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Reactions to Social Inclusion and Ostracism as a Function of Perceived In-Group Similarity

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Although ostracism is a powerfully aversive experience, recent evidence identifies factors capable of moderating the impact of ostracism, such as in-group status and the group's essential nature. In the current work, 67 Caucasian American participants (47 women) were included or ostracized by either same-race (i.e., Caucasian American) or other-race (i.e., African American) targets on a between-subjects basis while playing the game Cyberball. Participants then indicated the extent to which they felt similar to the other Cyberball players as well as how satisfied their basic needs (e.g., belongingness, self-esteem) were during the game. Consistent with past research, we found that in-group and out-group status moderated the magnitude of reactions to social inclusion and ostracism; that is, ostracism hurts more and social inclusion feels better when it is implemented by fellow in-group as opposed to out-group members. Importantly, we extend these previous findings by demonstrating that differential reactions to social inclusion and ostracism are mediated by changes in participants' self-perceived similarity with in-group members. These results identify a potential mechanism responsible for the differential impact of in-group–out-group status on reactions to social inclusion and ostracism.

Keywords: ostracism, intergroup relations, in-group–out-group, threat

Humans are intensely social animals. As such, we place great value on social connections and group memberships, with our self-esteem and emotional states being closely linked to our social interactions and relationships (Baumeister & Leary, 1995). As a result, being socially rejected or ostracized is an intensely aversive social experience, whereas being socially accepted is decidedly positive (MacDonald & Leary, 2005; Williams, 2007). However, there has been some debate as to whether all experiences of ostracism and social inclusion are equally impactful. Although initial research indicated that aversive responses to ostracism are reflexive and unmoderated by situational factors (e.g., Gonsalkorale & Williams, 2007; Williams & Zadro, 2005), more recent research suggests that responses to social ostracism are sensitive to several factors, including characteristics of the individuals engaging in the act of ostracism. For example, Bernstein and colleagues (2010) demonstrated that being included or ostracized by in-group members exacerbates the intensity of the experience (i.e., being ostracized by an in-group hurts more than being ostracized by an out-group).

Whereas these past findings demonstrate that in-group status is an important moderator of reactions to social inclusion and ostracism, research has yet to identify the mechanism under-

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lying these differential reactions. To address this research lacuna, we tested the hypothesis that inclusion within and ostracism by an in-group can have more powerful influences on the self (e.g., influencing belongingness and self-esteem) precisely because such experiences can change perceptions of self-similarity to the in-group, which serves as a psychological mediator of the increased intensity of in-group inclusion and ostracism. To this end, we first review the literature on the need to belong, in-group–out-group status, and perceptions of similarity, and then provide direct experimental evidence for our proposed mediational hypothesis.

The Need to Belong

Whereas stable social bonds have numerous physical and psychological benefits, unfulfilled belongingness needs have a decidedly negative impact on well-being (Baumeister & Leary, 1995). Specifically, acute experiences of ostracism induce negative mood and thwart basic social needs satisfaction (e.g., self-esteem, belonging; Williams & Zadro, 2005). Importantly, these strong reactions to the experience of ostracism are largely unaffected by various individual difference measures that seem intuitively relevant (e.g., trait self-esteem and social anxiety; Leary, Haupt, Strausser, & Chokel, 1998; Zadro, Boland, & Richardson, 2006).

Indeed, prior work has even found that ostracism lowers mood and basic need satisfaction equally, regardless of the characteristics of the ostracizing party. For example, Williams and colleagues (2000) found that responses to ostracism did not differ based on in-group–out-group distinctions (e.g., PC vs. Mac users; see also Smith & Williams, 2004). Furthermore, individuals' basic needs satisfaction is threatened regardless of whether participants believe that they were ostracized by fellow participants (i.e., peers), by confederates who were trained to ostracize them, or even by a computer programmed to arbitrarily ostracize them (Zadro, Williams, & Richardson, 2004). Finally, Gonsalkorale and Williams (2007) even found that ostracism perpetrated by a disliked out-group (i.e., KKK members) is experienced as painfully as that perpetrated by a valued in-group.

