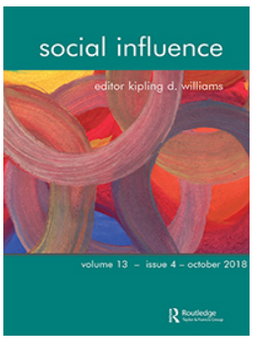

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Youjae Yi, Jacob C. Lee & Saetbyeol Kim

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ARTICLE

Altruistic indulgence: people voluntarily consume high-calorie foods to make other people feel comfortable and pleasant

Youjae Yi[a], Jacob C. Lee[b] and Saetbyeol Kim[a]

[a]Department of Marketing, Seoul National University, Seoul, Republic of Korea; [b]School of Business Administration, Ulsan National Institute of Science and Technology (UNIST), Ulsan, Republic of Korea

ABSTRACT

We explored a novel phenomenon where people in certain social contexts voluntarily consume high-calorie foods with the altruistic motive of making other people feel comfortable and pleasant. We hypothesized that people are likely to choose a high-calorie food, especially around others with whom they have communal relationships (e.g., friends), because of the desire to induce in others feelings of pleasantness rather than guilt. A field study at a café shows that this phenomenon emerges in the real world, and a scenario-based experiment supports our altruistic account with mediation analyses. The alternative explanation of a social acceptance account is ruled out.

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Indulgence; altruism; decision making for others; social eating; social influence

Consuming high-calorie foods is generally bad for health, is associated with feelings of guilt (Kivetz & Keynan, 2006; Kuijer & Boyce, 2014), and is socially stigmatized as evidence of a lack of self-control (Ramanathan & Williams, 2007). Thus, people generally prefer to avoid high-calorie foods, especially in public (Cheng, Huang, Chuang, & Ju, 2015), and are even willing to pay more money to eat healthier meals (Gagliardi, 2015; Nielsen Company, 2015).

Despite the general preference for low-calorie foods, do people sometimes voluntarily consume high-calorie foods in certain contexts? The present research explores what we call *altruistic indulgence*, a novel phenomenon illustrating that people voluntarily consume high-calorie foods with the altruistic motive of making other people feel comfortable and pleasant.[1] Specifically, we explore people's food choices in what we refer to as a 'healthy-causes-guilt' context. This context encompasses all situations in which, before making a food choice, people are aware of the possibility that their choice of a healthy food will elicit negative feelings of guilt from another person.

In the healthy-causes-guilt context, with the awareness of the possibility that one's food choice can influence others' feelings, the usual focus on the *self* in food decision making among individuals (e.g., 'How will my food choice influence my health, feelings, and image?'; Cheng et al., 2015) shifts towards *others* whose feelings their food choice may affect (e.g., 'How will my food choice influence others' feelings?'). With this shift in

CONTACT Jacob C. Lee lee.jacob.c@gmail.com

focus, we predict that people will be more likely to forgo healthy choices (as these choices can make others uncomfortable) and choose unhealthy foods with the altruistic motivation of making others feel comfortable and pleasant. In the present research, we conducted two studies (a field study and an experiment) to test altruistic indulgence. In Study 1, we show that altruistic indulgence emerges in the real world. In Study 2, we test when altruistic indulgence is more likely to emerge, show evidence that altruistic motives induce indulgent choices, and rule out an alternative explanation based on social acceptance motives. In this paper, we define indulgence as a choice of unhealthy rather than healthy food. Past research has explored various factors that motivate indulgence (e.g., taste goals and price promotions; Raghunathan, Naylor, & Hoyer, 2006; Yan, Tian, Heravi, & Morgan, 2017) but to the best of our knowledge, our altruistic account is new to the literature.

Indulgent companion context, shifts in focus, and unhealthy food choice

The present research focuses on what we call the *indulgent companion context*. This is a social context in which two people are dining together, with each person choosing between an unhealthy and a healthy option. The dining companion orders first and makes an unhealthy food choice (we refer to this person as the *indulgent companion*) and then observes what the other person chooses (we refer to the person who orders second as the *focal person*).

When making a choice after the indulgent companion, we propose that the focal person will often consider the potential psychological influence of his/her own food choice – specifically, the possibility that the healthy (instead of the unhealthy) choice will make the indulgent companion feel guilty, negative, and uncomfortable. Two reasons suggest this possibility. First, the focal person's healthy choice can remind the indulgent companion of his/her own unhealthy choice, which is usually associated with guilt and social embarrassment (Cheng et al., 2015; Ramanathan & Williams, 2007). Second, the focal person's healthy choice can nudge the indulgent companion to make an upward social comparison (Gilbert, Giesler, & Morris, 1995; Van Yperen & Leander, 2014), which can lead to feelings of inferiority.

