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### **EFFECTS OF SOCIAL ANXIETY AND GROUP MEMBERSHIP OF POTENTIAL AFFILIATES ON SOCIAL RECONNECTION AFTER OSTRACISM**

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#### **ABSTRACT**

*After being ostracized, people would try to socially reconnect with others. However, people high in social anxiety (HSA) might be more unwilling to reconnect with new affiliates than people low in social anxiety (LSA) because HSA individuals are more pessimistic and fear about the interaction with others. Particularly, it might be more difficult for HSA individuals to reconnect with outgroup members. As a result, HSA ostracized participants showed a greater desire to reconnect with ingroup members than with outgroup members. When social anxiety was low, there was no difference in desire to reconnect with ingroup and outgroup members.*

#### **INTRODUCTION**

To be ostracized is to be excluded or ignored, which thwarts the basic need to belong (Williams, 2007, 2009). The need to belong is one of the most fundamental human needs. Ostracism can bring about a variety of ill effects on health, adjustment, and well-being, and even death in extreme cases (Baumeister & Leary, 1995). Thus, people can promptly detect the possibility of ostracism in order to avoid this outcome (Williams, 2007, 2009). Even by rather subtle cues of ostracism, such as being excluded from receiving the ball during a ball-tossing computer game (Cyberball; Williams, Cheung, & Choi, 2000; Williams & Jarvis, 2006), participants reported that they felt ignored and excluded and that their belonging needs were threatened (e.g., Williams et al., 2000; Zadro, Williams, & Richardson, 2004) or behavioral responses were produced (e.g., Jamieson, Harkins, & Williams, 2010).

If indeed people can readily detect ostracism, individuals should be highly sensitive to potential sources of social acceptance and should engage in behaviors that may encourage social reconnection with new partners (Bernstein, Young, Brown, Sacco, & Claypool, 2008, 2010; DeWall, Maner, & Rouby, 2009; Jamieson et al., 2010; Maner, DeWall, Baumeister, & Schaller, 2007). In a previous experiment (Maner et al., 2007), they assessed participants' desire for social reconnection by asking them whether they would prefer to complete a task alone or with a group. If ostracism increases a desire for affiliation, ostracized participants should prefer working

together with others to working alone. As predicted, the future threat of ostracism made participants want to perform a task with others.

However, people high in social anxiety (HSA) might be more unwilling to reconnect with potential affiliates than people low in social anxiety (LSA). Social anxiety is defined as anxiety resulting from the prospect or presence of personal evaluation in real or imagined social situations (Schlenker & Leary, 1982). HSA individuals are prone to generalizing from their experience of rejection to other potential affiliates, leading them to assume that potential affiliates are not likely to represent opportunities for reconnection but instead sources of further ostracism (Heimberg, Lebowitz, Hope, & Schneier, 1995). Previous research indicates that ostracized LSA individuals view potential affiliates as more sociable and behave more prosocially toward them, whereas HSA individuals do not show this pattern (Mallott, Maner, DeWall, & Schmidt, 2009; Maner et al., 2007).

It might be more difficult for HSA individuals to reconnect with outgroup members as compared to LSA individuals. Outgroup members tend to be evaluated less positively than ingroup members (e.g., Brewer & Campbell, 1976; Tajfel, 1978). In addition, people tend to be more anxious during interactions with outgroup members than with ingroup members (e.g., Plant & Devine, 2003; Shelton, Richeson, & Salvatore, 2005; Trail, Shelton, & West, 2009). Even under normal circumstances, HSAs are pessimistic and fear any interaction with others, such that HSA individuals must be even more likely to avoid interactions with outgroup members (as compared to ingroup members).

## **Hypothesis and Overview**

A previous study (Maner et al., 2007) indicated that ostracized people have a desire to reconnect with others. We hypothesized that ostracized people would show desire to reconnect with potential affiliates but among them people who are high in social anxiety would show lower desire to reconnect with potential affiliates, particularly in the case of outgroup members. Prior to the experiment we assessed participants' social anxiety. For the first part of the experiment, participants performed the Dot Estimation Task (estimating the number of dots on a computer screen, cf. Tajfel, 1970). This task was used to manipulate group membership of co-participants. Next, participants played Cyberball and were randomly assigned to inclusion or ostracism conditions. After Cyberball, we informed participants of the Dot Estimation Task results and manipulated group membership of co-participants. Finally, we assessed participants' willingness to perform a task with co-participants, based on the assumption that this willingness reflects a desire to reconnect with others (Maner et al., 2007).

## **METHOD**

### **Participants and Design**

Eighty-five undergraduates in Japan (33 females; age:  $M = 19.3$ ,  $SD = 1.3$ ) participated in the experiment for partial course credit. The experiment was a 2 (inclusionary status: inclusion, ostracism)  $\times$  2 (group membership: ingroup, outgroup)  $\times$  2 (social anxiety: low, high) between-subject design.