Nonetheless, not all sources of affiliation equally satisfy belonging needs. Specifically, valued social groups are a vital source of social and material support, offering protection and access to mates (e.g., Correll & Park, 2005). Indeed, in-group bias, or the tendency to favor in-groups over out-groups (Tajfel, 1982), is reflected in numerous behaviors, ranging from more positive evaluations of in-groups, greater levels of prosocial behavior toward fellow in-group members, and allocation of more resources to in-groups (e.g., Ferguson & Kelley, 1964; Hein, Silani, Preuschoff, Batson, & Singer, 2010; Tajfel, Billig, Bundy, & Flament, 1971). Consistent with the importance of social in-groups, Bernstein and colleagues (2010) recently reported two studies demonstrating that ostracism is more painful and social inclusion more positive when carried out by fellow in-group members (cf. Goodwin, Williams, & Carter-Sowell, 2010). In their first study, participants were either ostracized or socially included by racial in-group or out-group members; participants reported more threatened affiliation needs following racial in-group ostracism (relatively to ostracism by racial out-group members), but more satisfied basic affiliation needs following social inclusion by racial in-group as opposed to out-group members. Their second study replicated this basic finding with political group membership; that is, participants reported more social pain when ostracized by individuals who shared their own party affiliation (as opposed to ostracism by confederates of a different party affiliation), but greater satisfaction when socially included by individuals with the same political party affiliation as their own. Importantly, these authors found that this strengthened experience of in-group inclusion and ostracism occurred most strongly for perceivers who were made to see the in-group as highly essentialized (i.e., participants who were led to believe that these groups possessed characteristics defined as relatively inborn, immutable, or genetically based; see Prentice & Miller, 2007).

Perceived Self-Similarity and Reactions to In-Group–Out-Group Inclusion and Ostracism

In the current work, we tested the hypothesis that the experience of becoming psychologically similar to the including in-group or dissimilar from the ostracizing in-group would mediate the effect of in-group–out-group status on

reactions to inclusion and ostracism. Across numerous kinds of relationships, individuals prefer to interact with others who are similar across a variety of domains, including intelligence and physical attractiveness (e.g., Feingold, 1988; Jensen, 1978). Furthermore, similarity is positively related to relationship satisfaction and longevity in both platonic and romantic relationships (e.g., Acitelli, Kenny, & Weiner, 2001; Gonzaga, Campos, & Bradbury, 2007; Russell & Wells, 1991).

Interestingly, this relation between similarity and liking is bidirectional, such that positive interactions with others lead to increased perceptions of similarity. According to Morry's (2005) attraction-similarity model, attraction leads to perceptions of similarity between the self and others and these perceptions of similarity provide numerous benefits, ranging from feeling more understood and validated to increased feelings of positive affect and decreased loneliness. Put simply, we are likely to affiliate with similar others (e.g., Acitelli et al., 2001) but also perceive those we affiliate with as more similar to the self, and these feelings of interpersonal similarity are important for prompting both initial liking and securing the stable and long-term relationships that best satisfy belonging needs (Baumeister & Leary, 1995).

Based on these previous findings, we suggest that inclusion by in-group members creates perceptions of enhanced similarity with members of that group, an outcome we propose may be responsible for enhanced need satisfaction following inclusion by in-group members. Conversely, ostracism by in-group members may be interpreted as evidence of dissimilarity between the self and group, which may sharpen the negative experience of social exclusion. Specifically, to the extent that inclusion by in-group members makes the in-group more attractive to an individual, that person should indicate heightened perceived similarity with that in-group, resulting in higher levels of interpersonal satisfaction; conversely, ostracism by in-group members should lead individuals to perceive that group as less attractive, resulting in reduced perceptions of similarity with the in-group and potential interpersonal dissatisfaction (i.e., Morry, 2005). However, because out-groups are categorized as essentially dissimilar from the self, simple acts of inclusion and exclusion may lead to little change in perceived similarity to out-group members, and thus may be unrelated to the experiences of ostracism and social inclusion.