With the awareness of the potential negative consequence of a healthy choice for the indulgent companion, we propose that the focal person's decision making will shift from self-focus to other-focus. Other-focus refers to the degree to which an individual pays attention to others rather than the self (Han, Lalwani, & Duhachek, 2017). With the increased other-focus in the healthy-causes-guilt context, the focal person will be more likely to avoid the healthy option, as the healthy option can cause guilt in the indulgent companion, and instead choose the unhealthy option. As a reference context, we explored people's food choice when the dining companion made a *healthy* choice. Because a healthy choice is not associated with guilt, this serves as a non-indulgent companion context. More formally, we hypothesized:

H1: People are more likely to make an unhealthy food choice after a dining companion's unhealthy food choice (i.e., indulgent companion context) than they are after a dining companion's healthy food choice (i.e., non-indulgent companion context).

Altruistic indulgence and communal relationships

In the healthy-causes-guilt context, we ask the following question: For whom are people more likely to engage in altruistic indulgence? Consistent with our altruistic account, we predict that altruistic indulgence will be more likely when the indulgent companion is someone whose feelings the focal person cares about. Previous research has shown that people feel more responsible for the welfare of those with whom they have communal relationships (e.g., friends, family members, and romantic partners). They also show greater care and willingness to help these people, often neglecting their own self-interest (Aggarwal, 2004; Clark, Oullette, Powell, & Milberg, 1987). Thus, we hypothesize that people will be more likely to show altruistic indulgence toward those with whom they have a communal relationship (e.g., friends) than toward those with whom they do not have a communal relationship (e.g., rivals). More specifically, we hypothesize:

H2: People are more likely to make an unhealthy food choice when the indulgent companion is a friend (i.e., communal relationship) than when the indulgent companion is a rival (i.e., non-communal relationship).

Emotion management (altruistic) motives and alternative explanations

Our central proposition focuses on people's desire to manage the feelings of a dining companion through their food choice. If altruism is responsible for the unhealthy choice, then higher indulgence should be mediated by people's desire to make their dining companions feel more comfortable. Hereafter, we call such desires emotion management motives. We hypothesize:

H3: The effect shown in H2 will be mediated by people's emotion management motives.

Essentially, our hypothesis is about people's modeling behavior (i.e., one person making the same or a similar choice as another) during decision making about food (Cruwys, Bevelander, & Hermans, 2015). One alternative to our hypothesized explanation includes social acceptance motives, which arise from concerns about not being accepted or about being criticized for not conforming to the companion (Exline, Zell, Bratslavsky, Hamilton, & Swenson, 2012; Robinson, Tobias, Shaw, Freeman, & Higgs, 2011). That is, people feel social pressure to make the same choice that the dining companion made because they want to be accepted.

Theoretically, our altruistic account, which is about helping, is different from the social acceptance account, which is about being accepted and liked. Empirically, we delineate the altruistic account from the social acceptance account in our studies. In Study 1, we assessed whether people display similar levels of modeling behavior, that is, the extent to which one person makes the same choice as another (Cruwys et al., 2015), across food choices. If the social acceptance motives fully account for modeling, food choice should be similar regardless of a companion's (healthy or unhealthy) choice. However, we found that modeling emerged more strongly after a companion's

unhealthy (vs. healthy) choice, consistent with our altruistic account. Second, in Study 2, we measured both altruistic motives and social acceptance motives. A factor analysis showed that these are different constructs, and we found that the unhealthy choice was mediated by altruistic motives.

Study 1

Study 1 was a field study conducted at a coffee shop located in a large university in South Korea. The majority of customers were members of the university, that is, students, professors, and staff. Experience has shown that when two such members dine together, they are often in a communal relationship. We obtained transaction receipts that contained information about the type and number of beverages sold and the sequence in which the beverages were ordered. The receipts that were of most interest were those for two beverages (representing dyad orders) where the first-ordered beverage was unhealthy. These receipts naturally represented the indulgent companion context. We anticipated that a greater portion of second-ordered beverages would be unhealthy when they followed first-ordered beverages that were unhealthy.

We used three other types of purchases as reference points for comparison. First, we collected receipts with only one beverage sold, which represented a solo purchase; because people purchased the beverage alone, their decision would have involved self-focus. Second, we examined the first-ordered beverages of dyad orders where purchases were made prior to a companion's order and would also have involved self-focus. Third, we examined the second-ordered beverages of dyad orders where the companion made a healthy choice; this purchase decision would have involved other-focus, but it does not represent a healthy-causes-guilt context.