## **Mass Testing**

Prior to the experiment, participants completed a measure of social anxiety based on the short version of the Fear of Negative Evaluation Scale (Watson & Friend, 1969) for Japanese (Sasagawa, Kanai, Muranaka, Suzuki, Shimada, & Sakano, 2004). This scale consisted of 12 items on which participants rated themselves using 5-point Likert scales (Cronbach's alpha = .92). We excluded data from six participants as their social anxiety scores could not be computed. We divided participants into two groups (low or high social anxiety) on the basis of this measure, using a median split ( $Me = 3.33$ ). We administered the measure to groups of participants.

## **Group Membership Manipulation**

We manipulated group membership using a minimal group paradigm, on the basis of Dot Estimation Task performance. We told participants that they were categorized either as an over-estimator, who tend to overestimate the number of dots, or as an under-estimator, who tend to underestimate the number of dots, on the basis of their responses over eight trials. During each trial, dots appeared for only 800 ms, making it impossible to count the exact number of dots. In the ingroup condition, we told participants that they and co-participants were all under-estimators. In the outgroup condition, we told participants that they were under-estimators but that all other co-participants were over-estimators. There was no bona-fide relationship with participants' actual performance.

## **Inclusion /Ostracism Manipulation**

To manipulate inclusionary status, we conducted a Cyberball task on a computer. Participants played a ball-tossing game with two other players controlled by the computer program. If assigned to the inclusion condition, participants received the ball for roughly one-third of the total throws. If assigned to the ostracism condition, participants received the ball twice at the beginning of the game, and for the remaining time, never received the ball again.

## **Dependent Measure**

We told participants that there were two-types of decision-making tasks (performing alone or with co-participants) and that they can choose either option. They rated their willingness to perform each type of task on a 9-point scale, from 0 (not at all) to 8 (extremely). Higher willingness scores to conduct the task with co-participants are thought to reflect a greater desire to reconnect with others.

## **Manipulation Check of Inclusionary Status**

After assessment of willingness to participate in each type of the decision-making task (i.e., dependent measure), participants completed two manipulation check items asking about the extent to which they felt ignored and excluded. Participants rated both items using 7-point scales ranging from 1 (not at all) to 7 (extremely). Higher scores indicated that they felt ignored and excluded.

## Procedure

Participants arrived in groups of three or four for a study ostensibly investigating the effects of their personalities and imaginary skills on a decision-making task. They sat in front of individual computers. After providing informed consent, participants completed the Dot Estimation Task, ostensibly to assess their personalities. We told them that these results would be forthcoming after the next task was completed. Next, they played a ball-toss game, ostensibly to practice their imaginary skills (i.e., Cyberball) with two computer-programmed players. We manipulated inclusionary status during Cyberball, as described above, and then participants received the spurious Dot Estimation Task results in order to manipulate group membership. Finally, to measure desire to reconnect with others, we asked participants how willing they are to perform a decision-making task with other co-participants. We did not describe the decision-making task to participants in detail but told participants that there would be no advantage or disadvantage in performance whichever they choose. Participants then completed a manipulation check of inclusionary status. We did not conduct the decision-making task and debriefed and thanked participants for participation.

## RESULTS

All reported means are estimated marginal means.

### Manipulation Check of Inclusionary Status

A  $2 \times 2 \times 2$  ANOVA revealed the expected significant main effect of inclusionary status on a composite measure representing the extent to which participants felt ignored and excluded (Cronbach's alpha = .92),  $F(1, 72) = 81.47, p < .001$ , partial eta squared = .53. Ostracized participants felt more ignored and excluded ( $M = 5.83, SE = 0.22$ ) than included participants ( $M = 3.08, SE = 0.21$ ). In line with previous research (Zadro, Boland, & Richardson, 2006), the main effect of social anxiety was also significant,  $F(1, 72) = 6.36, p = .014$ , partial eta squared = .08. Participants high in social anxiety felt more ignored and excluded ( $M = 4.84, SE = 0.23$ ) than participants low in social anxiety ( $M = 4.07, SE = 0.20$ ). No 2-way or 3-way interactions were significant,  $F_s < 1, p_s > .69$ .

### Dependent Measure

A  $2 \times 2 \times 2$  ANOVA revealed the hypothesized significant main effect of inclusionary status on willingness to engage in the decision-making task with co-participants,  $F(1, 72) = 4.92, p = .030$ , partial eta squared = .06. Ostracized participants were more willing to perform the task with co-participants ( $M = 5.83, SE = 0.22$ ) than were included participants ( $M = 3.08, SE = 0.21$ ). The main effect of group membership was also significant,  $F(1, 72) = 5.43, p = .023$ , partial eta squared = .07. Participants were more willing to reconnect with ingroup members ( $M = 4.48, SE = 0.30$ ) than outgroup members ( $M = 3.45, SE = 0.32$ ).

