
The gender-based stereotype about food is on the table

Food choice also depends on co-eater's gender

Nicoletta Cavazza, Margherita Guidetti and Fabrizio Butera

Previous research has shown that different foods are stereotypically associated with gender and that eating in a role-congruent way fulfills an impression management function. On the other hand, other studies revealed that adapting one's food consumption to that of the co-eaters is a means to gain social approval as well. In the present study, we bridge these two distinct lines of research by studying what happens when the two norms (conforming to the gender-based stereotype and imitating the co-eater) conflict, that is with opposite-sex co-eaters. Results indicated that the tendency to match the co-eaters' supposed consumption generally appeared over and above one's gender-congruent choice. In addition, as expected, gender differences also emerged: while men were always willing to adapt to the co-eaters, women's intention to eat the feminine food was independent from the co-eaters' gender.

If you have eaten a hamburger or a Caprese salad for lunch today maybe it is not simply because you like their taste, but also for their stereotypical meaning anchored to gender. Thanks to anthropological research, it is now well known that in every culture there are gender-based stereotypes about food (e.g., Counihan & Kaplan, 2004). Psychologists have also long studied the nature (e.g., food type and their nutritional features, portion size) and the implications of food-gender associations in terms of food choice, social judgment and impression management (O'Doherty Jensen & Holm, 1999; Vartarian, Her-

man & Polivy, 2007). This field of research has pointed to several stereotypical associations between food and gender, such as the fact that red meat is for men, whereas vegetables, dairy products, fish, fruit and sweets are generally considered feminine foods (O'Doherty Jensen & Holm, 1999).

Research also suggests that food, beyond its nutritional characteristics, fulfils two closely linked functions of impression formation and impression management (Herman, Roth & Polivy, 2003; Sobal, 2005). On the one hand, several studies have been

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devoted to the impact of stereotypical food choice on impression formation, showing that observers tend to attribute masculinity or femininity to targets as a function of the foods they eat (e.g., Stein & Nemeroff, 1995). Furthermore, femininity is more often associated with what women do not eat, for example with eating lightly or dieting (Bourdieu, 1984; Fagerli & Wandel, 1999; Sobal, 2005), which explains why eating little elicits a feminine impression (Chaiken & Pliner, 1987; Pliner & Chaiken, 1990). On the other hand, it has been shown that women may regulate food consumption as a strategy of impression management (Mori, Chaiken & Pliner, 1987). Interestingly, empirical evidence confirmed that men and women largely share these gender-based stereotypes about food (Kimura et al., 2009; Kimura et al., 2012; Rozin et al., 2012).

Surprisingly, however, research is mute about the strategic choice of food in relation to the co-eaters' gender, arguably an important question given that very often people eat with family, friends, colleagues and their partner. Some literature suggested that behaving in a role-congruent way (i.e., a woman eating feminine food and a man eating masculine food) is a means to induce a positive impression of oneself (for a review, see Vartarian et al., 2007). Additionally, other studies revealed that adapting one's behavior to that of an interlocutor is a means to gain social approval as well (Robinson et al, 2011). Considering this combination of results, it is possible to imagine that in gender homogeneous situations, eating food that is stereotypically associated with one's gender would be the best choice, as this allows to both express one's own identity and match the other's behavior at the same time. But what happens with opposite-sex co-eaters? Would people choose the food that is congruent with their own gender or the food that is congruent with the co-eater's gender (in order to match his/her supposed choice)? This question is interesting – given the importance of food for social interaction, identity expression and impression management – but it has not been addressed in previous research. Thus, we devised a study in which we investigated the likelihood to choose a masculine and feminine dish as a function of the eater's and co-eaters' gender.

1. Influence of the Co-Eaters

As we often consume meals in social situations, we use food choice and consumption regulation as a tool for managing social interactions. Research on social influence on eating shows that, in social situations, individual food consumption varies as a function of three main processes: (a) the social facilitation effect; (b) modeling; (c) self-presentation motivations (Herman, Roth & Polivy, 2003).

Studies on the first process have produced a number of results showing that not only do people eat more when with others than when alone, but also the amount of food people eat increases as a function of the number of fellow diners (for a review, see Herman, 2015). As for the second process, modeling, research has shown that, when eating in pairs, people (both obese and normal weight) tend to adapt their

food intake to that of their companion (Goldman, Herman & Polivy, 1991). More recently it has been shown that the reciprocal adaptation is an ingratiating tactic oriented to obtain social acceptance: individuals tend to match the partner's food consumption as a kind of behavioral mimicry (Robinson et al., 2011). In the same line, when eating in groups, people tend to converge in a group-specific norm of consumption (Cavazza, Graziani & Guidetti, 2011).