Method

We obtained 649 transaction receipts from the coffee shop for a period of one week. Of these, 419 transaction receipts represented solo purchases, while 230 transaction receipts (460 drinks) represented dyad purchases. We coded the beverages containing less than 20 calories as low-calorie and the beverages containing more than 120 calories as high-calorie (none of the beverages were between the two criteria). We compared people's beverage choice (low-calorie vs. high-calorie) for four types of purchases: (1) solo purchase, (2) first orders of dyad purchases, (3) second orders of dyad purchases that started with a low-calorie choice, and (4) second orders of dyad purchases that started with a high-calorie choice. The fourth type represents the healthy-causes-guilt context, specifically the indulgent companion context.

Results

Table 1 and Figure 1 list the choice share and average calories of the low- and high-calorie beverages for the four types of purchases. First, of the 419 solo purchases, about half (46.5%) were low-calorie beverages and about half (53.5%) were high-calorie beverages. We assumed that this pattern represented people's general

Table 1. Percentage and calorie information of beverages for solo and dyad orders.

	Dyad orders	
Solo orders	First orders	Second orders
Low-calorie (M = 11.22) (46.5%; n = 195)	Low-calorie (M = 11.48) (52.2%; n = 120)	Low-calorie (M= 11.40) (60.0%; n = 72)
		High-calorie (M = 212.59) (40.0%; n = 48)
High-calorie (M = 226.26) (53.5%; n = 224)	High-calorie (M = 232.88) (47.8%; n = 110)	Low-calorie (M = 11.09) (19.1%; n = 21)
		High-calorie (M = 254.13) (80.9%; n = 89)

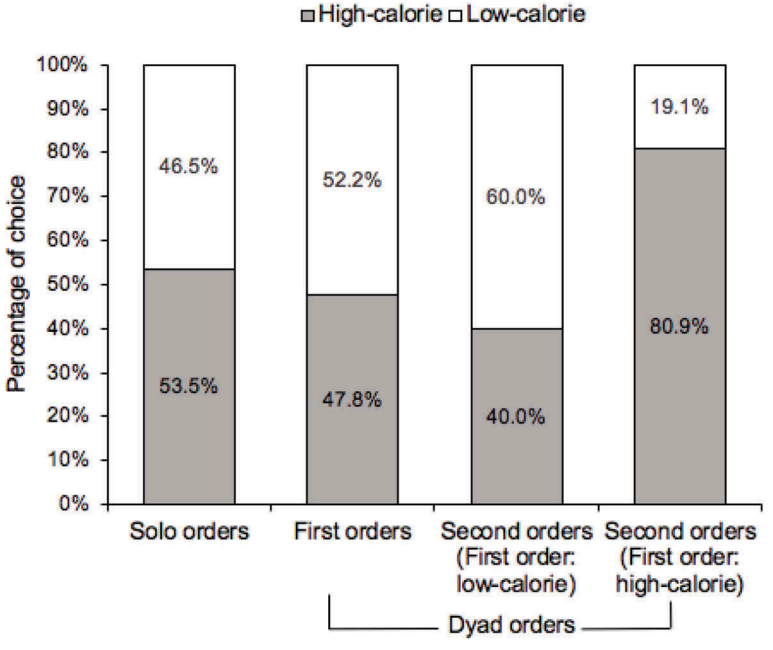

Figure 1. Percentage of high- vs. low-calorie choice for solo and dyad orders.

preferences and self-focused decisions. Second, of the first orders for the 230 dyad purchases, about half (52.2%) were low-calorie beverages, and about half (47.8%) were high-calorie beverages. We assumed that the first-ordered purchases also represented people's general preferences and self-focused decisions because this choice was made prior to the companion's choice. The likelihood of making a healthy choice was similar for the solo purchase and the first orders of the dyad purchases, χ^2 (1, N = 649) = 1.89, p = .17, φ = −.05.

Next, to test our hypothesis on altruistic indulgence, we examined the second orders of dyad purchases that started with a high-calorie choice. We compared the proportion of second-ordered high- and low-calorie beverages. Consistent with our hypothesis, after a high-calorie choice by the indulgent companion, a greater percentage of people (80.9%) made a high-calorie choice rather than a low-calorie

choice (19.1%). This percentage was also higher than that of people who made a high-calorie choice (40.0%) as the second order in dyad purchases that started with a low-calorie choice, χ^2 (1, N = 230) = 39.88, $p < .001$, $\varphi = .42$.

Finally, we examined the choice pattern for the second orders of dyad purchases that started with a low-calorie choice. We did not view this type of purchase as a healthy-causes-guilt context, and expected much weaker modeling behavior in this situation. As predicted, modeling of the healthy choice did not emerge (i.e., first-low and second-low combinations). The percentage of the second-ordered low-calorie choices (60.0%) did not differ from that of the first-ordered low-calorie choices (52.2%; $Z = -1.40$, $p = .16$). The evidence for modeling behavior for the unhealthy choice was strong (i.e., first-high and second-high combinations). The percentage of the second-ordered high-calorie choices (80.9%) was significantly greater than that of the first-ordered high-calorie choices (47.8%; $Z = -5.79$, $p < .001$). Thus, the modeling behavior for the unhealthy choice (an approximately 33% increase) was greater than the modeling behavior for the healthy choice (an approximately 8% increase). These results support hypothesis 1.

