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THE EFFECT OF SOCIAL EXCLUSION
ON THE PERCEPTION OF TRUSTWORTHINESS

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Stefan Đorić

University of Niš, Faculty of Philosophy, Department of Psychology, Serbia

Abstract. *Social exclusion is an unpleasant experience and represents an integral part of everyday social interaction. Its consequences are reflected in altered thoughts, emotions and behavior. Long-term negative consequences have been noted as well, such as reduced subjective well-being and poor mental health. Social exclusion is also known to have repercussions on cognitive processes, specifically on perception, although the results in this area are somewhat contradictory. It has been observed that excluded persons show preserved or even increased sensitivity to social cues, especially those that signal the possibility of reconnection (e.g., smile). On the other hand, it has been noticed that social exclusion can have a negative effect in this context, making the perception of social cues inaccurate, "distorted". The aim of this study was to examine how the experienced social exclusion affects the perception of trustworthiness, specifically, the ability to make a distinction between trustworthy and untrustworthy faces. Between subject design 2 (Social rejection: excluded vs. included) x 2 (Trustworthiness: trustworthy vs. untrustworthy) was used, with the level of attributed trustworthiness as a dependent variable. The sample consisted of 120 first- and second-year psychology students. The results showed that excluded participants attributed significantly different levels of trustworthiness to trustworthy and untrustworthy faces, which may indicate that they have preserved or even enhanced sensitivity in social perception. The obtained results were discussed in accordance with the existing theoretical assumptions.*

Key words: *Social exclusion, social rejection, ostracism, trustworthiness perception.*

1. INTRODUCTION

The unpleasant feeling experienced when we are shown by someone that we do not belong to the same group has sparked interest in various scientific fields. A systematic overview of social exclusion[1] represents a relatively new field in social psychology (Williams & Nida 2016). Still, scientists have managed to provide answers to some of the relevant questions. For instance, it has been noticed that social exclusion can have negative short-term (Williams & Nida 2011) and long-term (Riva, Montali, Wirth, Curioni, & Williams 2017) effects on emotions, motivation, and behavior, as well as the subjective wellbeing of the person who has experienced it.

Social exclusion can also lead to changes at the cognitive level, and it can affect the processing of social information (Syrjämäki & Hietanen 2019). For example, individuals who have experienced exclusion by a group are more likely to focus their attention to smiling faces, since smiling is interpreted as one of the strongest social signs of acceptance (Dewall, Maner, & Rouby 2009). Changes at the level of perception have also been recorded in previous research, but the obtained results can be somewhat contradictory. Namely, it has been noticed that socially excluded individuals are able to distinguish between a genuine and fake smile (Bernstein, Young, Brown, Sacco, & Claypool 2008), which is why it can be assumed that the experience of exclusion has rendered the individuals particularly sensitive to social cues. Once they have experienced social exclusion by a group, it becomes of paramount importance to them to avoid such unpleasant experiences in the future. In effect, in social interactions they focus on the cues that will signal a new, safe connection and inclusion. There are also theoretical perspectives according to which we are equipped with the so-called Social Monitoring System (Pickett, Gardner, & Knowles 2004). This system directs the individual's attention and affects the accuracy of recognition of the potential cues that can facilitate either the creation of a new connection, or avoidance of a new exclusion. The Social Monitoring System is considered highly adaptable, as it serves to provide feedback to an individual in terms of whether the current environment is suitable for fulfilling the need for belonging. However, subsequent research has not provided unequivocal empirical evidence in favor of such a system. Maner and associates presented photographs of faces to their participants (Maner, Dewall, Baumeister & Schaller 2007). The results showed that the participants who had experienced exclusion ascribed higher levels of niceness and friendliness in comparison to the control group. Maner and associates introduced the concept of functional projection, which entails that the threat to the need for belonging can cause bias, i.e., a skew in interpersonal perception. More simply said, excluded participants registered cues of social acceptance even when they are not present.