More relevant for the present study, research has addressed a third process, namely the self-presentational meaning of food choice (for a review, see Vartarian et al., 2007). In this domain, scholars have often focused on gender stereotypes associated with both the quality and quantity of food eaten. The consumption of gender-stereotyped food or meals has been identified as a means to convey a masculine or feminine identity (Sobal, 2005). A great deal of research has been devoted to study the impression that an eater induces to observers or co-eaters as a function of her/his stereotype-congruent or incongruent food choice (Vartarian et al., 2007). Overall, this line of research confirmed that both men and women eating «feminine» food are indeed rated as more feminine than those eating «masculine» foods (Chaiken & Pliner, 1987; Mori et al., 1987; Mooney & Lorenz, 1997; Stein & Nemeroff, 1995). Through socialization, individuals learn a masculine or feminine eating style (Rolls, Fedoroff & Guthrie, 1991), so that they can put forward an appropriate behavior with their sex role, as a function of impression management motivations elicited by different co-eaters. For example, it was found that in order to convey a desired impression, women eat less in the presence of an attractive man than in the presence of a non-attractive man or a woman (Mori et al., 1987; Pliner & Chaiken, 1990).

Interestingly, most of the available research has focused on food consumption regulation and much less on food type choice. However, in this respect, White and Dahl (2006) found that people prefer to avoid food associated with a dissociative reference group (e.g., men did not like to eat a steak that was defined as «lady's cut») because this is a behavior incongruent with their sex role. More recently, Gal and Wilkie (2010) placed their experimental participants in conditions of high vs. low cognitive resources availability and asked them to order a meal from a menu in which the same courses were named in a feminine or in a masculine way. They observed that, whereas men chose less feminine items in condition of high (vs. low) resources availability, women always tended to choose more feminine than masculine items, irrespective of resources availability. However, these studies did not consider who the co-eaters were (e.g. women vs. men).

2. The present research

Combining the literature on the modeling effect with that concerning the self-presentational function of food, a motivational conflict appears as a potential outcome

of eating in different-sex dyads. Indeed, when an individual eats in a same-sex dyad, the self-presentation motivation that might lead to prefer gender-congruent food coincides with that of modeling the other's preference for the same gendered food. But in opposite-sex dyads, the motivation to model the other's choice is at odds with the self-presentation motivation. What motivation and choice would prevail in this situation still represents an empirical conundrum. This is why we devised the present study, in which we exposed male and female participants to a picture representing a stereotypical feminine vs. masculine food and asked them to estimate the likelihood to eat the dish in same-sex and in different-sex social situations.

On the basis of the literature reviewed above, we expected to observe a higher likelihood of gender-congruent (vs. incongruent) choice in same-sex social situation, and an increase of gender-incongruent choice likelihood in different-sex situations, in which the motivation of signaling one's own identity co-occurs with the motivation of ingratiating the co-eaters by matching their supposed preferences. In operational terms, we expected to find a significant 3-way interaction among respondents' gender, co-eaters' gender, and type of food.

3. Method

3.1. Participants

One hundred and 99 participants (67.8% women) aged 18-64 ($M = 28.51$, $SD = 8.56$) were recruited through personal mailing list, Facebook contacts and snowball sampling. They gave their informed consent to participate in the study and were asked to complete an online questionnaire about food habits implemented on the LimeSurvey platform. Data for the present study were gathered along with data for other research purposes.

3.2. Design and procedure

The experiment followed a 2 (respondents' sex) \times 2 (type of dish: hamburger vs. Caprese salad) \times 2 (willingness to eat the dish as a function of co-eaters' sex: women vs. men) mixed factorial design, with repeated measures on the last factor. Participants (men and women) were presented one of two pictures of a dish (a hamburger or a Caprese salad), pre-tested and already used in another experiment (Cavazza, Guidetti & Butera, 2015). The selection of those dishes was made on the basis of a pilot study in which 20 participants had to categorize a list of 26 prepared dishes according to how much they associated these dishes to men, women, both of them, none of them. The results showed that the hamburger was mostly associated to men (65%) and the Caprese salad to women (65%).

