# Are people aware of social inhibition/facilitation effects on intake (study 2)

# 1. Aim

Research has demonstrated that people tend to eat more food when with friends and family than when eating alone. This is known as the social facilitation of eating. In a recent meta-analysis, we found that social facilitation effects on eating were observed in studies which had examined food intake when participants ate with friends or family, and were not observed across studies which had examined food intake when participants ate with strangers or acquaintances (Ruddock et al., 2019). It is unclear whether individuals are aware of the effect of other people on their own eating behaviour. In a previous study (Study 1), we found that 42% and 45% of participants said that they would ‘eat more’ when with friends and family, respectively. However, thematic analyses of participants’ responses to the question “*why* did you say that you would eat more when with family, compared to when alone?” revealed that many participants had imagined eating a ‘special’ meal with friends and family. Thus in Study 1, participants’ responses to the awareness questions may have been confounded by the tendency to imagine celebratory or special occasions when eating with friends and family, relative to when eating alone. In Study 2, we aimed to control for this potential confound by asking participants how much they would eat during ‘special’ and ‘regular’ meals eaten with each type of co-eater.

H1) We hypothesised that participants would indicate that they are aware they eat more when they eat a special or celebratory meal with a family member/friend than when they eat alone, but they may not be aware that they eat more at a regular meal with a family member/friend than when they eat alone.

H2) We hypothesised that participants would indicate that they are aware that they eat less when they eat with a stranger/acquaintance, than when they eat alone, during both regular and special/celebratory meals.

# 2. Design

Participants completed an online study via the survey platform Qualtrics. Awareness of the effects of social context on intake was assessed using the following questions: “Compared to how much you'd eat when you're alone, please indicate how much you would eat when eating [a special meal/a regular meal] with [a friend/a family member /a stranger/an acquaintance]. Participants responded to each question on a 5-point Likert scale ranging from ‘Eat a lot less’ to Eat a lot more’.

**3. Measures**

Participants completed the following questionnaire measures:

* Appetite and mood ratings***.***Assessments of hunger and fullness were taken using 100-mm Visual Analogue Scales (VAS) with anchors *Not at all* (0) and *Extremely* (100). 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).Mood assessments were taken using 100-mm VAS with anchors ‘Not at all’ (0) and ‘Very’ (100) for one positive mood ‘Happy’ and one negative mood ‘Sad’. A positive mood score was calculated by averaging scores assigned to the positive mood scale (happy), and the inverse of the negative mood scale (sad). Mood scores were taken before and after participants completed the awareness questions [Before awareness questions: Appetite\_T1; After awareness questions: Appetite\_T2] [Before awareness questions: PosMood\_T1; After awareness questions: PosMood\_T2]
* Demographics: Gender [**Gender],** Age in years[**Age**], Body Mass Index [**BMI**], Ethnicity [**Ethnicity],** Currently a student [**Student].**
* Three-Factor Eating Questionnaire-18***.***The Three-Factor Eating Questionnaire Revised 18-item version (TFEQ-18) was included to assess dietary restraint [**TFEQ\_R]**, uncontrolled eating [**TFEQ\_U]**, and emotional eating [**TFEQ\_E]** (Karlsson, Persson, Sjöström, & Sullivan, 2000).
* Social eating frequency. Participants were asked ‘in an average week, how often do you eat a meal with at least one other person’ **[Social\_eating\_freq].**
* Average scores on the Social Eating Scale (Spanos et al., 2014) are provided under the variable [**Social\_Eating\_scale].**
* Responses to each awareness question were coded from -2 (‘eat a lot less’) to 2 (‘eat a lot more’): **[Acquaint\_spec, Stranger\_spec, Friend\_spec, Family\_spec, Acquaint\_reg, Stranger\_reg, Friend\_reg, Family\_reg, Happy, Sad].** Prior to analyses, responses to awareness questions were recoded into one of three categories (i.e. ‘Eat less’, ‘Eat the same’, or ‘Eat more’): **[Acq\_spec\_recode, Stran\_spec\_recode, Friend\_spec\_recode, Fam\_spec\_recode, Acq\_reg\_recode, Stranger\_reg\_recode, Friend\_reg\_recode, Fam\_reg\_recode].**
* Participants who indicated that they had imagined eating a specific food were asked to rate how much they liked the food on a scale ranging from 0 (Do not like at all) to 100 (Like very much). Liking ratings are provided under the following variables: **[Acquaint\_spec\_like, Stranger\_spec\_like, Friend\_spec\_like, Family\_spec\_like, Acquaint\_reg\_like, Stranger\_reg\_like, Friend\_reg\_like, Family\_reg\_like]**
* Participants were asked to select in which scenarios, if any, they had imagined sharing food [**Acquaint\_spec\_share, Stranger\_spec\_share, Friend\_spec\_share, Family\_spec\_share, Acquaint\_reg\_share, Stranger\_reg\_share, Friend\_reg\_share, Family\_reg\_share]**
* Demand awareness: participants were asked to write down what they thought were the aims of the study [**Study\_aim**] and what they thought we had predicted [**Hypothesis].** Participants who successfully guessed the aims/hypotheses of the study are identified under the variable [**Guessed\_aim**].
* Participants were grouped as either non-overweight (BMI<24.99kg/m2) or Overweight/Obese (BMI>25.00kg/m2). [**Weight\_status]**
* Variables [**Duration]**, and [**ZDuration]** correspond to the time taken to complete the study, and the corresponding Z score. Participants were identified as outliers if they completed the questionnaire unusually fast or slow (z score >=3 or z score <=3) [**Time\_outliers].** These individuals were removed prior to analyses.
* Participants were asked to write down (open text response) why they answered the way they did to each of the awareness questions. Participants responses to each follow-up question are provided under the following variables: [**WhyFamSpec, WhyFamReg, WhyFriendSpec, WhyFriendReg, WhyAcqSpec, WhyAcqReg, WhyStrangReg, WhyStrangSpec].**

# 4. Procedure

The questionnaire was developed and distributed using Qualtrics software. After providing informed consent, participants completed questionnaires in the following order: 1) Appetite VAS 2) Mood VAS 3) Awareness assessment 4) Appetite VAS 5) Mood VAS 6) Social Eating Scale 7) Social eating frequency 8) TFEQ-18R. Participants then indicated their gender, height and weight (to calculate BMI), age, ethnicity, and stated whether or not they were currently a student. To check that participants were paying attention during the study, two ‘attention check’ items were incorporated within the questionnaires, in which participants were asked to select a specific response (e.g. ‘please select definitely true’). To assess the presence of demand characteristics, participants were asked to indicate what they thought were the aims of the study were, and what they believe we predicted. Participants were then presented with a debrief sheet which explained the true aims of the study.