Study 1: Rethinking ‘social eating’: People select larger portions before eating with others.

# 1. Aim

The aim of this lab-based study was to test whether people make more food available for consumption when they know they will be eating with someone else versus when they know they will be eating alone. We examined the amount of food that participants served themselves and ate when eating alone and when eating with a friend. Participants were asked to serve an individual portion (that they themselves would like to eat) and this was done alone. We also included a condition in which each participant was provided with a pot of food from which they could serve themselves throughout the meal, which is akin to previous studies of the social facilitation of eating. Thus, half of participants served themselves from a pot before eating alone/with a friend (“serve before” condition); for the other half of participants, the pot was placed on the dining table and so participants were able to serve themselves throughout the meal (“serve during” condition).

# 2. Design

Participants attended two sessions in the lab. During one session participants attended with a friend (social condition), and in the other session participants attended alone (alone condition) [**Condition**]. The order in which participants completed ‘alone’ and ‘social’ conditions was counterbalanced across participants [**Condition\_order**].

Participants were randomly allocated to either the “serve-before” or “serve-during” condition [**Serving\_condition**]. Participants in the ‘serve-before’ condition served themselves as much pasta as they wished from a pot, prior to the meal. For participants in the “serve-during” condition, the serving pots were placed in the dining room such that participants could serve themselves throughout the meal.

The study therefore used a mixed design with social context condition (i.e. social vs. alone) as a within-subjects factor, and serving condition (i.e. before vs. during) as a between-subjects factor.

# 3. Measures

Participants completed the following questionnaire measures:

* Appetite and liking ratings***.***Assessments of hunger, fullness, and “liking” for the lunch meal were taken using 100-mm Visual Analogue Scales (VAS) anchors *Not at all* on the left and *Extremely* on the right. A composite ‘appetite’ score was calculated by taking the mean rating assigned to the ‘hunger’ VAS and the inverse rating assigned to the ‘fullness’ VAS (100-fullness).The liking VAS was anchored by *Didn’t like it at all* and *Liked it a lot* to the left and right of the scale, respectively.
  + [Before the meal: Hunger\_T1, Fullness\_T1, Appetite\_before; After the meal: Hunger\_T2, Fullness\_T2, Liking, Appetite\_after]
* Three-Factor Eating Questionnaire-18***.***The Three-Factor Eating Questionnaire Revised 18-item version (TFEQ-18) was included to assess dietary restraint, uncontrolled eating, and emotional eating (Karlsson, Persson, Sjöström, & Sullivan, 2000).
  + [**TFEQ\_restraint, TFEQ\_Uncontrolled, TFEQ\_Emotional**]
* Attribution questionnaire.To examine whether participants were aware of any influence that social factors had on their serving selection, they rated the extent to which a variety of factors had influenced their serving-size selection (as in Vartanian, Spanos, Herman, & Polivy, 2017). Ratings were provided on a 9-point scale ranging from -4 (*made me eat less than I normally would*) to +4 (*made me eat more than I normally would*). For the purposes of this study, we were interested in the rating that participants assigned to the item “the presence of my friend.” Additional filler items (e.g., “how hungry I was”) were included to disguise the aim of the study. Participants who indicated that the presence of their friend had influenced how much they ate were asked to write down why they thought this was the case.
  + [Hunger\_attrib, Mood\_attrib, Medical\_attrib, FriendPres\_attrib, Energy\_attrib,Tasty\_attrib, Expect\_attrib, Free\_attrib].
  + [Why\_friendattrib]
* Demographics: Age [**Age**], ethnicity [**Ethnicity**].
* Demand awareness: participants were asked to write down what they thought were the aims of the study [**Study\_aim**].
* Friend familiarity: participants stated how long they had known their friend with whom they had taken part in the study with [**Friendship\_length**]. They also rated on 10-point scales how well they know their friend [**Friendship\_howWell**] and how close they feel to their friend [**Friendship\_close**] [*Not very* and *Very* were assigned to values 1 and 10, respectively].
* To enhance the believability of the cover story (i.e. a study into problem-solving abilities when alone and with a friend), participants were given 10 minutes to complete a list of anagrams.

Food Each participant was provided with a pot of pasta from which they could serve themselves lunch. This consisted of Tesco Conchiglie pasta mixed with 350 g Tesco Tomato & Basil Sauce and 50 g Tesco British Medium Cheddar Cheese. The total (cooked) weight of food available in each serving pot was 1030g. The amount of pasta served and eaten was covertly recorded by the experimenter. This was recorded in grams [**Amount\_served\_grams, Amount\_eaten\_grams]**, and calories [**Amount\_served, Amount\_eat**en]. The percentage of food served that was eaten was calculated [**Percent\_eaten**].

# 4. Procedure

Participants were led to believe that the purpose of the study was to examine people’s problem-solving abilities when working alone and with a friend. They were told that lunch would be provided because we wanted to control for the effects of food intake on problem solving. All sessions were scheduled to take place between 12-2pm, to coincide with usual lunch times, and participants were instructed to refrain from eating for at least three hours prior to the study session.

Upon arrival, participants were seated in individual waiting rooms (separate from their friend, if applicable), and were provided with information about the study. Participants were asked to complete a consent form and a screening questionnaire to ensure that they did not have any food allergies or intolerances (Session 1 only). Participants then completed ratings of hunger and fullness. Next, participants served themselves lunch. The specific way in which they served themselves depended on whether they were in the “serve-before” condition or the “serve-during” condition.

Participants in the “serve-before” condition were invited to serve themselves as much pasta as they wished from a serving bowl, prior to the meal. In the “social” condition, participants and their friends served themselves individually, and from separate serving bowls. This was to ensure that participants were unaware how much their friend had taken. Participants then took their selected portion into a dining room and were instructed to eat as much as they wanted (participants in the social condition ate in the same room as their friend).

For participants in the “serve-during” condition, the serving dishes were placed in the dining room such that participants could serve themselves throughout the meal. As in the “serve-before” condition, each participant was provided with their own separate bowl of pasta from which to serve themselves. Participants were left alone to serve themselves and eat as much as they liked.

In both serving conditions, participants informed the experimenter when they were finished eating and the duration of the meal was covertly timed by the experimenter [Time]. Serving dishes were covertly weighed before and after the meal to determine the amount of food participants had served themselves (amount *eaten* was calculated by subtracting the weight of leftover food on participants’ plates from the amount served). Following cessation of the meal, participants completed VAS measures of hunger, fullness, and liking for the lunch meal. They were then given 10 minutes to solve a list of anagrams. Participants were then taken into individual testing rooms in which they completed the following measures (Session 2 only): (1) demand awareness (participants were asked to write down what they thought were the aims of the study), (2) friend familiarity (participants stated how long they had known their friend, and rated on 10-point scales how well they know their friend and how close they feel to their friend [*Not very* and *Very* were assigned to values 1 and 10, respectively]), (3) demographics (age and ethnicity), (4) attribution questionnaire, and (5) TFEQ-18. The experimenter then measured the participant’s height and weight (to calculate BMI)[**Height, Weight, BMI**], and participants were fully debriefed regarding the aims of the study.