To test our hypothesis, we manipulated the race of supposed confederates in the context of the Cyberball paradigm (Williams & Jarvis, 2006), thereby allowing us to independently manipulate whether participants experienced social inclusion or ostracism and whether that experience was initiated by members of one's own racial in-group or out-group. Following each of these experiences, we assessed participants' perceived similarity with the Cyberball "confederates" they played with as well as their basic needs satisfaction following the game. This design allowed us to replicate previous findings that inclusion and ostracism perpetrated by racial in-groups produce more intense interpersonal reactions (both positive and negative) as well as to test the hypothesis that the effects of in-group inclusion and ostracism on basic affiliation needs (dis)satisfaction are mediated by changes in perceived similarity with in-group members.

Method

Participants

The sample was composed of 67 (47 women; M_{age} = 18.97 years, SD = 1.28) Caucasian American undergraduate students at a large midwestern university in the United States who participated in exchange for partial course credit; non-Caucasian Americans did not participate in this study.[1] A 2 (inclusionary status: ostracism, inclusion) × 2 (agent race: same-race, other-race) between-subjects design was employed.

Materials

Basic Needs Scale. To assess participants' reactions to social inclusion and ostracism, we administered the Basic Needs Scale, used extensively in prior research (Williams et al., 2000; Zadro, Williams, & Richardson, 2004). This questionnaire assesses four social needs known to fluctuate with experiences of social inclusion and ostracism: belonging, perceived

[1] No effects of participant sex were observed; therefore, this variable is not discussed further.

control, self-esteem, and meaningful existence (for a review, see Williams, 2007). The questionnaire included 16 items assessing perceived threats to these four needs (e.g., "I felt disconnected," "I felt I had control over the situation," "I felt liked," "I felt meaningless"); we asked participants to provide their responses based on how they felt during the game (reflexive) rather than based on how they currently felt (reflective). Participants responded to each of the 16 questions using a 7-point Likert scale (1 = *not at all* to 7 = *extremely*), scored such that higher numbers indicated more fulfillment of the respective need (i.e., higher numbers indicated a greater experience of belonging, higher self-esteem, etc.).

Perceived similarity. Using the same 7-point Likert scale used to assess basic needs satisfaction, we also asked participants the extent to which they agreed with the statement "The other participants are similar to me."

Procedure

The procedure was adapted closely from that of Bernstein and colleagues (2010). Upon their arrival in a university laboratory, participants provided informed consent and were escorted to individual cubicles. Specifically, they were informed that they were participating in a study involving online communication and mental visualization, and that because the study was occurring in multiple departments on the university campus, they would be playing with other students located elsewhere on campus. In actuality, the other participants were computer-controlled agents programmed to either socially include or ostracize the participants on a between-subjects basis. To facilitate our experimental design, we told participants that they would be able to see a photograph of the two participants with whom they would be playing during the game itself, and that the two participants would be able to see a picture of them (thus allowing for our manipulation of agent race). Participants were then instructed to stand against a white wall while the experimenter took a digital photograph of them, which the experimenter then ostensibly uploaded to the computer network prior to the start of the game.

After having their picture taken and completing a series of filler questions supposedly measuring "mental visualization" capabilities, participants were directed to play Cyberball, an Internet ball-tossing game ostensibly designed to help people hone their mental visualization skills. Importantly, our White participants saw either two White faces (i.e., in-group members) or two Black faces (i.e., out-group members) as fellow players (on a between-subjects basis, to manipulate racial in-group and out-group membership). In addition, participants were randomly assigned to either receive the ball roughly one third of the time (inclusion condition) or to receive the ball only twice at the beginning and then never again for the remaining throws (ostracism condition).