The two selected pictures represent a white dish with a 250-grams minced-beef patty accompanied by 100 gr. of lettuce and tomato dressed with 10 gr. of olive oil and 10 gr. of mayonnaise (for a total of 554 calories) vs. 200 gr. of mozzarella cheese accompanied with 100 gr. of tomato dressed with 10 gr. of olive oil (for a total of 550 calories). Participants were randomly assigned to these conditions.

After viewing the picture, participants were invited to fill in a questionnaire which included three items to evaluate the dish (healthiness, palatability, calories), on a scale ranging from 1 = *not at all* to 10 = *very much*. They also assessed the association with gender (i.e., *gender-based stereotype about food*), on two 10-point bipolar items anchored to feminine (= 1) and masculine (= 10) asking how much the dish made them think of women/men and the degree of appropriateness of that dish for women (= 1) and for men (= 10). We averaged them to obtain an index of masculine/feminine associations with the food (items correlation = .47). Higher scores correspond to masculine associations. Finally, two items operationalized the repeated factor *willingness to eat the dish in masculine and feminine company* («I would order this course in a dinner with men/women»), and one item measured the willingness to eat the dish in the specific context of a *romantic dinner* («I would order this course in a romantic dinner»); participants answered on a scale ranging from 1 = *very unlikely* to 10 = *very likely*.

4. Results

4.1. Preliminary analyses: Dish evaluation

The Caprese salad was evaluated as healthier ($M = 7.51$; $SD = 2.85$), and more palatable ($M = 7.66$; $SD = 2.89$) than the hamburger ($M_{\text{healthy}} = 5.74$; $SD = 2.30$; $M_{\text{palatable}} = 6.83$; $SD = 2.58$), $F_{\text{healthy}}(1, 192) = 22.33$, $p < .001$, $\eta^2 = .11$; $F_{\text{palatable}}(1, 190) = 4.33$, $p = .03$, $\eta^2 = .02$. Despite the fact that the represented dishes were arranged as to be comparable in terms of calories, the hamburger was evaluated as more caloric ($M = 5.28$; $SD = 2.09$) than the Caprese salad ($M = 3.38$; $SD = 2.02$), $F(1, 189) = 19.13$, $p < .001$, $\eta^2 = .09$. The respondents' gender did not influence significantly these judgements.

In line with a previous study (Cavazza, Guidetti & Butera, 2015), the Caprese salad was associated more to the feminine pole ($M = 3.94$; $SD = 1.40$) than the hamburger ($M = 5.57$; $SD = 1.70$), $F(1, 183) = 43.61$, $p < .001$, $\eta^2 = .23$, by both men and women of our sample (the interaction was not significant). Although Caprese salad and hamburger differed from each other in terms of their feminine/masculine connotation, we have to remark that the one-sample t-test contrasting this association with the midpoint of the scale (i.e., 5.5) confirmed that the Caprese salad was indeed perceived as a feminine food, $t(96) = -10.59$, $p < .001$, whilst hamburger was perceived as a rather neutral food, $t(98) = .65$, *ns*.

4.2. Willingness to eat gender-stereotyped foods with men and women

A 2 (type of food) \times 2 (respondents' gender) \times 2 (willingness to eat the course with men vs. women) mixed-design ANOVA was performed, with repeated measures on the last factor. The analysis yielded no main effects (all $ps > .24$), but the interaction between the repeated factor and the type of food proved to be significant, $F(1, 180) = 24.89, p < .001, \eta^2 = .12$, as well as the three-way interaction, $F(1, 180) = 7.53, p = .007, \eta^2 = .04$.

The two-way interaction indicated an overall higher willingness to eat the food that was stereotypically more congruent with the gender of the co-eaters: the Caprese was rated as more likely to be eaten with women ($M = 5.45; SD = 2.87$) than with men, ($M = 5.04; SD = 2.74$), $F(1, 93) = 3.79, p = .054, \eta^2 = .04$, whereas the hamburger was rated as more likely to be eaten with men ($M = 5.21; SD = 2.85$), than with women ($M = 4.34; SD = 2.69$), $F(1, 95) = 16.26, p < .001, \eta^2 = .15$.