Discussion

Study 1 was a field study at a coffee shop. We examined people's choice patterns in sequential orders of dyad purchases and solo purchases. Supporting our hypothesis, people who ordered after the indulgent companion (i.e., a companion who made an unhealthy choice) were more likely to make an unhealthy choice. Further, the likelihood of an unhealthy choice was significantly greater in the indulgent companion context than for solo purchases, the first orders of dyad purchases, and the second orders of dyad purchases that started with a companion's healthy choice. Interestingly, the modeling behavior for unhealthy choices was much stronger than that for healthy choices. These results are consistent with the possibility that the healthy-causes-guilt context involves altruistic motives for modeling.

Moreover, modeling behavior did not occur when the companion made a healthy choice. Without the social motives/concerns that their unhealthy choice might hurt the healthy person's feelings, people following a healthy choice did not show modeling behavior. Thus, the alternative explanation based on a social acceptance motive was addressed to some degree. Given the correlational nature of our setting, some might also question whether our results emerged because people with the same tastes tend to hang out together (i.e., birds of a feather flock together). This notion is unlikely because modeling behavior for healthy choices was not observed.

The strength of Study 1 is that we demonstrated the hypothesized effect of people's modeling behavior for unhealthy choices in a natural setting with actual transaction data. However, a weakness of Study 1 is the lack of detailed data at the individual level, which prevented us from directly testing whether the modeling behavior for unhealthy choices was motivated by altruistic reasons. The following experiment complements Study 1 by exploring altruistic indulgence in a more controlled setting and including mediation analyses.

Study 2

Study 2 was an experiment in which the type of dining companion was manipulated. Participants read a scenario depicting the indulgent companion context and made a choice between two meals that differed in total calories. Specifically, we explored the type of companion for whom people are most likely to display altruistic indulgence. Companion type was manipulated to be either a friend (communal relationship) or a rival (non-communal relationship). In real life, there are many instances where people dine with friends and rivals. We believe that, when eating with a rival (vs. a friend), altruistic motives of emotion management would be less of a factor in food decision making. Thus, we predicted that people would be more likely to make an unhealthy choice following a companion's unhealthy choice when the companion is a friend (vs. a rival) for whom one has stronger altruistic motives.

To further provide procedural evidence of altruistic indulgence, we assessed participants' motives for making the food choice. We predicted that people's altruistic, or emotion management, motives would mediate the higher likelihood of making an unhealthy choice for the friend (vs. rival) companion. Study 2 also assessed social acceptance motives as an alternative process account.

Method

Participants and design

One-hundred and seventy-four women (M_{age} = 36.80, SD = 11.97) residing in the U.S.[2] completed the study on Mechanical Turk in exchange for financial compensation. The study followed a single-factorial (companion type: friend vs. rival) between-subjects design.

Procedure

Participants saw a series of cartoons depicting the indulgent companion context. (See Figure 2 for examples; for full information, see Appendix A). In the scenario, the dining companion was described as making the food choice first and choosing the unhealthy option ('Deluxe Fish Burger Meal' containing 1,100 calories) instead of the healthy option ('Regular Fish Burger Meal' containing 300 calories). By random assignment, throughout the scenario, the indulgent companion was described as either a friend or a rival. All other information was the same across the two experimental conditions.

Food choice

After reading about the unhealthy food choice of the indulgent companion (friend or rival), participants chose between a high-calorie option ('Indulge Chicken Burger Meal' containing 1,100 calories) and a low-calorie option ('Diet-Friendly Chicken Burger Meal' containing 300 calories).[3]

Manipulation checks

As a manipulation check for companion type, we employed six items that directly assess relationship norms ('I would enjoy responding to the person's needs'; 1 = *not at all*, 7 = *almost certainly*; Aggarwal & Zhang, 2006), which were used to form a Net

Figure 2. Examples of the cartoons used in the study.

Communality Score (Aggarwal, 2004), with higher scores indicating a high level of communality. It was expected that friends, compared to rivals, would have higher communality scores. See Appendix B for full details.

Emotion management motives

Emotion management motives were assessed with two items: 'I made my food decision to make my friend (rival) feel (. . .) about her own food choice,' −3 = *uncomfortable*, + 3 = *comfortable*; and 'I made my food decision to make my friend (rival) feel (. . .) about her own food choice,' −3 = *unpleasant*, + 3 = *pleasant*. The two items were averaged (Cronbach's alpha = .93).

