **Discussion**

Study 3 provides further support for the effect of sharing labels on imagined consumption ( $H_1$ ) and provides evidence for our theorized underlying mechanism ( $H_2$ ). As hypothesized, the effect of a sharing label on consumption volume activates a sense that the product is affiliated with other humans which leads to product-directed attribution of consumption responsibility. As in studies 1 and 2, we further rule out the alternative explanation that sharing labels serve as a portion cue. In this study, we also establish that our underlying mechanism, perceived human-affiliation, is distinct from product anthropomorphism.

-----Insert Table 2 approximately here-----

## **STUDY 4**

In study 4, we provide further support for the underlying mechanism (H<sub>2</sub>) and demonstrate that, while our proposed psychological process is independent of food type, the effect of sharing-labels on consumption only arises for indulgent (vs. non-indulgent) foods (H<sub>3</sub>) since the process of attribution of responsibility is only relevant in that case. As in study 3, we also rule-out perceived product anthropomorphism and perceived portion-size as alternative explanations.

## **Method**

Two hundred and nineteen participants (39% female,  $M_{\text{age}} = 36.20$ ,  $SD = 9.89$ ) were recruited on Amazon Mechanical Turk in exchange for monetary compensation. The study used a 2 (Label: Sharing-label vs. Control) x 2 (Food Type: Indulgent vs. Non-indulgent) between-subjects design. The study was presented as an effort to evaluate a food product. Participants first viewed an image of a snack and then completed a “product evaluation survey.” The image depicted a bag of Nature Valley snack bites labelled as “Sharing Size” (sharing-label condition) or not labeled for sharing (control condition). To manipulate food type, the product was referred to as either “chocolate bites” (indulgent condition) or “granola bites” (non-indulgent condition) on both the package and in the accompanying description (see web appendix for stimuli).

Imagined consumption, perceived human-affiliation ( $r = .76$ ,  $p < .001$ ) and product-directed consumption attribution were gauged using the measures reported in Study 3 (slightly modified to reflect the current stimuli). The survey also included measures of product evaluation (What is your opinion of this candy? Taste, Quality, Satisfaction” 1 = Very Bad, 7 = Very Good), willingness to pay (How much would you pay for this bag of candy in a grocery store?”

on a sliding scale anchored \$1 to \$7), perceptions of anthropomorphism (“The product seems like a person” 1 = Strongly Disagree, 7 = Strongly Agree), portion-size (“How many servings do you think that the package contains?” 1 = Too few, 7 = Too many) and a manipulation check for our food-type frame (“How indulgent is the product?” 1 = Not at all, 7 = Extremely). Following previous studies, we also accounted for dieting behavior using the measures reported in study 1.

## Results

*Manipulation check.* The food type manipulation worked as predicted: an ANOVA on perceived product indulgence revealed a significant main effect of food type ( $M_{\text{non-indulgent}} = 4.95$  vs.  $M_{\text{indulgent}} = 5.56$ ;  $F(1, 215) = 9.19, p < .01$ ).

*Imagined consumption.* An ANOVA on imagined consumption revealed no main effect of label, no main effect of food type and a significant interaction ( $F(1, 215) = 4.22, p < .05$ ) (figure 2). As predicted, contrast analysis revealed that in the sharing-label condition, participants reported they would consume significantly more snack bites in the indulgent food condition compared to the non-indulgent food condition ( $M_{\text{indulgent}} = 7.49$  vs.  $M_{\text{non-indulgent}} = 5.68$ ;  $F(1, 215) = 5.56, p < .05$ ). No differences emerged in the control label condition ( $M_{\text{non-indulgent}} = 6.44$  vs.  $M_{\text{indulgent}} = 6.00$ ;  $F(1, 215) = .31, p = .58$ ). In addition, in the indulgent food condition, participants reported higher imagined consumption in the sharing-label condition compared to the control condition ( $M_{\text{sharing}} = 7.49$  vs.  $M_{\text{control}} = 6.00, F(1, 215) = 3.66, p = .057$ ). Importantly, in the non-indulgent food condition, no differences emerged between the sharing and the control conditions ( $M_{\text{sharing}} = 5.68$  vs.  $M_{\text{control}} = 6.44, F(1, 215) = .97, p = .33$ ).