Trustworthiness represents an important social cue in social interaction, especially when an individual has experienced exclusion. Noticing the person as trustworthy means identifying her/him as worthy of trust. Trusting someone entails accepting one's own vulnerability based on the positive expectations or beliefs about the intentions and behaviors of the other individual (Rousseau, Sitkin, Burt, & Camerer 1998). Research shows that people not only make trustworthiness judgments based on the face of an

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[1] There is some disagreement in the literature when it comes to demarcating the terms social exclusion, rejection, and ostracism. We will use the term social exclusion throughout the paper, which can be considered an umbrella term. For a detailed overview, see: Leary, Twenge, & Quinlivan 2006; Williams 2009; Blackhart, Nelson, Knowles & Baumeister 2009).

individual (Oosterhof & Todorov 2008; Todorov, Olivola, Dotsch, & Mende-siedlecki 2015), but that they also use that information to decide whether they will cooperate with them (Balliet, Tybur, Wu, Antonellis, & Van Lange 2018; Rezlescu, Duchaine, Olivola, & Chater 2012).

Until now, research that explored the effect of social exclusion on perception has mostly been based on the observation of social cues like facial expressions of emotions or vocal tones. To our knowledge, apart from the already mentioned study by Maner et al. (2007), where the relationship has been explored in relation to the perception of trustworthiness, there have not been any studies that address this issue in more detail. As a result, our research is aimed at investigating the manner in which socially excluded individuals perceive trustworthiness.

2. METHOD

2.1. The research problem

The research problem concerns the effect which the experienced social exclusion can have on the perception of trustworthiness, and the results are expected to afford a more thorough insight into this issue that has caused much controversy so far. We introduced certain changes in the stimuli compared to the experimental setup outlined in Maner et al. (2007). Namely, instead of photographs that were not averaged in trustworthiness, participants in our study were presented with high- and low-trustworthy photographs that were prerated by independent raters. Such manipulation of the stimuli and research design we implement are expected to enable us to simultaneously test both the preserved sensitivity hypothesis, and the functional projection.

We hypothesised that both social exclusion (H1) and the level of face trustworthiness (H2) would affect trustworthiness perception. We also expected the interaction between the two factors (H3).

2.2. Variables

Social exclusion was operationalized using the *Get Acquainted* paradigm in its original form (Twenge, Baummeister, Tice & Stucke 2001). The participants had an opportunity to introduce themselves by providing their attitude concerning a certain subject via computers. At the same time, they had a chance to get to know the other (ostensible) group members and their attitudes, seeing only their names. The participants were then randomly assigned to the excluded or included group, resulting in different feedback information: Those who were excluded got a message on the screen that none of the three players had chosen to participate with them in the next task. Those who were included received feedback that read "All three partners have chosen to continue the task with you".

The trustworthiness of the ostensible other player's face was operationalized by two facial photographs taken from the *Chicago face database*, which had been previously rated and selected as the most and the least trustworthy (Ma, Correll, & Wittenbrink 2015).

The degree of the rated trustworthiness refers to the participant's assessment of the other player's trustworthiness based on her/his photograph, using a six-point Likert scale ranging from "very trustworthy" to "very untrustworthy."

2.3. Measures and stimuli

The photographs used to operationalize the trustworthiness of the other player's face were adopted from the *Chicago face database* (Ma, Correll, & Wittenbrink 2015). We selected two photographs of male faces with neutral facial expressions assessed as the most trustworthy (M=3.92), and two similar photographs assessed as the least trustworthy (M=2.57). Photographs were averaged in physical attraction, race (Caucasian), and age (approximately the same), and had no facial expression.

All the data were collected using a specialized software designed for the purposes of this research by a software engineer.

2.4. Research design

The study was based on a between-subjects design, Social Exclusion (excluded vs. included) × Trustworthiness (trustworthy vs. untrustworthy face), and the dependent variable was the degree of rated trustworthiness.