Social acceptance motives

Social acceptance motives were assessed with two items: 'I made my food decision hoping my friend (rival) would accept me' and 'I made my food decision hoping my friend (rival) would like me' (1 = *strongly disagree*, 7 = *strongly agree*). The two items were averaged (Cronbach's alpha = .97). A principal components factor analysis with an oblique rotation involving the four items (the two items for emotion management motives and the two items for social acceptance motives) produced two factors: emotion management motives and social acceptance motives.[4]

Results

Companion type manipulation checks

As predicted, participants indicated a higher Net Communality Score ($M = 4.05$, $SD = 0.68$) for the indulgent companion in the friend condition than in the rival condition ($M = 3.53$,

$SD = 0.73$), $F(1,172) = 24.40$, $p < .001$, $\eta_p^2 = .12$. Thus, the friend companion was viewed as having a more communal relationship compared to the rival companion.

Companion type on food choice

As predicted, a logistic regression with companion type as the independent variable (0 = rival, 1 = friend) and unhealthy choice as the dependent variable (0 = healthy, 1 = unhealthy) showed that companion type influenced food choice, $b = 0.92$, $SE = 0.32$, χ^2 (1) = 8.45, $p = .004$, odds ratio = 2.50, 95% CI [1.34, 4.66]. In the rival condition, only 29.5% chose the unhealthy option, whereas this number increased to 51.2% in the friend condition (Figure 3). Thus, hypothesis 2 was supported.

Emotion management motives

As predicted, participants indicated higher emotion management motives in the friend condition ($M = 0.94$, $SD = 1.28$) than in the rival condition ($M = -0.38$, $SD = 1.40$), F (1, 172) = 41.79, $p < .001$, $\eta_p^2 = .20$. We next compared participants' responses to the scale midpoint of 0, which indicated a neutral level of emotion management motives. A series of one sample t-tests (target value = 0) showed that participants in the friend condition ($M = 0.94$) made their food choice with the intention of making the friend feel positive, $t(85) = 6.78$, $p < .001$, Cohen's $d = 1.47$, whereas participants in the rival condition ($M = -0.38$) made their food choice with the intention of making the rival feel negative, $t(87) = -2.55$, $p = .013$, Cohen's $d = -0.55$.

Social acceptance motives

Participants indicated relatively higher social acceptance motives in the friend condition ($M = 3.03$, $SD = 2.01$) than in the rival condition ($M = 2.11$, $SD = 1.58$), F (1, 172) = 11.38,

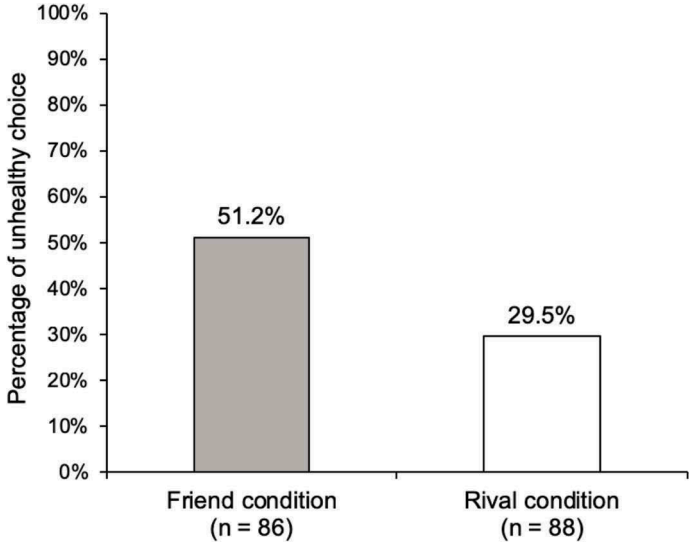

Figure 3. The percentage of unhealthy choices in the friend condition and the rival condition.

$p < .001$, $\eta_p^2 = .06$. We next compared participants' responses to the scale midpoint of 4, which indicated a neutral level of social acceptance motives. A series of one sample t-tests (target value = 4) showed that participants' responses were significantly lower than the scale midpoint both in the friend condition, M = 3.03, $t(85) = -4.46$, $p < .001$, Cohen's $d = -0.97$, and in the rival condition, $M = 2.11$, $t(87) = -11.23$, $p < .001$, Cohen's $d = -2.41$. This suggests that social acceptance motives were less likely to emerge in this particular scenario, which did not involve overt social pressure by the indulgent companion.

