**As predicted**

**1) Data collection.** Have any data been collected for this study already?

No, no data have been collected for this study yet.

**2) Hypothesis.** What's the main question being asked or hypothesis being tested in this study?

I will examine, whether socially excluded individuals differ from socially included ones in their preference for facially communicated personality traits, and if their inference of facially communicated personality traits is more extreme and closer to the trait manipulation intended in the photograph. Social exclusion reduces basic need satisfaction (Williams, 2009) and increases categorical perception of social information (Sacco et al., 2011). This, in combination with the higher alertness of socially excluded individuals on the ability to identify (Pickett et al., 2004) and encode social cues (Kawamoto et al., 2014), as well as concentrate on them (DeWall et al., 2009; Golubickis et al., 2018) may influence the preferences of socially excluded individuals for facially communicated traits and their inference from manipulated photographs. In addition, one’s own personality may have a moderating influence on preferences. The results will increase our understanding of perceptional changes due to social exclusion.

I hypothesize the following:

H1A: On average, socially excluded (vs. included) individuals prefer faces manipulated to display high (vs. low) extraversion by choosing these extremes more often when choosing a potential interaction partner.

H1B: On average, socially excluded (vs. included) individuals prefer faces manipulated to display high (vs. low) agreeableness by choosing these extremes more often when choosing a potential interaction partner.

H1C: On average, socially excluded (vs. included) individuals prefer faces manipulated to display high (vs. low) openness by choosing these extremes more often when choosing a potential interaction partner.

H1D: On average, socially excluded (vs. included) individuals prefer faces manipulated to display low (vs. high) conscientiousness by choosing these extremes more often when choosing a potential interaction partner.

H1E: On average, socially excluded (vs. included) individuals prefer faces manipulated to display low (vs. high) neuroticism by choosing these extremes more often when choosing a potential interaction partner.

H2: Socially excluded (vs. included) individuals make more extreme personality ratings in the direction of the trait which the pictures are manipulated to display.

**3) Dependent variable.** Describe the key dependent variable(s) specifying how they will be measured.

The dependent variable assessing basic need satisfaction consists of five pooled 9-step questions (Rudert & Greifeneder, 2016). They are asked after the social exclusion/inclusion (Cyberball; Williams & Jarvis, 2006). The questionnaire is an adapted short version of the Need Threat Scale (Rudert & Greifeneder, 2016).

The dependent variable, preference for facially communicated personality trait, is measured for each trait preference separately (five preference variables in total). To assess a preference for facially communicated personality traits, participants will select one out of two facial images, which differ only in their trait expression (e.g., high vs. low openness). These relative pairs of images are of the same person, but the facial expression is manipulated towards the extreme, low and high, respectively. They are provided in the Basel face database from the University of Basel (Walker et al., 2018).

To assess the dependent variable inference of facially communicated personality traits, participants rate X manipulated facial photographs with respect to the trait the photograph is manipulated in on a 7-point Likert-type scale (e.g. not at all extraverted – extremely extraverted).

The moderator variables Big Five personality traits of participants, are measured with a short questionnaire with 10 items to record their own trait expressions of the Big Five (Rammstedt & John, 2007).

**4) Conditions.** How many and which conditions will participants be assigned to?

Participants will be randomly assigned to one of two conditions: inclusion or exclusion. First, participants play Cyberball, an online ball-tossing game where participants are either included or excluded (Williams & Jarvis, 2006). Participants in the inclusion condition interact with the other players by receiving an equal share of ball tosses (around 30%), while the exclusion group is socially excluded by the other players (they receive the ball only twice in the beginning). Right after, they will report their basic need satisfaction (belonging, self-esteem, control, and meaningful existence; Williams, 2009). Thereafter, participants will be presented with 40 pairs of photographs, each pair displaying the same person. Importantly, the pairs of photographs are manipulated so that they display the person once enhanced and one reduced on the personality trait of interest. Participants will be asked to choose the picture of the person that they would prefer to interact with. Participants will make in total 40 decisions (40 pairs for five personality traits, resulting in eight pairs per trait). Afterwards, they are presented with 20 individual photographs, each showing a face with either enhanced or reduced characteristics of one of the big five traits. They are asked to rate on a 7-point Likert-type scale with respect to the manipulated personality trait (e.g., not at all neurotic – extremely neurotic). Participants will make these decisions for 20 faces. The photos presented in both tasks will be shown in a randomized order. The preference task is chosen to come first because there is no mention of personality traits in it, which could otherwise influence the answers in the following task.

Finally, participants answer a short questionnaire with 10 items to record their own trait expressions of the Big Five (Rammstedt & John, 2007).

**5) Analyses.** Specify exactly which analyses you will conduct to examine the main question/hypothesis.

To compare preferences among included and excluded individuals, the mean preference for both groups will be calculated as a number between 0 and 1 (each participant choosing one of two photos representing the values 0 and 1, respectively). A mean of 0.5 would therefore mean that a participant is indifferent between low or high manipulation on the according trait. With this mean value, an independent t-test can be calculated for each trait, comparing the preference of the inclusion group to the exclusion group. If the parameter of a normal distribution is not given, a Welch-test will be chosen as alternative. The Holm-Bonferroni method is used to control for family-wise error rates following the calculations of t-tests.

To test H2, the items displaying a low trait expression will first be inverted to be included into the analysis of the high trait expression items. Then, an independent t-test is conducted for every trait to calculate if the average rating of the inclusion group is significantly different from the exclusion group. Again, if a normal distribution is missing, a Welch-test is applied to account for a non-parametric distribution.

Additionally, we will run an ANOVA including one factor for the direction of trait manipulation to account for differences in the direction of trait expression, again, comparing the ratings of each trait of the inclusion group to the exclusion group.

**6) Outliers and Exclusions.** Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

A question with an instructed answer is posed after the completion of the main task to assure the attentive answering of questions. If participants do not select the instructed answer, their data will be excluded.

After finishing the game, we will ask participants to indicate what percentage of throws they received. If participants do not indicate an answer generally fitting to their condition, we will exclude them.

Moreover, we will exclude the data from all participants who indicate to have played Cyberball before.

In addition, we will exclude participants who give untrustworthy ratings in the questionnaire on vaccination skepticism.

Furthermore, we will ask participants after they finished the study if they answered the questions truthfully and consent to the use of their data. If participants negate at least one of both questions, we will exclude their data.

If there are technical problems during the study that result in an interruption of the study, we will may exclude the data of involved participants depending on when data collection was interrupted.

Lastly, participants who take much longer than estimated (> 1 hour) will also be excluded as the effects of the manipulation will not be present any longer.

**7) Sample Size.** How many observations will be collected or what will determine sample size?  
No need to justify decision, but be precise about exactly how the number will be determined.

The required sample size was calculated using G\*Power (Faul et al., 2007) using a medium effect size (d = 0.5). A t-test with independent means, given α = 0.05, power 1-β = 0.8 yielded a sample size of 102 participants in total. To ensure that the final sample size will have enough participants, the sample size is slightly increased (~10%, N = 114, 57 in each condition).

**8) Other.** Anything else you would like to pre-register?(e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

A potential moderator variable in the preference task are the personality traits of the participants. The corresponding moderating effect will be controlled for with a linear regression model.

**9) Name.** Give a title for this AsPredicted pre-registration.  
Suggestion: use the name of the project, followed by study description.

OST-B5-01

Finally. For record keeping purposes, please tell us the type of study you are pre-registering.

**Online-Experiment**