

# Group Processes & Intergroup Relations

<http://gpi.sagepub.com/>

---

## **'I'm Out of the Loop': Ostracism Through Information Exclusion**

Eric E. Jones, Adrienne R. Carter-Sowell, Janice R. Kelly and Kipling D. Williams

*Group Processes Intergroup Relations* 2009 12: 157

DOI: 10.1177/1368430208101054

The online version of this article can be found at:

<http://gpi.sagepub.com/content/12/2/157>

---

Published by:



<http://www.sagepublications.com>

**Additional services and information for *Group Processes & Intergroup Relations* can be found at:**

**Email Alerts:** <http://gpi.sagepub.com/cgi/alerts>

**Subscriptions:** <http://gpi.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations:** <http://gpi.sagepub.com/content/12/2/157.refs.html>

>> [Version of Record](#) - Feb 24, 2009

[What is This?](#)

# ‘I’m Out of the Loop’: Ostracism Through Information Exclusion

Eric E. Jones, Adrienne R. Carter-Sowell,  
Janice R. Kelly and Kipling D. Williams

*Purdue University*

‘Out-of-the-loop’ experiences, or situations where people perceive being uninformed of information mutually known by others, pervade people’s lives. Two experiments examined the psychological impact of this form of partial ostracism. In Experiment 1, compared to in-the-loop participants, out-of-the-loop participants experienced a variety of deleterious effects (e.g. depleted fundamental needs), even without significant costs for being uninformed. In Experiment 2, out-of-the-loop participants were led to believe that their lack of information resulted from their group members’ decisions or chance. Unlike those who experience complete ostracism, participants typically reported negative psychological consequences only when group members were responsible for the exclusion decision. Information exclusion also affected factors related to group dynamics (e.g. liking and trust of group members), which may ultimately harm group functioning. Taken together, these studies demonstrate the social and psychological importance of being in the information loop in group settings.

**KEYWORDS** exclusion, groups, information sharing, ostracism, out of the loop

THE phrase ‘out of the loop’ describes a variety of situations where an individual is uninformed of information that is known by others: when an individual is a newcomer to a group, is ‘in the dark’ about a topic that others are discussing, or when information is actively shared with some people and specifically withheld from other individuals. Being out of the loop is a situation familiar to many people. In fact, undergraduates easily recalled times when they were out of the loop (Jones, Carter-Sowell, Kelly, & Williams, 2007). The context of their information exclusion varied greatly, from friends to family and from military service to workplace settings. In fact, people may experience being out of the loop in a variety of contexts: from the micro level,

including close relationships, social networks, and work settings to the macro level, including community, corporate, and government domains. Recent current events and surveys validate this pervasiveness, illustrating how people may be out of the loop in organizations and in political arenas (Deloitte Touche Tohmatsu and Economist Intelligence Unit, 2007; Galt, 2007; Jahn, 2008; Loven, 2008). The prevalence of these situations makes them relatable, but more importantly,

## **Author’s note**

Address correspondence to Eric E. Jones, Psychological Sciences Building, 703 Third Street, West Lafayette, Indiana 47907–2081, USA [email: ejones@psych.purdue.edu]

they may have a deleterious psychological impact on the out-of-the-loop individuals and on group dynamics.

We propose that being out of the loop is a specific form of ostracism ('ignoring and excluding individuals or groups by individuals or groups', Williams, 2007). However, unlike when totally ignored by and excluded from the group, out-of-the-loop individuals are excluded only from information rather than from all of the group's activities. Considering the extensive research (reviewed in Williams, 2007) showing that complete ostracism from the group negatively impacts the excluded individual, regardless of who is doing it or why, being out of the loop deserves our attention due to its potentially negative impact on morale, productivity, and interpersonal functioning in social groups, organizations, and other contexts. In the current research, we consider this phenomenon as it occurs in the context of small group interactions, similar to work teams. Therefore, we define an *out-of-the-loop* group member as an individual who perceives being uninformed of information that is mutually known by other group members and that is relevant to social or task activities.

### **Out of the loop: A form of partial ostracism**

The deleterious effects of ostracism, also described as rejection or social exclusion, have proven to be robust, with little evidence of moderation, even when there is a cost to inclusion (van Beest & Williams, 2006) or the source of exclusion is a computer (Zadro, Williams, & Richardson, 2004) or despised group (Gonsalkorale & Williams, 2007). However, most previous work has looked at situations of complete ostracism (Baumeister, DeWall, Ciarocco, & Twenge, 2005; Nezelek, Kowalski, Leary, Blevins, & Holgate, 1997; Williams & Sommer, 1997; Zadro et al., 2004). Williams's (1997, 2001) model depicts ostracism as varying in quantity, so that people's level of inclusion in a group falls along a continuum. When included, people are equally integrated into group interactions. Conversely, when people are completely ostracized, they are fully excluded and ignored—

in all ways and at all times. Between these two points, people are considered to be partially ostracized; they are neither fully included nor completely excluded. When partial ostracism occurs, people may be excluded and ignored at some times but not others, included consistently to a lesser extent than other group members, or included in some domains but not others. Being out of the loop constitutes such a case of partial ostracism, because people are excluded in some domains, but not others. Rather than being completely cut off from the group, out-of-the-loop individuals are generally included in the group's activities, spoken and listened to, and in most ways, acknowledged by group members. However, a particular piece of information or a domain of information remains beyond their reach—the group does not disseminate information to them, keeping them out of the loop.