Mediation analyses

We explored whether emotion management motives mediated the effect of companion type on unhealthy choice. Hayes's (2013) PROCESS macro with 5,000 bootstrapped samples supported the proposed mediation, as the 95% confidence interval (CI) for the indirect pathway did not include zero, $b = 1.36$, $SE = 0.34$, 95% CI [0.82, 2.11]. The direct effect of companion type on unhealthy choice was not significant, indicating full mediation by emotion management motives, $b = -0.09$, $SE = 0.39$, 95% CI [−0.86, 0.68]. The direction of the effects in the mediation analysis (Figure 4) indicates that the friend (vs. rival) companion led to stronger emotion management motives, which in turn contributed to higher chances of an unhealthy choice. Thus, hypothesis 3 is supported (see Figure 4 for details).

We subsequently explored the mediating role of social acceptance motives – our rival process hypothesis. A bootstrapping analysis with 5,000 samples revealed that social acceptance motives did not mediate the effect of companion type on unhealthy choice, as the 95% confidence interval for the indirect pathway included zero, $b = 0.11$, $SE = 0.10$, 95% CI [−0.04, 0.33]. Thus, social acceptance motives did not explain the unhealthy food choice.

Discussion

Study 2 assessed altruistic indulgence in a scenario-based experiment with U.S. residents. As anticipated, participants were more likely to make an unhealthy choice when the indulgent companion was a friend rather than a rival. These results from a controlled setting nicely complement the field data from Study 1.

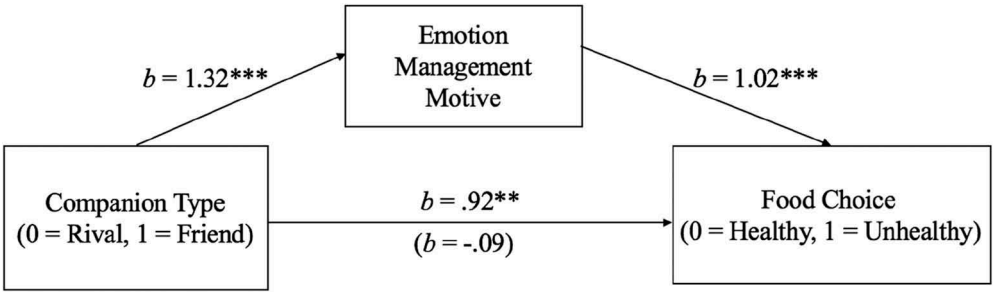

Figure 4. The relationship between companion type and unhealthy choice, as mediated by emotion management motives.

Notes. The path coefficients are unstandardized betas. Values in parentheses indicate the effect of companion type on unhealthy choice after controlling for the mediator. *$p < .05$; **$p < .01$; ***$p < .001$.

Study 2 showed procedural evidence of altruistic indulgence. The greater likelihood of an unhealthy choice with the friend (vs. rival) was mediated by participants' emotion management motives. That is, when the indulgent companion was a friend (vs. rival), participants were more likely to choose unhealthy food for the self with the specific intention of making the companion feel more comfortable and pleasant.

Study 2 also assessed social acceptance motives as an alternative process account (Robinson et al., 2011). The results of the factor analysis revealed that social acceptance motives and emotion management motives each loaded on separate factors, suggesting that the two are distinct constructs. Moreover, social acceptance motives did not mediate the effects of companion type on unhealthy choice, ruling that out as an alternative explanation.

General discussion

Two studies investigated the novel phenomenon of people eating unhealthy foods with the altruistic motive of making others feel comfortable and pleasant. Study 1 showed that altruistic indulgence emerges in the real world. Customers at a coffee shop were more likely to choose a high-calorie beverage after a dining companion made an unhealthy (vs. healthy) choice. Study 2 showed that altruistic indulgence was more likely for a friend (vs. rival), which was mediated by altruistic motives of making the companion feel more comfortable and pleasant.

The alternative explanation of social acceptance motives was ruled out. In Study 1, contrary to what social acceptance motives would predict, modeling behavior was not observed following the companion's healthy choice. In Study 2, social acceptance motives did not mediate the unhealthy choice. A limitation of Study 2 was that it was a role-playing study in which participants imagined being in the indulgent companion context and made imaginary choices. However, the results of Study 2 were consistent with the results of Study 1, which observed people's real behavior.

The present research contributes to the social eating literature by providing a novel account of altruistic motives. Modeling behavior in eating has been documented in prior literature (for a review, see Cruwys et al., 2015), but such research discussed the motives for compliance induced by uncertainty reduction (i.e., how to properly act), conformity induced by the desire to avoid criticism (Exline et al., 2012; Stallen, Griffioen, & Sanfey, 2017), or the need for affiliation (Robinson et al., 2011).