2.5. Sample

The study included 122 participants, first- and second-year students from the Psychology Department, Faculty of Philosophy, University of Niš. Two participants whose results represented multivariate outliers were subsequently excluded from the study. The final sample included 120 participants (94 female, and 26 male).

2.6. Procedure

The experiment was conducted in the computer laboratory at the Faculty of Philosophy, University of Niš. Each participant was situated in a separate booth in order to prevent any interaction between participants. The participants were instructed that they would answer questions from everyday life, and that based on the recorded answers, they would be divided into groups which would solve specific tasks in the following stages of the research. Then the participants were instructed to answer the question "What is the meaning of life for you?" in 5–6 sentences. Once they answered the question, three names appeared on the screen, along with their answers to the given question. These three individuals actually did not exist, and their names and answers had been predetermined by the researcher. It was important to emphasize the fact that the participants' teammates would be students from other laboratories, who studied at different levels and at different departments or faculties. This was done in order to discourage the participants from thinking that they were acquainted with their teammates from the same room, or someone they knew. The participants were then instructed to choose two of the three potential teammates with whom they would like to continue to the next stage in the study. Their choice is not relevant in relation to our research hypotheses. In the following step, the participants were randomly assigned to the *excluded* or *included* group, which resulted in the different feedback they received. The *excluded* were informed that none of the three

potential teammates wanted to proceed to the next stage with them. The *included*, on the other hand, received the following message: "All three partners have chosen to continue the task with you.". To check the success of the experimental manipulation, the participants were asked to rate the following question on a five-point Likert scale: "How excluded do you feel from the group?" After that, the participants were informed that they would proceed to the next stage of the research where their task would be to cooperate with the person that appeared on the screen. A photograph was presented to each participant, and they were led to believe that the face in the photograph would be their future teammate. Depending on the group to which they had been randomly assigned, the face on the screen was either very trustworthy or very untrustworthy. The participants' task was to assess the degree of trustworthiness of the target face on a 6-point scale (1=completely untrustworthy, 6=completely trustworthy). The experiment ended with a debrief, and after having been introduced to the true purpose of the research, the participants gave their written consents for the use of the obtained data for research purposes. The research was approved by the Ethical Committee of the Psychology Department, Faculty of Philosophy, University of Niš.

3. RESULTS

3.1. Checking the success of the social exclusion manipulation

The results showed that the excluded group (M = 4.33, SD = 0.96) stated that they felt less included compared to the included group (M = 4.75, SD = 0.58, p = .005), which suggests that the experimental manipulation was successful. As the assumption of the homogeneity of the variance was violated, we used Welch's test.

3.2 Effect of social exclusion and trustworthiness of the teammate's face on the ascribed trustworthiness

To test the research hypotheses, two-way ANOVA was calculated, with social exclusion and trustworthiness as factors, and with the level of the trustworthiness ascribed as a dependent variable.

Table 1 Two-way ANOVA with effects of social exclusion, face trustworthiness, and interaction term on the degree of rated trustworthiness

	SS	F	p	η^2
Exclusion	2.98	3.21	0.053	0.03
Trustworthiness	2.61	5.63	0.607	0.00
Exclusion*Trustworthiness	5.71	6.15	**0.014**[*]	0.05

Note: SS = sum of squares, η^2 = effect size
[*]sig < .05

The results show that neither exclusion nor trustworthiness individually have the main effect on the rated trustworthiness of the future teammate. However, their interaction term reached significance, and, as a result, the remaining analyses focus on the simple effects and post hoc analysis.

Table 2 Marginal means of the interaction of exclusion and trustworthiness, with the post hoc effects analysis, viewed within the categories of the variable *exclusion*

	Teammate's face	M	SE	t value	p
Excluded	trustworthy	3.48	0.12	2.15	0.033*
	untrustworthy	3.10	0.13		
Included	trustworthy	3.41	0.14	-1.40	0.165
	untrustworthy	3.67	0.13		

Note: M = mean, SE = standard error
*sig < .05

An overview of the post hoc effects shows that the excluded participants ascribed different degrees of trustworthiness to trustworthy and untrustworthy faces, i.e., we can assume that they were successful in differentiating between the two. On the other hand, the included participants were not successful in this task (Table 2). If the data are viewed from the perspective of the categories of the variable trustworthiness (Table 3), we can see that there is no difference in the degree of the rated face trustworthiness between the excluded and included participants when it comes to a highly trustworthy face. However, the difference is drastic and significant for a face of low trustworthiness; namely, the excluded participants ascribed significantly lower degrees of trustworthiness to this face, compared to the included participants (Table 3).

