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Proposal: Preferences and inferences of personality traits following ostracism

Author: Robin Brüggemann

Immatriculation number: 16-058-794

Correspondence email: [robin.brueggemann@stud.unibas.ch](mailto:robin.brueggemann@stud.unibas.ch)

Examiner: Prof. Dr. Reiner Greifeneder

Supervisor: M. Sc. Elianne Anthea Albath

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Content

[Abstract 3](#_Toc73605375)

[Keywords 3](#_Toc73605376)

[1. Introduction 4](#_Toc73605377)

[1.1. Theory 4](#_Toc73605378)

[1.1.1. Perceptional differences in ostracized individuals 4](#_Toc73605379)

[1.1.2. Ostracism and facially communicated personality traits 5](#_Toc73605380)

[1.1.3. Basel Face Database 6](#_Toc73605381)

[1.2. Hypotheses 7](#_Toc73605382)

[2. Methods 8](#_Toc73605383)

[2.1. Participants 8](#_Toc73605384)

[2.2. Design and Procedure 9](#_Toc73605385)

[2.3. Statistical Analysis 10](#_Toc73605386)

[3. Results 11](#_Toc73605387)

[4. Discussion 11](#_Toc73605388)

[Reference 12](#_Toc73605389)

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Declaration of scientific integrity

The author hereby declares that she/he has read and fully adhered the [Code for Good Practice in Research of the University of Basel](https://www.unibas.ch/dam/jcr:4439d7b2-f71c-457c-837d-44938163ce02/Code%20of%20good%20practice%20in%20research.pdf).

# Abstract

# Keywords

# 1. Introduction

Ostracism – being excluded and ignored – has been subject to an increasing amount of research in the last two decades (for a review, see Williams & Nida, 2011). We all know the feeling of being excluded and ignored. Whether it be the exclusion from a game or a conversation. But most often these experiences can be overcome rather quickly. But what helps us in doing so? And are their strategies or abilities we use in these situations? Within the body of ostracism research lays a topic that investigates the influence of ostracism on an affected individuals' perception of the world and other people.

## **1.1. Theory**

### 1.1.1. Perceptional differences in ostracized individuals

Humans have a universal need to belong, which is satisfied through social contact (Baumeister & Leary, 1995). When experiencing ostracism, the satisfaction of this need is reduced (Williams, 2009). The theory of the social monitoring system suggests that when the need to belong is thwarted, socially excluded people are particularly sensitive to social cues. And indeed, it has been found that social exclusion has a beneficial impact on the ability to identify facial expressions (Pickett et al., 2004), encode social cues (Kawamoto et al., 2014), concentrate on them (DeWall et al., 2009; Golubickis et al., 2018) and judge the authenticity of smiles (Bernstein et al., 2008). Socially excluded, according to theory, have a heightened perception because they strive for reintegration to satisfy their need to belong (Pickett & Gardner, 2005), and the heightened perception helps them in doing so. On the other hand, the interaction partner needs to be approachable and open for social interaction. One aspect that could make a good interaction partner are his personality traits, which, among other things, indicate his social preferences and openness towards new experiences. Since ostracism leads to an alternated perception of social and facial cues, could ostracism also increase the perceived distinctiveness of typical personality traits inferred from a face? And which personality traits do ostracized individuals prefer in a potential interaction partner when seeking reintegration?

### 1.1.2. Ostracism and facially communicated personality traits

Personality traits in form of the big fives (Costa & McCrae, 1992) have already been subject of research on ostracism. For instance, one study showed that participants who received a description of a person with either a low or high expression of the trait agreeableness or conscientiousness, showed higher intension to ostracize the described person with lower trait expression (Rudert et al., 2021).

When only facial cues are available, individuals are relatively accurate in inferring personality traits of the person they see (Ambady et al., 2000; Kachur et al., 2020; Walker & Vetter, 2016). In this context of trait inference it has been found that low need to belong is related to a preference for more extraverted faces (Brown & Sacco, 2017). In another study, peoples general preferences for facially communicated personality traits were measured (Sacco & Brown, 2018). In extraversion and agreeableness higher values were preferred while a preference for lower values in neuroticism and conscientiousness was found. No general preference emerged for openness; rather, the subject's openness partially predicted his preference for openness in other faces.

Moreover, social exclusion increased the categorical perception of social information (Sacco et al., 2011). Accordingly, personality traits inferred through facial cues may also be judged more extremely by socially excluded individuals. Together, these findings suggest that personality may be a relevant social cue when experiencing low belongingness. However, it remains unclear whether individuals with a thwarted need to belong compared to individuals with high need to belong hold further preferences for faces which suggest certain personality traits. Further, we do not know whether they infer these traits more extremely and, in case of manipulated photographs, to the according extreme.