*Perceived human-affiliation and product-directed attribution.* Consistent with our theorizing, an ANOVA on human affiliation revealed no main effect of food type, no interaction

and a significant main effect of sharing label ( $M_{\text{sharing}} = 3.89$  vs.  $M_{\text{control}} = 3.42$ ,  $F(1, 215) = 4.46$ ,  $p < .05$ ; see table 3 for detailed results). To test our full model, we ran a serial mediation (Custom Model, Hayes 2017) that examined the causal relationship from sharing-label to human-affiliation to product-directed attribution to consumption, and where food type was introduced as a moderator of the effect of sharing-label on consumption (See conceptual model; figure 1). The analysis provided support for our conceptual model with a significant indirect effect of sharing-labels on consumption through human-affiliation and product-directed attribution ( $b = .08$ ,  $SE = .04$ ,  $CI_{95\%}$ , .0067 to .1721), and revealed a significant effect of sharing-label on consumption for indulgent ( $b = .76$ ,  $SE = .37$ ,  $t = 2.04$ ,  $p = .04$ ,  $CI_{95\%}$ , .0252 to 1.4968) but not for non-indulgent food ( $b = -.28$ ,  $SE = .37$ ,  $t = -.77$ ,  $p = .44$ ,  $CI_{95\%}$ , -1.0092 to .4446).

*Other measures.* There were no significant differences on any of the other measures (all  $p$ 's  $\geq .14$ ; see Table 3 for detailed results). Importantly, there are no differences across conditions for perceived portion size ( $F(1, 215) = 1.82$ ,  $p = .18$ ), willingness to pay ( $F(1, 215) = 2.20$ ,  $p = .14$ ), or anthropomorphism ( $F(1, 215) = .023$ ,  $p = .88$ ).

-----Insert Table 3 approximately here-----

## **Discussion**

Study 4 provides additional support for the effect of sharing labels on consumption and for our theorized mechanism, namely the serial mediating effect of perceived human-affiliation and product-directed attribution of consumption responsibility. Importantly, this study also demonstrates that while our proposed psychological process is independent of food type, the effect of sharing-labels on consumption is relevant only for indulgent (vs. non-indulgent) foods. Importantly, as in Studies 1-3, we rule out portion-related cues as an alternative explanation to

our consumption effect and we also provide additional evidence that our theorized mechanism is distinct from product anthropomorphism.

-----Insert Figure 2 approximately here-----

## **GENERAL DISCUSSION**

Across four studies, we demonstrate that sharing-related package cues counterintuitively encourage consumption of indulgent foods by eliciting a sense that the product is affiliated with other humans and, therefore, allowing for a target of attribution of consumption responsibility. While our proposed psychological process is independent of food type, the effect of sharing-labels on consumption is relevant for indulgent, but not for healthy, foods.

Our findings make several theoretical contributions. We extend prior work on self-serving attributions (e.g.; Hur et al. 2015) by uniquely demonstrating that sharing-related product cues may facilitate external attribution of consumption responsibility to a product. We also contribute to the burgeoning literature on psychological human presence (e.g.; Schroll et al. 2018). While extant work has focused on exploring how human affiliation may positively affect product experiences (e.g.; Liu et al. 2019, Schroll et al. 2018), we are the first to report a potentially negative downstream consequence of human affiliation perceptions, namely increased indulgence. This paper further contributes to this line of work by identifying sharing-related cues as a previously unexplored antecedent to perceptions of human affiliation and, in doing so, is the



first to present scientific evidence of a psychological link between sharing-cues and perceptions of human presence. Given the recent proliferation of platforms that encourage shared consumption (for example of sunscreen; Beese 2019) and websites that facilitate it (for example, meal sharing with strangers; <https://www.bonappetour.com/>), understanding how sharing-related information may affect consumers' perceptions and subsequent consumption of products becomes crucial.