Participants then completed the similarity question and the Basic Needs Scale. Participants were debriefed and thanked for their participation. We used a funneled debriefing questionnaire to determine whether participants were suspicious about any aspect of our experimental procedures, including the Cyberball manipulation. Using an open-ended format, participants were asked, "Did you find anything odd or suspicious during the study?" and "Did you think anything in the study was fake?" If participants answered affirmatively to either question, they were asked to elaborate on their initial answer.

Results

Manipulation Check Effectiveness

To determine whether our Cyberball manipulation was believable to participants, we coded participants' responses to our funneled debriefing questions for suspicion. Specifically, we created a "player suspicion" variable and noted any participants who indicated that they found the two Cyberball players generally or their race to be fake, odd, or suspicious. Anyone mentioning such a comment in either question was assigned a 1, and all others who did not mention anything were assigned a 0. This coding resulted in a total of six of 67 respondents having made comments regarding some aspect of the players being fake, odd, or suspicious. Importantly, only one participant's suspicion was actually based on the race of the Cyberball players.

We conducted analyses to determine whether these differences varied across experimental conditions. We first conducted a chi-square

analysis, using Cyberball target race (Caucasian vs. African American) as the independent variable. This analysis yielded a nonsignificant difference, $\chi^2(1) = 0.67$, $p = .41$, indicating that suspicion about the players did not vary based on whether participants were playing with White or Black agents. We next conducted a similar chi-square analysis using Cyberball condition (social inclusion vs. ostracism) as the independent variable; again, this analysis revealed no difference between conditions, $\chi^2(1) = 0.35$, $p = .56$. To determine whether these factors (social experience and agent race) interacted, we conducted a binary logistic regression, dummy coding (1) inclusion + Black agents, ostracism + White agents, and ostracism + Black agents against the referent group of inclusion + White agents (0). The regression was nonsignificant, $\chi^2(3) = 2.82$, $p = .42$, for each of the three dummy-coded variables entered into the logistic regression.

In a final analysis, we dummy coded both social experience (0 = exclusion, 1 = inclusion) and agent race (0 = Black, 1 = White) and entered them simultaneously as factors in a binary logistic regression, using our "player suspicion" factor as the dependent variable. This analysis allowed us to examine the effect of each of these factors while also accounting for the variability due to the other factor. This analysis also yielded a nonsignificant regression, $\chi^2(2) = 0.98$, $p = .61$.

All evidence suggested that suspicion about the Cyberball players, including their race, did not differ between conditions of our experiment. Furthermore, this identical experimental procedure has been used in previous work and similarly low levels of suspicion were documented (see Bernstein et al., 2010). As such, the current procedure possessed an adequate level of experimental realism.

Basic Needs

The individual needs were highly related ($\alpha = .94$); as such, we formed a composite basic needs score for each participant (higher values represent more satisfied basic needs; see McConnell, Brown, Shoda, Stayton, & Martin, 2011, for similar procedures). We then subjected these scores to a 2 (inclusionary status: inclusion vs. ostracism) × 2 (agent race: same-race vs. other-race) between-subjects analysis of variance (ANOVA).[2] A main effect of inclusionary status emerged, $F(1, 63) = 105.73$, $p < .001$, $\eta_p^2 = .63$, such that included participants ($M = 4.44$, $SE = 0.14$) reported substantially more fulfilled basic needs than did ostracized participants ($M = 2.50$, $SE = 0.13$). Importantly, this main effect was qualified by a significant Inclusionary Status × Agent Race interaction, $F(1, 63) = 5.41$, $p = .023$, $\eta_p^2 = .079$ (see Figure 1). Simple effects analyses revealed that participants ostracized by same-race agents ($M = 2.22$, $SD = 0.58$) had less fulfilled basic needs than did those ostracized by other-race agents ($M = 2.78$, $SD = 0.88$), $t(35) = 2.20$, $p = .032$, $d = 0.75$. Although participants included by same-race agents were directionally more satisfied ($M = 4.61$, $SD = 0.83$) than were those included by other-race agents ($M = 4.28$, $SD = .73$), this effect did not reach statistical significance, $t(28) = 1.15$, $p > .20$, $d = 0.42$. This significant interaction between inclusionary status and target race, however, is consistent with previous findings indicating that although ostracism always feels worse than social inclusion, such effects can be qualified by the in-group–out-group relationship of the rejecter and rejected (Bernstein et al., 2010).