However, the three-way interaction specified that, as shown in Figure 1, male and female participants reported different patterns of willingness to eat gender-stereotyped foods as a function of the co-eaters' gender. Women (Figure 1a) clearly differentiated their likelihood to eat the gender-incongruent food (i.e., hamburger) as a function of the co-eaters' gender – higher when with men than when with women, $F(1, 66) = 7.63, p = .007, \eta^2 = .10$ – whereas they expressed a comparable likelihood to eat the gender-congruent food (i.e., Caprese salad), $F(1, 63) < 1$, when with men and when with women. Instead, men expressed more willingness to eat the gender-congruent hamburger when eating with other men than with women, $F(1, 24) = 7.96, p = .009, \eta^2 = .25$, and more willingness to eat the gender-incongruent Caprese salad with women than with men, $F(1, 27) = 6.48, p = .017, \eta^2 = .19$ (Figure 1b).

Furthermore, we analyzed the effect of the course manipulation in relation to a specific gender heterogeneous context, performing a 2 (respondents' gender) \times 2 (type of food) ANOVA on the willingness to order the course in a romantic dinner. Only the main effect of food type was marginally significant, $F(1, 183) = 3.83, p = .052$, indicating that both women and men estimated a higher likelihood to order the more feminine food (i.e. Caprese, $M = 3.33, SD = 2.69$) than the less feminine one (i.e. hamburger, $M = 2.58, SD = 2.08$)¹. Therefore, this results confirmed that in gender heterogeneous context men tend to adapt to their partners' supposed choice, while women seem more inclined to express their feminine identity through food choice.

¹ The same analyses including the calories estimation as a covariate did not change the pattern of results.

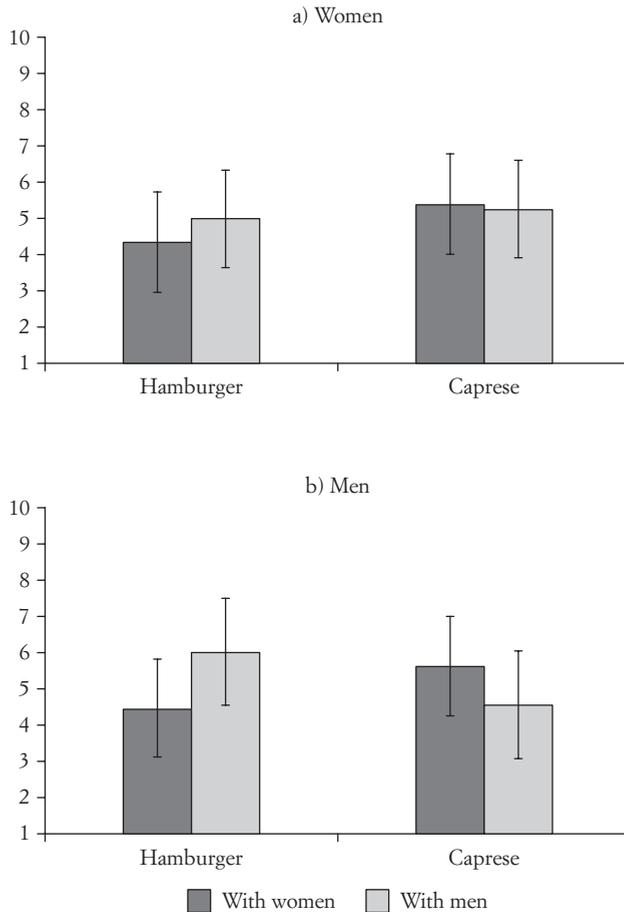


FIG. 1. Mean willingness to eat the proposed dish as a function of participants' and the co-eaters' gender. Error bars represent standard deviations.

5. Discussion

With the present study, we intended to fill a gap in the literature concerning the strategic consumption of gender-based stereotypical foods in social situations. Previous research has shown that food choice and consumption regulation may convey femininity or masculinity impressions about the eater. However, thus far only the regulation of food quantity has been studied in relation to characteristics of the co-eaters (e.g. Young, Mizzau, Mai, Sirisegaram & Wilson, 2009). We were interested in the influence of the co-eaters' gender on the willingness to eat a gender-based stereotypical food, because in regular dining situations two potentially conflicting motivations can arise: *a*) that of satisfying gender-role expectations, which should

lead to prefer gender-congruent foods over incongruent ones; and *b*) that of eliciting others' approval by matching their stereotypical preferences. We reasoned that in same-sex eating situations these two motivations converge in the same outcome, whereas in opposite-sex situations they diverge, causing a dilemma to the eater. This is why we hypothesized an attenuation of the likelihood to eat gender-congruent food items in the latter situation as compared with the former.