Table 3 Marginal means of interaction between *inclusion* and *trustworthiness* with the analysis of post hoc effects, with respect to the categories of the variable *trustworthiness*

	Teammate's face	M	SE	t value	p
Trustworthy	excluded	3.48	0.12	0.39	0.697
	included	3.41	0.13		
Untrustworthy	excluded	3.10	0.14	-3.15	0.002*
	included	3.67	0.13		

*sig < .05

4. DISCUSSION AND CONCLUSION

The present experiment aimed to explore how the experience of social exclusion affects the perception of trustworthiness in everyday social interaction. Groups of participants were first led to believe that they were included or excluded by their pseudo-teammates. After that, they were asked to assess the trustworthiness of the faces of the people with whom they believed they would be cooperating in the next stage of the research. The obtained results confirmed the hypothesis about the unaffected sensitivity of the excluded participants when observing trustworthiness cues.

First of all, it needs to be emphasized that we were able to successfully induce the feeling of social exclusion in the group of excluded participants. The fact that this experimental group ascribed significantly higher ratings of trustworthiness to trustworthy faces, compared to untrustworthy faces, can be interpreted as evidence in favor of the manifested sensitivity of social perception, present despite the cognitive and emotional negative correlates that can be associated with the experience of exclusion (sadness, anger,

confusion). The presented evidence is also in line with the *Social Monitoring System* hypothesis (Pickett, Gardner, & Knowles 2004). The activation of this system enables an individual to focus on the environment and identify the potential social cues that would enable him to strengthen their thwarted needs, or to protect her/himself from new disappointments. It is feasible that this system was activated with our participants, which enabled them to distinguish between trustworthy and untrustworthy faces. Having that in mind, in a few minutes, they would find themselves in an interaction in which they could be hurt again, and the participants, most likely, focused their attention on the social cues that would enable them to avoid such an outcome. The obtained data can also be understood as a counter-argument to the functional projection hypothesis. Namely, according to this hypothesis the participants detect the acceptance cues even when these are not objectively present. In that sense, we should expect that the excluded participants would ascribe significantly higher degrees of trustworthiness to the faces in the photographs compared to the included participants. However, that was not the case. On the contrary, the fact that the excluded group ascribed significantly lower scores to the untrustworthy faces compared to the included group, while at the same time successfully distinguishing between trustworthy and untrustworthy faces, further supports the idea that their sensitivity remained at least preserved, if not even enhanced. On the other hand, it is interesting that the included group was not successful in distinguishing between trustworthy and untrustworthy faces. One possible explanation might be that the acceptance by group members led to an increased sense of belonging, self-esteem, and competence. That could have deactivated the *Social Monitoring System*, and enabled the included participants to perceive the environment as a safe place for future social interaction, disregarding the trustworthiness of the teammate's face. In any case, this assumption remains at the level of a speculation, but it inevitably leads to another dilemma – "Is the included group a suitable control group?" The feedback that this experimental group received was: "All three partners have chosen to continue the task with you." This can, to a certain degree, enhance self-esteem, which could, in turn, affect cognitive processes and the participants' behavior. This dilemma should be taken into account in future research. To our knowledge, there have not been any studies so far that tackled this particular question, at least not in the context of the *Get Acquainted* paradigm.