Mediation Analysis

We then investigated whether the stronger responses to in-group inclusion and ostracism were mediated by changes in the perceived similarity of the self to in-group members.[3] We predicted that participants included by same-race participants should see the self as more similar to the agents, relative to participants experiencing ostracism. We further predicted that increased perceived similarity should be positively correlated with increased fulfillment of basic affiliation needs. Finally, we predicted that the relationship between inclusionary status and basic needs would be mediated by the

[2] Treating each of the four subscales as separate dependent variables in four separate ANOVAs had no effect on the interaction pattern ($ps < .07$).

[3] Because perceived similarity and belongingness are potentially psychologically similar constructs, we conducted a correlational analysis to determine how strongly they were related to one another, $r(67) = .49$, $p < .01$. Because these two concepts were only moderately correlated, perceived similarity was an adequate variable to include as a psychological mediator.

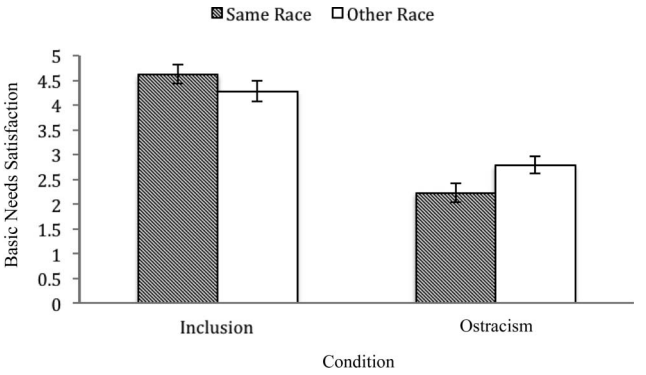

Figure 1. The effect of inclusion and ostracism on basic needs satisfaction as a function of the in-group–out-group status of the agents.

aforementioned increase in perceived similarity. However, we believe this relationship should only be true for participants playing with same-race agents. We hypothesized that de facto dissimilarity with racial out-groups would be unaffected by the relatively minor inclusionary and exclusionary behaviors used in our task, and as such, we did not expect similarity to mediate the relationship between inclusionary status and basic needs satisfaction.

We therefore conducted a moderated mediation analysis (i.e., a conditional indirect effect; see Preacher, Rucker, & Hayes, 2007) to examine our specific hypothesis, and we used the Preacher et al. (2007) existing SPSS macro to conduct this analysis. Before testing the moderated mediation, we began by dummy coding the independent variable of inclusionary status (1 = inclusion, 0 = ostracism) and entered it as a predictor of the composite basic needs score. We also included our similarity measure as our mediator and target race as the moderating variable (0 = White, 1 = Black). This analysis produced a significant overall model, $F(3, 63) = 5.82$, $p = .014$, $R^2 = .22$, which included our previously described direct effect on the basic needs, such that inclusion increased basic needs satisfaction relative to ostracism ($B = 1.94$, $p < .001$). We next examined whether the direct effect was mediated by perceptions of similarity. To test this hypothesis, we employed the bootstrapping method developed by Preacher and Hayes (2004, 2008). This method requires that a relationship between an independent variable and a dependent variable exist to be mediated, and that the "indirect effect be statistically significant in the direction predicted by the mediation hypothesis" (Preacher & Hayes, 2004, p. 719). Having already established these requirements, we next performed the bootstrapping procedures using the macros provided by Preacher and Hayes (2008) to determine whether the direct effect of inclusionary status on basic needs was mediated by perceptions of similarity. This analysis yielded a 95% bias-corrected confidence interval (based on 5,000 bootstrap samples) for the indirect effect that did not include zero (95% CI [0.066, 0.70]). This analysis indicated that perceptions of perceived similarity mediated the direct effect. Greater social inclusion led to stronger perceptions of similarity ($B = 0.92$, $p = .002$), and as similarity increased, so too did participants' basic needs satisfaction ($B = 0.28$, $p < .001$). The direct effect, however, was mediated when including similarity ($B = 1.68$, $p < .001$).