### 1.1.3. Basel Face Database

The Basel face database (Walker et al., 2018) provides manipulated photographs of individuals in which the depicted individuals are perceived as having either a high or low expression of each big five personality trait. This resource allows to test the preferences of ostracized individuals for the Big Five personality traits and their accuracy in inferring these traits from prototypical photographs. In previous research (Brown & Sacco, 2017), a preference for extraverted faces has been found to be related to a low need to belong. This study aims at replicating this finding as well as extending it by examining whether excluded (as opposed to included) individuals hold preferences for agreeableness, conscientiousness, neuroticism, and openness. Hence, this study will include all Big Five personality traits and analyze the preferences of socially excluded for these traits as well as their inference from manipulated photographs.

## 1.2. Hypotheses

Based on the theory outlined above, two hypotheses are stated. The first addresses preferences of socially excluded for faces of others with respect to personality traits. I expect socially excluded to prefer more extraverted, more agreeable, less conscientious, and less neurotic faces, as these general preferences were already found in a previous study (Sacco & Brown, 2018). Since there was no distinct preference found for openness, a prediction is made here: For the socially excluded, I expect a preference for more open faces, as this could convey a signal of responsiveness and, in theory, these people should be more open to new interactions.

The resulting hypothesis is split up into five similar hypotheses that are as follows:

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

Further, I expect socially excluded to make more extreme ratings when judging pictures of individuals with respect to a perceived personality trait. Because the trait expressions on the presented faces are meant to be either high or low, excluded participants may make their ratings more based on categorical perceptions of social information (REF). This argument is further supported by findings that individuals with a thwarted need to belong have a more categorical perception of social information (Sacco et al., 2011). A greater need to belong was also associated with higher results in identifying facial expressions (Pickett et al., 2004), encoding social cues (Kawamoto et al., 2014), concentrating on them (DeWall et al., 2009; Golubickis et al., 2018) and judging the authenticity of smiles (Bernstein et al., 2008).

The second hypothesis is as follows:

*H2: Socially excluded (vs. included) individuals make more extreme personality ratings of the manipulated pictures.*

# 2. Methods

## 2.1. Participants

A medium-effect-size power analysis (*d* = 0.5, β = 0.8), based on a power analysis conducted by Brown & Sacco (2017) for a similar experiment, yielded a sample size of 102 participants in total. To account for incomplete and unusable answers, the sample size is increased by ten percent, which adds up to a total of 112 participants, 56 in each condition.

Participants will be recruited on the website prolific and fill out the study on Unipark/Questback.

## 2.2. Design and Procedure

To compare the effects of social exclusion on preferences for personality traits and their inference from photographs, participants will be randomly assigned to one of two conditions: inclusion and exclusion. Both groups are asked for their consent and introduced to the study. Then, they play Cyberball, an online ball-tossing game where participants are either included or excluded (Williams & Jarvis, 2006). Participants in the inclusion condition get to interact normal with the other players by receiving the ball from time to time, while the exclusion group experiences social exclusion by the other players (they receive the ball only once or twice). Right after, they will report their need satisfaction of the four basic needs: belonging, self-esteem, control, and meaningful existence (Williams, 2009). The questionnaire is an adapted version of the Need Threat Scale from (Rudert & Greifeneder, 2016). It shows whether the ostracism manipulation was successful.

Thereafter, participants will be presented with X pairs of two photographs 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 20 decisions (X pairs for X personality traits). 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. In both tasks, participants will see different pictures so that they will not make multiple decisions for the same pair of pictures. 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). This offers the option to investigate whether their own traits have an influence on their preferences for facially communicated traits in an exploratory manner.

## 2.3. Statistical Analysis

Similar to the preference analysis in the study of Sacco & Brown (2018), 5 one-sample t-tests will be conducted to analyze categorical preferences. If the parameter of a normal distribution is not given, a Welch-test will be chosen as alternative. To account for the influence of participants’ own personality traits on their preferences, an independent linear regression model will be calculated for each trait with the participant’s respective trait as independent variable.

To compare the personality inferences of the exclusion and the inclusion group, the items where a low trait expression was shown need to be inverted to be implemented into the analysis the same way as the high trait expression items. Then, a t-test is conducted for every trait rating (5 traits x 2 expressions) to calculate if the difference in the average rating of both groups is significant. Again, if a normal distribution is missing, a Welch-test is applied to account for a non-parametric distribution.