We suggest that altruistic indulgence is unique in that it is voluntary and motivational rather than being based on compliance or conformity. First, our studies involved familiar choice contexts (i.e., coffee or burgers) that included minimum uncertainty as to how to act, and thus, uncertainty reduction motives were less likely. Second, the results of Study 1 showed that modeling behavior emerged more strongly after the companion's unhealthy (vs. healthy) choice. Third, the results of Study 2, in which the type of companion was a friend or a rival, clarify this suggestion. Social acceptance motives would posit that people are equally likely to make an unhealthy choice in each of the two conditions. However, consistent with our altruistic motives account, the unhealthy choice was *less* likely when the companion was a rival with whom helping motives were less likely to arise. Further, the mediation analysis in Study 2 supported the altruistic motives account. For social acceptance motives, the mediation analysis was

not statistically significant. Although mediation analysis was not statistically significant, participants indicated higher social acceptance motives when the indulgent companion was a friend rather than a rival. Future research can explore when the influence of social acceptance motives would be stronger than the influence of emotion management motives.

Prior research has investigated the various factors that lead to people's unhealthy choices (Dhar & Simonson, 1999; Gomez, Werle, & Corneille, 2017; Raghunathan et al., 2006; Yan et al., 2017; Yang et al., 2012). The present research adds to this literature by identifying the desire to make others feel comfortable as a unique reason for unhealthy choices. It also shows that indulgence can emerge with a conscious decision. Typically, indulgence is regarded as an egoistic choice associated with short-term pleasure for the self and engaged via loss of self-control (Ramanathan & Williams, 2007). However, we show that altruistic indulgence is associated with self-sacrifice (forgoing one's preference and health) and is engaged in voluntarily in a conscious and deliberate process. Prior research has shown that people are more likely to make indulgent choices for others (vs. self) because of the belief that others will not exert self-control (Laran, 2010). Altruistic indulgence runs counter to such research because we show that, in the healthy-causes-guilt context, people make more indulgent choices for the self because of a focus on an altruistic goal.

One avenue for future research is whether altruistic indulgence emerges differently across individualistic and collectivistic cultures. The results of our data suggest that altruistic indulgence emerges similarly across different cultures. Study 1 was conducted in Korea and Study 2 was conducted in the U.S. However, we did not directly compare across the two cultures in a single study. Thus, we defer to future research to explore the important role of culture.

Research might also examine the effect of a companion's body type. Prior research (McFerran, Dahl, Fitzsimons, & Morales, 2010) has discussed the important role of a social referent's body type on people's choices. We anticipate that altruistic indulgence will be greater when the indulgent companion is heavier. This is because people should believe that a healthy choice will make a heavier individual feel particularly guilty in the healthy-causes-guilt context. Future research can also examine the end-state people feel after engaging in altruistic indulgence. Will people feel comfortable and pleasant because they have helped reduce another person's guilt? Or, will people experience regret and feel bad because they ended up consuming high-calorie foods?

Notes

1. Merriam-Webster defines altruism as 'feelings and behavior that show a desire to help other people and a lack of selfishness' (Altruism, 2016). Our anticipated behaviors fit this definition because they primarily involve helping motives (to avoid causing another person guilt and to make another person feel comfortable and pleasant) and self-sacrifice (forgoing healthy food and choosing unhealthy food).
2. To prevent potential errors related to gender mismatches, we described the indulgent companion in the scenario as a woman and recruited only female participants. Restricting the inquiry to women (who are more sensitive to social cues than men) is consistent with previous research on social eating (McFerran et al., 2010).

3. We intentionally differentiated the key ingredients of the burgers for the companion's options (fish burgers) and participants' options (chicken burgers). This setup excludes the possibility of participants choosing exactly the same option that their companion chose. Thus, the high-calorie option of the companion and the high-calorie option of the participants were similar only in their (high) calories and not food ingredients.
4. To assess the discriminant validity of the emotion management motives and social acceptance motives, we conducted an exploratory factor analysis with the four items used. Using an eigenvalue > 1 criterion, the factor analysis revealed two factors that accounted for 95.24% of the variance. Results from a Varimax rotation allowed for an interpretation of these two factors: the first factor involved the social acceptance motive measures (factor loadings > .95), and the second factor included the emotion management motive measures (factor loadings > .93). The third-highest eigenvalue (0.14) indicated that a scree plot criterion would have also resulted in the extraction of two factors. These results establish a high degree of discrimination between emotion management motives and social acceptance motives.