However, we wished to examine whether this was true both when playing with same-race and other-race agents (i.e., did target race moderate the mediated effect?). We conducted a moderated meditation analysis using Model 7 with the W moderator being target race (0 = White, 1 = Black). This yielded two bootstrapping models, each with 5,000 iterations. When participants played with White agents, similarity did indeed mediate the effect of inclusion and ostracism on basic needs satisfaction (95% bias-corrected confidence interval did not include zero; 95% CI [0.079, 0.91]). However, similarity did not mediate the effect when participants played with Black agents (95% bias-corrected confidence interval did include zero; 95% CI [−0.

054, 0.39]). Thus, our moderated mediation hypothesis was supported.

Discussion

Consistent with past research, we found that the social pain stemming from ostracism is more severe when administered by fellow in-group members (e.g., Bernstein et al., 2010). Conversely, social inclusion is experienced as relatively more positive when administered by in-group relative to out-group members. Importantly, we found that these enhanced effects of social inclusion and ostracism observed in the in-group condition are mediated by perceived similarity with those agents of inclusion or ostracism. Not only do in-group members seem more similar to the self when they include participants (and more dissimilar when they ostracize participants), but changes in the perception of similarity with agents mediate the relationship between inclusionary status and the fulfillment of basic affiliation needs. Critically, this relationship was only true when participants played the game with racial in-group members; perceptions of similarity did not change, regardless of the inclusionary experience, in the racial out-group condition (i.e., moderated mediation).

Several theoretical positions are congruent with our findings. First, out-group members are naturally constrained with respect to how similar they may be perceived to in-group members. Among racial out-groups, for whom the signals of group differences (i.e., skin tone) are salient (e.g., Ito & Urland, 2003), it may be difficult to ever completely overcome that difference so long as "race" is the primary category that defines the targets. This explanation is further supported by evidence showing that out-groups are perceived as being more homogenous as compared with in-groups (Park, Ryan, & Judd, 1992). It may be that when individuals think of in-group members, they are better able to imagine a greater degree of variation in how similar they are to themselves; receiving positive feedback (such as acceptance) may enhance these perceptions of similarity, because positive interpersonal interactions can increase perceived similarity (Morry, 2005). At the same time, receiving negative feedback may result in perceiving the agent as less similar to themselves (perhaps the group as well) as a means of distancing oneself from the aggressor and perhaps also protecting generally positive perceptions of the in-group (e.g., Doosje, Ellemers, & Spears, 1995). Alternatively, ostracism from the in-group may threaten one's perceived standing within the in-group (Williams, 2007), causing the observed dissimilarity and intensified negativity.

Although past theory and research (e.g., Williams, 2007) proposed that early stage reactions to ostracism are essentially reflexive and insensitive to situational factors, the current results and other recent work (Bernstein et al., 2010) suggest that responses to ostracism are not simply "all or nothing," and instead can be more nuanced and contextualized. Furthermore, the current results also mesh nicely with social pain theory (MacDonald & Leary, 2005), which proposes that social and psychical pain are phenomenologically and physiologically linked experiences (e.g., Eisenberger, Lieberman, & Williams, 2003). To the extent that reactions to ostracism are similar to responses to physical pain, it is sensible that the most serious social injuries (e.g., being ostracized by in-groups) should result in the most acute experiences of social pain.