The present study also has its limitations. Bearing in mind that it involved an experimental setup, we cannot neglect the potential negative effects the artificial conditions might have had on the participants' spontaneity. Although the excluded group indeed felt excluded, we cannot dismiss the possibility that they recovered from this experience quite quickly, bearing in mind that they were excluded by individuals who are unimportant in their lives. Also, there are strategies individuals resort to when faced with the experience of exclusion. For instance, after learning that no one wanted to cooperate with them, the participants could have started thinking about the positive social contacts they have outside the laboratory conditions. The awareness of having partners, friends, and family members they are close with could have created the feeling of being accepted, thereby alleviating the recovery from the currently experienced exclusion (e.g., Twenge, Zhang, et al. 2007; Liddela & Courtney 2018). This could have facilitated the recovery from the exclusion, and, in effect, it could have preserved the functionality of the cognitive processes, i.e., the correct perception of trustworthiness. It would be interesting to conduct an experiment in which the participants would experience exclusion by a group of friends, or at least a group to which participants have a strong sense of belonging and emotional attachment. This approach was not used in this study due to ethical issues. Being excluded by a close

member of the family or by a friend, even in an artificial setting like experimental one, could result in strong negative emotional reactions or even worsen the subjective wellbeing of the participants.

REFERENCES

Balliet, Daniel, Joshua M. Tybur, Junhui Wu, Christian Antonellis, and Paul A. M. Van Lange. "Political Ideology, Trust, and Cooperation: In-group Favoritism among Republicans and Democrats during a US National Election". *Journal of Conflict Resolution* 62, 4 (2018): 797–818. https://doi.org/10.1177/0022002716658694.

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

Blackhart, Ginette C., Brian C. Nelson, Megan L. Knowles, and Roy F. Baumeister. "Rejection Elicits Emotional Reactions but Neither Causes Immediate Distress nor Lowers Self-Esteem: A Meta-Analytic Review of 192 Studies on Social Exclusion". *Personality and Social Psychology* 13, 4 (2009): 269–309. https://doi.org/10.1177/1088868309346065.

Dewall, Nathan C., Maner, Jon K. and Rouby Aaron D., "Social Exclusion and Early- stage Interpersonal Perception: Selective Attention to Signs of Acceptance." *Journal of personality and social psychology* 96, 4 (2009): 729–741. doi:10.1037/a0014634

Leary, Mark R., Jean M. Twenge, and Erin Quinlivan. "Interpersonal Rejection as a Determinant of Anger and Aggression". *Personality and Social Psychology Review* 10, 2 (2006): 111–132. https://doi.org/10.1207/s15327957pspr1002_2.

Liddell, Belinda J. and Courtney, Bronte S. "Attachment Buffers the Physiological Impact of Social Exclusion". *PloS one* 9. 13 (2018). https://doi.org/10.1371/journal.pone.0203287

Ma, Debbie S., Corell Joshua and Wittenbrink Berndt. "The Chicago face database: A free stimulus set of faces and norming data". *Behavior Research Methods* 47, 4 (2015): 1122–1135. doi:10.3758/s13428-014-0532-5

Maner, Jon K., Dewall, Nathan C., Baumeister, Roy F. and Schaller, Mark. "Does Social Exclusion Motivate Interpersonal Reconnection? Resolving the "Porcupine Problem"". *Journal of personality and social psychology* 92, 1 (2007): 42–55. doi:10.1037/0022-3514.92.1.42

Oosterhof, Nikolaas N, and Alexander Todorov. "The Functional Basis of Face Evaluation." *Proceedings of the National Academy of Sciences of the United States of America* 105, 32 (2008): 11087–92. doi:10.1073/pnas.0805664105

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

Rezlescu, Constantin, Duchaine Brad, Olivola Y. Christopher and Chater Nick. "Unfakeable Facial Configurations affect Strategic Choices in Trust Games with or without Information about Past Behavior". *PloS one* 7, 3 (2012): e34293. doi:10.1371/journal.pone.0034293

Rousseau, Denise M., Sim B. Sitkin, Ronald S. Burt and Colin Camerer. "Not So Different After All: A Cross-discipline View of Trust". *Academy of Management Review* 23 (1998): 393–404.