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Jacob C. Lee http://orcid.org/0000-0002-1410-4711

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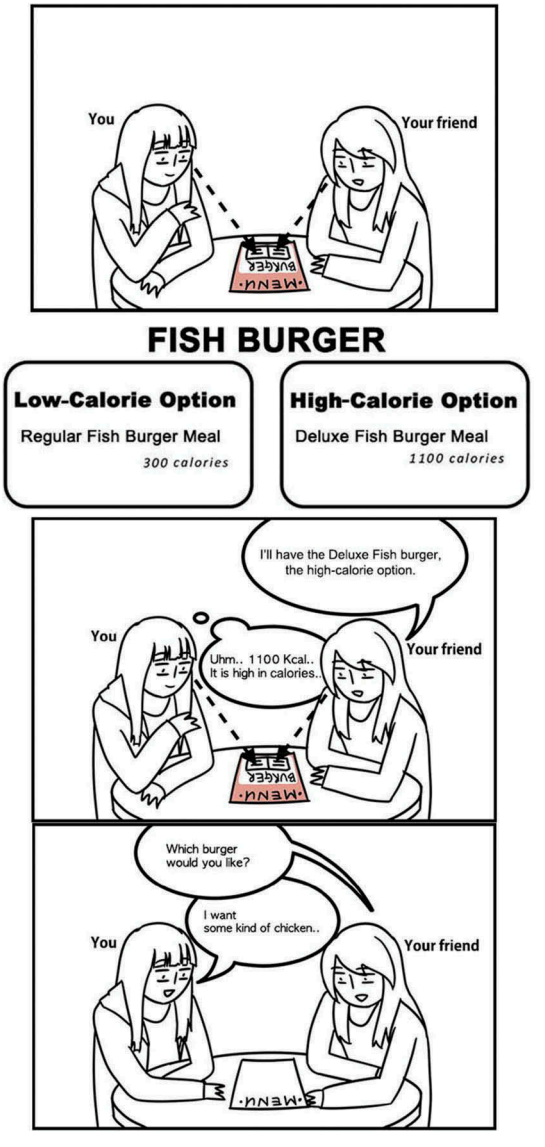
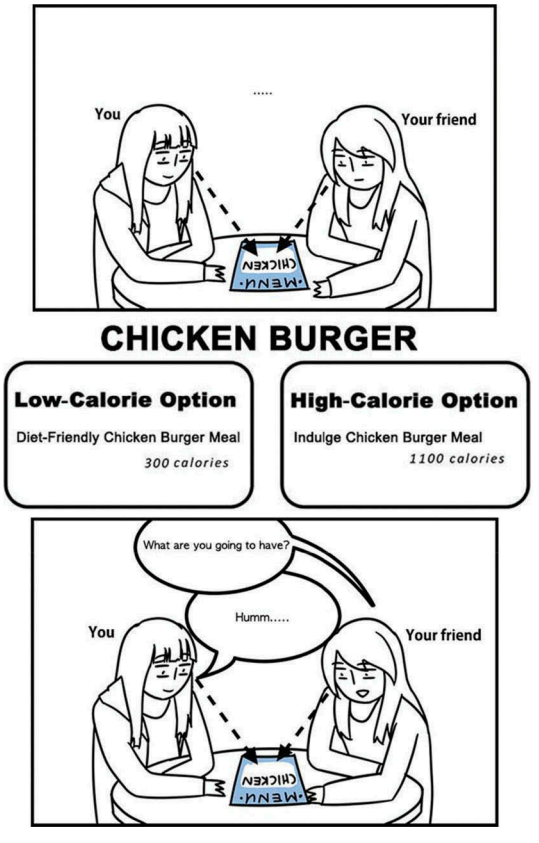
Appendix A. Materials used in Study 2

Materials used in the friend condition (materials used in the rival condition were exactly the same except that the word friend was replaced with rival)

From the next page, you will see a series of cartoons about eating out with another person. Imagine that this person is your friend. Please read the cartoon as if you are in the situation. You have visited a restaurant with your friend. The person on the left is you, and the person on the right is your friend.


You
Your friend
MENU
BURGER
FISH BURGER
Low-Calorie Option
Regular Fish Burger Meal
300 calories
High-Calorie Option
Deluxe Fish Burger Meal
1100 calories
I'll have the Deluxe Fish burger, the high-calorie option.
Uhm.. 1100 Kcal.. It is high in calories..
Which burger would you like?
I want some kind of chicken..



Appendix B. Measures used in Study 2

Manipulation check for the companion type manipulation using a friend (communal relationship) versus a rival (non-communal relationship)

As a manipulation check for companion type, we used six items that directly assess relationship norms (Aggarwal & Zhang, 2006). Three items tapped into the communal relationship norm: 'I would enjoy responding to the person's needs,' 'I would like doing things for the person,' and 'I would like the person to respond to my needs' (1 = *not at all*, 7 = *almost certainly;* Cronbach's alpha = .90). The other three items tapped into the exchange relationship norm: 'I would like to keep things even with the person,' 'I would feel the need to pay the person back immediately,' and 'I would return something comparable if I received something from the person' (1 = *not at all*, 7 = *almost certainly;* Cronbach's alpha = .82). Following prior research (Aggarwal, 2004), the final three items on the exchange relationship norm were reverse-scored and combined with the three items on the communal relationship norm to form a Net Communality Score, with higher scores indicating a high level of communality.