Nonetheless, a number of open questions still remain. First, given that the current work used race as the operational definition of in-group and out-group, it may appear unclear whether the current effects are due to an in-group effect or due to status or power differences among the in-group and out-group. Although a sensible alternative explanation, this hypothesis is not easily congruent with previous findings. Indeed, Bernstein and colleagues (2010) found that both Black and White participants showed equivalent effects when socially included or ostracized by racial in-group versus out-group members. Clearly, this pattern of data does not align easily with a status or power interpretation of race. Second, in the current work, we did not test whether similar results would be observed for other in-group–out-group distinctions. Here, too, we can point to past research to address this issue. Given that the differential responses to ostracism and social inclusion by in-group and out-group members only appear to occur for highly essentialized groups (e.g., race; see Bernstein et al., 2010), but not for more arbitrary groups or groups with weak affiliations (e.g., PC vs. Mac users; Smith & Williams,

2004), this indicates that the current mediational pattern for in-groups would likely hold only for subjectively relevant and highly essentialized in-groups.

In conclusion, consistent with past research, we found that reactions to social inclusion and ostracism are exacerbated when perpetrated by fellow racial in-group members (compared with racial out-group members). Importantly, these exacerbated reactions stemming from in-group inclusion and ostracism are explained by fluctuations in perceived self-similarity with in-group members. Future research would benefit by understanding additional mechanisms potentially responsible for differentiated reactions to inclusion and ostracism by in-group members.

References

Acitelli, L. K., Kenny, D. A., & Weiner, D. (2001). The importance of similarity and understanding of partners' marital ideals to relationship satisfaction. *Personal Relationships, 8,* 167–185. doi:10.1111/j.1475-6811.2001.tb00034.x

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

Bernstein, M. J., Sacco, D. F., Young, S. G., Hugenberg, K., & Cook, E. (2010). Being "in" with the in-crowd: The effects of social exclusion and inclusion are enhanced by the perceived essentialism of the ingroup and outgroup. *Personality and Social Psychology Bulletin, 36,* 999–1009. doi:10.1177/0146167210376059

Correll, J., & Park, B. (2005). A model of the ingroup as a social resource. *Personality and Social Psychology Review, 9,* 341–359. doi:10.1207/s15327957pspr0904_4

Doosje, B., Ellemers, N., & Spears, R. (1995). Perceived intragroup variability as a function of group status and identification. *Journal of Experimental Social Psychology, 31,* 410–436. doi:10.1006/jesp.1995.1018

Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003, October 10). Does rejection hurt? An fMRI study of social exclusion. *Science, 302,* 290–292. doi:10.1126/science.1089134

Feingold, A. (1988). Matching for attractiveness in romantic partners and same-sex friends: A meta-analysis and theoretical critique. *Psychological Bulletin, 104,* 226–235. doi:10.1037/0033-2909.104.2.226

Ferguson, C. K., & Kelley, H. H. (1964). Significant factors in overevaluation of own-group's product. *Journal of Abnormal Psychology, 69,* 223–228. doi:10.1037/h0046572

Gonsalkorale, K., & Williams, D. (2007). The KKK won't let me play: Ostracism even by a despised outgroup hurts. *European Journal of Social Psychology, 37,* 1176–1186. doi:10.1002/ejsp.392

Gonzaga, G. C., Campos, B., & Bradbury, T. (2007). Similarity, convergence, and relationship satisfaction in dating and married couples. *Journal of Personality and Social Psychology, 93,* 34–48. doi:10.1037/0022-3514.93.1.34