Our results first showed an interesting, though unexpected, result: the tendency to match the co-eaters' gender-congruent food generally appeared over and above one's gender-congruent choice. The two-way interaction between food type and co-eaters' gender (but not respondents' gender) indicates that overall our participants imagined as more likely to eat the feminine food with women and the less feminine food with men. Therefore, facing the conflict between the motivation to exhibit a role-congruent choice and that of converging with the co-eaters, our participants preferred to go along this second option. As mimicry of behavior fosters perceived similarity (Chartrand & van Baaren, 2009) and perceived similarity fosters interpersonal attraction (Byrne & Griffitt, 1969), we can suppose that anticipating the co-eaters' preferences is a way to manage impression.

However, the hypothesized three-way interaction specified that this effect presents a slightly different pattern for men and women. Indeed, women reported that they would eat their gender-congruent food (Caprese salad) irrespective of the co-eaters' gender, whereas they evaluated as more probable to eat the gender-incongruent food (hamburger) with men than with women. Men's intentions revealed their prevailing tendency to adapt to the co-eaters: they reported a higher likelihood to eat the Caprese salad with women than with men, and a higher likelihood to eat the hamburger with men than with women. The finding concerning the likelihood to order the dish in a romantic dinner confirmed the pattern highlighted above for gender heterogeneous contexts. This supports a cross situational validity. However, we must acknowledge that the correlation between the willingness to eat the dish with the opposite-sex situations and the willingness to order it in a romantic dinner ($r = .60$) could be inflated by the common method variance bias, as the items were close to each other in the questionnaire. Future research should avoid this problem in order to ascertain whether impression management strategies lead to bolster stereotype-consistent choice when there is a sexual interest toward the co-eater.

In line with studies concerning food intake regulation (Young, Mizzau, Mai, Siri-segaram & Wilson, 2009), the respondents' gender difference suggests that the gender-based stereotypes about food are more binding for women than for men. Indeed, men were ready to renounce to the hamburger (best able to communicate their masculine identity) if eating with women (both in an unspecified social occasion and in a romantic dinner); instead when having the possibility to eat their gender-congruent food, women did not show such a sacrifice in a masculine context (including for a romantic dinner), thus choosing to use the food to communicate their gender identity rather than to ingratiate the co-eaters. These results are consistent with prior research

on the modeling effect (e.g., Goldman, Herman & Polivy, 1991), and bridge this area of research with the hitherto distinct literature concerning the self-presentational function of food (e.g., Pliner & Chaiken, 1990). Our findings offer initial support to the hypothesis that people model the co-eaters, not only by regulating their food intake, but also through the choice of food stereotypically associated to the co-eaters' gender as a way to strategically fulfil self-presentation/impression management needs.

Some limitations of the present study must be acknowledged. First, we asked our participants to estimate the likelihood of eating a specific dish in two social settings (i.e., same-sex vs. opposite-sex), which is not a food choice *stricto sensu*. Indeed, when eating together people are confronted with some food alternatives, and have to take an alternative over the others. Thus, further studies will have to directly operationalize the food choice dilemma by confronting participants with different alternatives in the two different social settings. Second, we asked participants the questions tapping food stereotypicality before those about the willingness to eat it. In this way, we could have made salient the gender stereotypicality of the food. In order to enhance the ecological validity and making the situation comparable to that of people going out for dinner, future studies could assess whether the same pattern of findings emerge when participants are not explicitly prompted to think about food in terms of their links to gender stereotypes.

Finally, as previous studies showed that a way to convey a feminine/masculine impression is to regulate food intake (Pliner & Chaiken, 1990), it would be interesting to integrate this dimension as well. With such an experimental design, we could even propose the hypothesis that people would trade off quality and quantity of food (e.g., women could eat a small portion of a masculine food and men a big portion of a feminine food) in order to overcome the potential conflict between gender identity expression and matching others' consumption.

Notwithstanding these limitations, the present research contributes to the understanding of the processes by which individuals deal with the conflicting psychological and normative forces involved in their food choices.

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Keywords: gender-based stereotype about food, impression management, self-presentation, eating behavior.

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