### **Directions for future research**

**Consumer vulnerability to human affiliation.** To extend our finding that sharing cues elicit a sense of human-affiliation, future work may explore individual differences or social contexts for which sharing cues may be helpful. For example, when consumers feel socially excluded, products with sharing cues, by eliciting a sense of human affiliation, may serve to reduce negative feelings or perceptions in a similar way as has been observed for anthropomorphized products (Mourey et al. 2017; Epley et al. 2007; Hadi and Valenzuela 2014). On the flip side, future work could explore how consumers with social vulnerabilities may be negatively affected by the process that sharing cues elicit; in particular, if consumers who suffer from loneliness or social exclusion seek products with human affiliation, they may fall prey to the detrimental effects of sharing cues on indulgence. Therefore, research may explore individual differences in social needs as important moderator of our work presented here.

Additionally, as sharing cues elicit human affiliation, consumers who hold a scarcity mindset may be uniquely responsive to sharing cues to the extent that they believe the resource (the product) could be depleted by social others (Roux, Goldsmith, and Bonezzi, 2012). In this

context, researchers might investigate negative consequences of sharing cues such as competitive or hoarding behavior, or potentially positive downstream effects such as fiscal responsibility or savings. It may also be the case that Lambertson and Rose (2012)'s work noting that resource depletion is a primary concern that drives choices for market-mediated sharing (versus personal ownership).

**Consumer vulnerability to external attribution.** Future research could also investigate individual differences that enhance consumer sensitivity to opportunities for external attribution. For example, Argo and White (2012) demonstrate that individuals who are self-regulating their food intake (i.e., those low in Appearance Self Esteem, or ASE) are more prone to “transfer regulatory responsibility to the package” when they perceive it as providing external consumption control (i.e., a smaller package). In this vein, we might observe that sharing cues, by providing an opportunity for external attribution, are particularly impactful among those who experience or are avoiding failures, identity threat, social rejection, or other contexts of cognitive dissonance where external attribution serves to alleviate negative affect. Blaming the product, in particular, could be both detrimental and advantageous for marketers. Future research could explore the circumstances under which either outcome occurs from the use of sharing cues.

**Impacts of external attribution in the sharing economy.** With a burgeoning stream of research focused on the “sharing economy” (e.g., Belk 2014) future work may explore how far our observed effects might extend. For example, if consumers perceive market-mediated collaborative access (i.e., rental cars) as a sharing context and therefore human-affiliated, we might observe product-directed attributional effects that elicit immoral behavior such as product neglect or vandalism. Research is also warranted to determine if sharing cues facilitate fiscal irresponsibility as a result of external attribution. In particular, we may observe that sharing cues

associated with borrowing or lending products increase the amount a consumer borrows or reduces their sense of personal responsibility for the loan. Our work would suggest that when marketing strategies emphasize the value of a shared goal or ownership, the sharing cues involved in such a message might elicit negative downstream effects of attribution. On the other hand, researchers may investigate the circumstances under which positive attributional effects arise from sharing cues. For example, presenting a product or service as a shared experience may bolster consumer perceptions of the organization.

**Effects of sharing cues in non-food product categories.** While we limit the current investigation to the food consumption context, future research could further explore how the downstream effects of product-directed external attribution that emerges from sharing cues might apply to other product categories. Previous research has discussed how contamination cues in collaborative context may signal that other consumers have used the product, which, in turn, reduces product evaluations (i.e., negative contagion; Bardhi and Eckhardt 2012). However, sharing contexts that involve humans with positive traits may also yield positive downstream effects of perceived human affiliation. For example, Argo, Dahl, and Morales (2008) provide an account of positive contagion in the presence of physically attractive people. Similarly, Kramer and Block (2014) demonstrate how sensing that an item has been touched by competent others can improve perceptions of performance. Therefore, future research could explore the potential of collaborative access in a defined field of expertise to discover how sharing economies can improve confidence or performance. To this topic of the consideration for negative versus positive contagion effects due to the presence of sharing-cues, research could explore moderators such as level of self-identification and in-group/out-group dynamics.

In sum, sharing cues seems to be increasingly prevalent in consumption contexts. The current work sheds some light on the effect of sharing cues on food consumption and highlights the process behind this phenomenon. We hope that the present paper constitutes the beginning of a new stream of research that further explores consumer phenomena connected to sharing cues.

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