Goodwin, S. A., Williams, K. D., & Carter-Sowell, A. R. (2010). The psychological sting of stigma: The costs of attributing ostracism to racism. *Journal of Experimental Social Psychology, 46,* 612–618. doi:10.1016/j.jesp.2010.02.002

Hein, G., Silani, G., Preuschoff, K., Batson, C. D., & Singer, T. (2010). Neural responses to ingroup and outgroup members' suffering predict individual differences in costly helping. *Neuron, 68,* 149–160. doi:10.1016/j.neuron.2010.09.003

Ito, T. A., & Urland, R. (2003). Race and gender on the brain: Electrocortical measures of attention to the race and gender of multiply categorizable individuals. *Journal of Personality and Social Psychology, 85,* 616–626. doi:10.1037/0022-3514.85.4.616

Jensen, A. R. (1978). Genetic and behavioral effects of nonrandom mating. In R. T. Osborne, C. E. Noble, & N. J. Weyl (Eds.), *Human variation: Biopsychology of age, race, and sex* (pp. 51–105). New York, NY: Academic Press.

Leary, M. R., Haupt, A. L., Strausser, K. S., & Chokel, J. T. (1998). Calibrating the sociometer: The relationship between interpersonal appraisals and state self-esteem. *Journal of Personality and Social Psychology, 74,* 1290–1299. doi:10.1037/0022-3514.74.5.1290

MacDonald, G., & Leary, M. R. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin, 131,* 202–223. doi:10.1037/0033-2909.131.2.202

McConnell, A. R., Brown, C. M., Shoda, T. M., Stayton, L. E., & Martin, C. E. (2011). Friends with benefits: On the positive consequences of pet ownership. *Journal of Personality and Social Psychology, 101,* 1239–1252. doi:10.1037/a0024506

Morry, M. M. (2005). Relationship satisfaction as a predictor of similarity ratings: A test of the attraction-similarity hypothesis. *Journal of Social and Personal Relationships, 22,* 561–584. doi:10.1177/0265407505054524

Park, B., Ryan, C. S., & Judd, C. M. (1992). Role of meaningful subgroups in explaining differences in perceived variability for in-groups and out-groups. *Journal of Personality and Social Psychology, 63,* 553–567. doi:10.1037/0022-3514.63.4.553

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36,* 717–731. doi:10.3758/BF03206553

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40,* 879–891. doi:10.3758/BRM.40.3.879

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42,* 185–227. doi:10.1080/00273170701341316

Prentice, D. A., & Miller, D. T. (2007). Psychological essentialism of human categories. *Current Directions in Psychological Science, 16,* 202–206. doi:10.1111/j.1467-8721.2007.00504.x

Russell, R. J., & Wells, P. A. (1991). Personality similarity and quality of marriage. *Personality and Individual Differences, 12,* 407–412. doi:10.1016/0191-8869(91)90057-I

Smith, A., & Williams, K. D. (2004). R U there? Effects of ostracism by cell phone messages. *Group Dynamics: Theory, Research, and Practice, 8,* 291–301. doi:10.1037/1089-2699.8.4.291

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology, 33,* 1–39. doi:10.1146/annurev.ps.33.020182.000245

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1,* 149–178. doi:10.1002/ejsp.2420010202

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology, 58,* 425–452. doi:10.1146/annurev.psych.58.110405.085641

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79,* 748–762. doi:10.1037/0022-3514.79.5.748

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

Williams, K. D., & Zadro, L. (2005). Ostracism: An indiscriminate early detection system. In K. D. Williams, J. P. Forgas, & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 19–34). New York, NY: Psychology Press.

Zadro, L., Boland, C., & Richardson, R. (2006). How long does it last? The persistence of the effects of ostracism in the socially anxious. *Journal of Experimental Social Psychology, 42,* 692–697. doi:10.1016/j.jesp.2005.10.007

Zadro, L., Williams, K. D., & Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology, 40,* 560–567. doi:10.1016/j.jesp.2003.11.006

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