The ANOVA also revealed the hypothesized 3-way interaction between inclusionary status, group membership, and social anxiety (Table 1),  $F(1, 72) = 4.00, p = .049$ , partial eta squared = .05. As predicted, HSA ostracized participants showed a greater desire to reconnect with ingroup members ( $M = 5.40, SE = 0.60$ ) than with outgroup members ( $M = 2.40, SE = 0.84$ ),  $t(72) = 2.91, p = .005$ , Hedges'  $g = 1.60$ . In contrast, for LSA ostracized participants, there was no

difference in desire to reconnect with ingroup ( $M = 4.80, SE = 0.60$ ) and outgroup members ( $M = 5.20, SE = 0.49$ ),  $t(72) = 0.52, p = .604$ , Hedges'  $g = 0.21$ . In addition, with outgroup members, HSA ostracized participants showed less desire to reconnect ( $M = 2.40, SE = 0.84$ ) than LSA ostracized participants ( $M = 5.20, SE = 0.49$ ),  $t(72) = 2.88, p = .005$ , Hedges'  $g = 1.48$ . In contrast, there was no difference in desire to reconnect with ingroup members between LSA ostracized participants ( $M = 4.80, SE = 0.60$ ) and those high in social anxiety ( $M = 5.40, SE = 0.60$ ),  $t(72) = 0.71, p = .479$ , Hedges'  $g = 0.32$ . There were no differences in desire to reconnect among LSA included participants (ingroup  $M = 3.70, SE = 0.60$ ; outgroup  $M = 2.88, SE = 0.67$ ) and HSA included participants (ingroup  $M = 4.00, SE = 0.63$ ; outgroup  $M = 3.31, SE = 0.52$ ),  $t_s < 1, p_s > .35$ . In sum, our results suggest that ostracized HSA individuals do not show a reduced desire to re-connect, so long as the reconnection options are members of an in-group. None of the 2-way interactions were significant,  $F_s < 3.5, p_s > .07$ .

Table 1. Scores of desire to reconnect as a function of condition.

		Ingroup	Outgroup
Inclusion	Low Social Anxiety	3.70 (0.60)	2.88 (0.67)
	High Social Anxiety	4.00 (0.63)	3.31 (0.52)
Ostracism	Low Social Anxiety	4.80 (0.60)	5.20 (0.49)
	High Social Anxiety	5.40 (0.60)	2.40 (0.84)

*Note. All reported means are estimated marginal means. Standard errors in parentheses.*

## DISCUSSION

The purpose of this study was to test the hypothesis that ostracized people who are high in social anxiety would show less desire to reconnect with potential affiliates, particularly with outgroup members. This study expands upon previous work by investigating the effect of potential affiliates' group membership on the desire for social reconnection, an issue that previous studies (Mallott, Maner, DeWall, & Schmidt, 2009; Maner et al., 2007) did not examine. Our result indicates that ostracized people low in social anxiety showed some desire to reconnect with others regardless of group membership, whereas ostracized people high in social anxiety were not willing to reconnect with outgroup members.

Past research has suggested that HSA ostracized people might hesitate to engage and thus lose chances to achieve reconnections with potential new partners (Mallott, Maner, DeWall, & Schmidt, 2009; Maner et al., 2007). However, contrary to previous findings and our prediction, ostracized people high in social anxiety showed a desire for reconnection when potential affiliates were ingroup members. This may be because in-group members could be sources of inclusion compared to outgroup members (Gibson, 1977). Our experiment could not provide definitive evidence, and further research should be conducted.

Under some circumstances experiencing ostracism increases aggression (e.g., Twenge, Baumeister, Tice, & Stucke, 2001) and can cause incidents of mass violence (cf. Leary, Kowalski, Smith, & Phillips, 2003). On the other hand, some research has indicated that experiencing social connection can decrease aggressiveness following ostracism (e.g., DeWall, Twenge, Bushman, & Williams, 2010). Our result indicates that even people high in social anxiety can have opportunities to reconnect with potential new partners after experiencing ostracism, such that the relationship between social exclusion and aggression could be reduced.

Following previous work (e.g., Williams & Jarvis, 2006), we did not specify the group membership of the ostracism perpetrators. This is because ostracism from a outgroup member thwarts people's needs as much as ostracism from an ingroup member (Gonsalkorale & Williams, 2007). Maner et al. (2007) indicated that ostracized people did not seem to seek reconnection with the perpetrators of the ostracism. If people are ostracized from outgroup members, they would be expected to reconnect with ingroup members. If people are ostracized from ingroup members, it is conceivable that they would seek to reconnect with ingroup members who were not involved in the ostracism. Future research should consider group membership of ostracism perpetrators.

Furthermore, our result indicates that people low in social anxiety would show a desire to reconnect even with outgroup members. In our research we used a minimal group paradigm to manipulate group membership of potential affiliates. In more naturalistic contexts, it could be difficult to seek reconnection with outgroup members, due to such factors as intergroup conflicts or disparities in status. Future research should investigate whether we can generalize this result to existing intergroup relations.

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## APPENDIX A

### *Correlation Matrix of Study Variables*

Variables	1	2	3	4
1. Desire to Reconnect with Others	-			
2. Inclusionary Status (0 = Inclusion, 1 = Ostracism)	.25*	-		
3. Group Membership (0 = Outgroup, 1 = Ingroup)	.02	-.01	-	
4. Social Anxiety (0 = Low, 1 = High)	-.03	-.18	.05	-

Note. \* =  $p < .05$ ,  $N = 79$

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