# 3. Results

# 4. Discussion

# Reference

Ambady, N., Bernieri, F. J., & Richeson, J. A. (2000). Toward a histology of social behavior: Judgmental accuracy from thin slices of the behavioral stream. In *Advances in Experimental Social Psychology* (Bd. 32, S. 201–271). Elsevier. https://doi.org/10.1016/S0065-2601(00)80006-4

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Bernstein, M. J., Young, S. G., Brown, C. M., Sacco, D. F., & Claypool, H. M. (2008). Adaptive Responses to Social Exclusion: Social Rejection Improves Detection of Real and Fake Smiles. *Psychological Science*, *19*(10), 981–983. https://doi.org/10.1111/j.1467-9280.2008.02187.x

Brown, M., & Sacco, D. F. (2017). Greater need to belong predicts a stronger preference for extraverted faces. *Personality and Individual Differences*, *104*, 220–223. https://doi.org/10.1016/j.paid.2016.08.012

Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment*, *4*(1), 5–13. https://doi.org/10.1037/1040-3590.4.1.5

DeWall, C. N., Maner, J. K., & Rouby, D. A. (2009). Social exclusion and early-stage interpersonal perception: Selective attention to signs of acceptance. *Journal of Personality and Social Psychology*, *96*(4), 729–741. https://doi.org/10.1037/a0014634

Golubickis, M., Sahraie, A., Hunt, A. R., Visokomogilski, A., Topalidis, P., & Neil Macrae, C. (2018). The visual influence of ostracism: Ostracism and visual awareness. *European Journal of Social Psychology*, *48*(2), O182–O188. https://doi.org/10.1002/ejsp.2305

Kachur, A., Osin, E., Davydov, D., Shutilov, K., & Novokshonov, A. (2020). Assessing the Big Five personality traits using real-life static facial images. *Scientific Reports*, *10*(1), 8487. https://doi.org/10.1038/s41598-020-65358-6

Kawamoto, T., Nittono, H., & Ura, M. (2014). Social exclusion induces early-stage perceptual and behavioral changes in response to social cues. *Social Neuroscience*, *9*(2), 174–185. https://doi.org/10.1080/17470919.2014.883325

Pickett, C. L., & Gardner, W. L. (2005). The Social Monitoring System: Enhanced Sensitivity to Social Cues as an Adaptive Response to Social Exclusion. In *The social outcast: Ostracism, social exclusion, rejection, and bullying* (S. 213–226). Psychology Press.

Pickett, C. L., Gardner, W. L., & Knowles, M. (2004). Getting a Cue: The Need to Belong and Enhanced Sensitivity to Social Cues. *Personality and Social Psychology Bulletin*, *30*(9), 1095–1107. https://doi.org/10.1177/0146167203262085

Rammstedt, B., & John, O. P. (2007). Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German. *Journal of Research in Personality*, *41*(1), 203–212. https://doi.org/10.1016/j.jrp.2006.02.001

Rudert, S. C., & Greifeneder, R. (2016). When It’s Okay That I Don’t Play: Social Norms and the Situated Construal of Social Exclusion. *Personality and Social Psychology Bulletin*, *42*(7), 955–969. https://doi.org/10.1177/0146167216649606

Rudert, S. C., Hales, A. H., & Büttner, C. M. (2021). Stay out of our office (vs. our pub): Target personality and situational context affect ostracism intentions. *Journal of Experimental Social Psychology*, *95*, 104142. https://doi.org/10.1016/j.jesp.2021.104142

Sacco, D. F., & Brown, M. (2018). Preferences for facially communicated big five personality traits and their relation to self-reported big five personality. *Personality and Individual Differences*, *134*, 195–200. https://doi.org/10.1016/j.paid.2018.06.024

Sacco, D. F., Wirth, J. H., Hugenberg, K., Chen, Z., & Williams, K. D. (2011). The world in black and white: Ostracism enhances the categorical perception of social information. *Journal of Experimental Social Psychology*, *47*(4), 836–842. https://doi.org/10.1016/j.jesp.2011.03.001

Walker, M., Schönborn, S., Greifeneder, R., & Vetter, T. (2018). The Basel Face Database: A validated set of photographs reflecting systematic differences in Big Two and Big Five personality dimensions. *PLOS ONE*, *13*(3), e0193190. https://doi.org/10.1371/journal.pone.0193190

Walker, M., & Vetter, T. (2016). Changing the personality of a face: Perceived Big Two and Big Five personality factors modeled in real photographs. *Journal of Personality and Social Psychology*, *110*(4), 609–624. https://doi.org/10.1037/pspp0000064

Williams, K. D. (2009). Chapter 6 Ostracism. In *Advances in Experimental Social Psychology* (Bd. 41, S. 275–314). Elsevier. https://doi.org/10.1016/S0065-2601(08)00406-1

Williams, K. D., & Jarvis, B. (2006). Cyberball: A program for use in research on interpersonal ostracism and acceptance. *Behavior Research Methods*, *38*(1), 174–180. https://doi.org/10.3758/BF03192765

Williams, K. D., & Nida, S. A. (2011). Ostracism: Consequences and Coping. *Current Directions in Psychological Science*, *20*(2), 71–75. https://doi.org/10.1177/0963721411402480