Riva, Paolo, Lorenzo Montali, James H. Wirth, Simona Curioni, and Williams D. Kipling. "Chronic Social Exclusion and Evidence for the Resignation Stage: An Empirical Investigation". *Journal of Social and Personal Relationships* 34, 4 (2017): 541–564. https://doi.org/10.1177/0265407516644348.

Syrjämäki, Aleksi H. and Jari K. Hietanen. "The Effects of Social Exclusion on Processing of Social Information – A Cognitive Psychology Perspective". *The British Journal of Social Psychology* (2019): 730–748. 10.1111/bjso.12299

Todorov, Alexander, Christopher Y. Olivola, Ron Dotsch and Peter Mende-Siedlecki. "Social Attributions from Faces: Determinants, Consequences, Accuracy, and Functional Significance". *Annual Review of Psychology* 66 (2015): 519–545. doi:10.1146/annurev-psych-113011-143831

Twenge, Jean M., Roy F.Baumeister, Dianne M. Tice, and Tanja S. Stucke. "If You can't Join them, Beat them: Effects of Social Exclusion on Aggressive Behavior". *Journal of Personality and Social Psychology* 81 (2001):1058–1069.

Twenge, Jean M., Catanese Kathleen R. Zhang Liqing, Brenda Dolan-Pascoe, Leif F. Lyche and Roy F. Baumeister. "Replenishing Connectedness: Reminders of Social Activity Reduce Aggression after Social Exclusion". *The British Journal of Social Psychology* 46 (2007): 205–224. doi:10.1348/014466605X90793.

Williams, Kipling D. "Chapter 6 Ostracism: A Temporal Need-Threat Model". *Advances in Experimental Social Psychology* 41 (2009): 275–314.

Williams, Kipling D. and Steve A. Nida. *Ostracism, Exclusion, and Rejection*. New York: Routledge, 2016

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

EFEKAT SOCIJALNOG ISKLJUČIVANJA
NA OPAŽANJE POUZDANOSTI

Socijalno isključivanje predstavlja neprijatno iskustvo i sastavni je deo svakodnevne socijalne interakcije. Njegove posledice ogledaju se u izmenjenim mislima, emocijama i ponašanju, a primećene su i dugoročne negativne posledice poput sniženog subjektivnog blagostanja i lošeg mentalngo zdravlja. Takođe je poznato da socijalna isključenost ima reperkusije na kognitivne procese, posebno na percepciju, iako su rezultati u ovoj oblasti donekle kontradiktorni. Primećeno je da isključene osobe pokazuju očuvanu ili čak pojačanu osetljivost za društvene znakove, posebno one koji signaliziraju mogućnost ponovnog povezivanja (npr. osmeh). S druge strane, uočeno je da socijalna isključenost može imati negativan efekat u ovom kontekstu, čineći percepciju društvenih znakova netačnom i „iskrivljenom". Cilj ove studije bio je ispitati kako doživljena socijalna isključenost utiče na percepciju pouzdanosti, konkretno, na sposobnost da se napravi razlika između lica koja signaliziraju visoku i lica koja signaliziraju nisku pouzdanosti. Primenjen je potpuno neponovljen nacrt 2 (Socijalno isključivanje: isključeni naspram uključenih) x 2 (Pouzdanost: pouzdano naspram nepouzdanog lica), dok je nivo pripisane pouzdanosti opaženom licu tretiran kao zavisna varijabla. Uzorak je činilo 120 studenata prve i druge godine psihologije. Rezultati su pokazali da isključeni učesnici pripisuju značajno različite nivoe pouzdanosti visoko i nisko pouzdanom licu, što može ukazivati na to da su sačuvali ili čak pojačali osetljivost u društvenoj percepciji. Dobijeni rezultati diskutovani su u skladu sa postojećim teorijskim pretpostavkama.

Ključne reči: socijalno isključivanje, socijalno odbacivanje, ostrakizam, opažanje pouzdanosti.