Limited research has explored partial ostracism (Chen & Williams, 2008; Williams, Cheung, & Choi, 2000). Intriguingly, being out of the loop may be a particularly limiting form of partial ostracism, because groups include these individuals in most of their activities, except for a particular piece of information or informational topic. For instance, an out-of-the-loop group member may be included in every aspect of the group and on most information except for a particular piece, such as an opportunity for promotion, gossip about an acquaintance, or a new bit of privileged intelligence. Out-of-the-loop experiences are interesting to study because of their prevalence and subtlety in relationships and social groups, and their potential negative implications for groups and organizations. Moreover, research on being out of the loop has the potential to link and extend theoretical findings from multiple topical areas, including ostracism, group processes and performance, and information sharing. For instance, in transactive memory research, group members specialize in an assigned information domain, typically resulting in positive outcomes like improved memory (Wegner, Erber, & Raymond, 1991) and task performance (Hollingshead, 1998; Liang, Moreland, & Argote, 1995). While each group member may be uninformed of information related to another member's area

of specialization, group members need not feel out of the loop, because that information often is not mutually known by other group members and the unique information known by each group member contributes to performance. However, transactive memory systems may lead people to feel out of the loop if there is significant overlap in some members' areas of specialization and this information is more vital to the group task. For example, employees typically specialize in a functional area (e.g. finance, human resources). A manager from human resources may feel out of the loop when involved in a meeting with numerous employees from finance, especially if the meeting concerns the economics of the company.

In addition, through modifications of the information-sharing paradigm (Stasser & Titus, 1985), researchers have compared group members who either: (1) have information in common with other group members; or (2) have no information in common with fellow group members. Even though group members with no information in common have unique knowledge to contribute to the group, group members who have information in common with others tend to participate and influence the group more (Kameda, Ohtsubo, & Takezawa, 1997; Sargis & Larson, 2002). The conceptualization of being out of the loop can add to this literature by expanding consideration of why information distribution varies in the first place (e.g. ostracism), and other ways that information exclusion can impact individuals and groups. The current research investigates these last two points.

## Reactions to being out of the loop

Many outcomes to full ostracism have been examined in social exclusion research, and we include these measures in our studies too. However, we also consider other reactions to being out of the loop or partially ostracized. These responses are not exhaustive, but instead are important determinants for individual and group behaviors down the line. When people are out of the loop, they may experience deleterious psychological effects, because their

situation informs them about their standing in the social environment or highlights concerns about fairness and equity.

### *Intrapersonal outcomes to being out of the loop*

**Basic needs and mood** Over 10 years of research on social exclusion, in which individuals have been excluded from the attention or activities of others, shows deleterious effects on satisfaction levels of fundamental needs and mood (Baumeister, Twenge, & Nuss, 2002; Gardner, Pickett, & Brewer, 2000; Oaten, Williams, Jones, & Zadro, 2008; Williams, 2007). The aversive impact of ostracism occurs, albeit to a lesser extent, when people are only partially ostracized—included and acknowledged some of the time but less than their fair share (Williams et al., 2000). Therefore, being excluded only from information, while being included in other aspects of the group, may be enough to produce similar negative reactions in out-of-the-loop group members as well.

**Perceptions of competence** Perceived competence after exclusion has only been reported as part of a broader scale of self-evaluations (e.g. good, proud, important; Leary, Tambor, Terdal, & Downs, 1995). However, knowledge or understanding is a core social motive that influences human behavior (Fiske, 2003). Therefore, perceived competence deserves more focus. Thierry (1998) showed that obtained outcomes provided information to people that influenced how they viewed themselves. Employees who were paid more believed that they were performing better than others. Similarly, the outcome of having less information may lead people to view themselves as less competent in their jobs. Based on social comparison theory (Festinger, 1954; Suls & Wheeler, 2000), people may also feel less competent after comparing themselves to other people. Lacking shared information will prevent the processes of social validation and mutual enhancement as well (Clark & Brennan, 1991; Wittenbaum, Hubbell, & Zuckerman, 1999).

### *Interpersonal outcomes to being out of the loop*

To a lesser extent, social exclusion research has also examined general evaluations of group

members. Nevertheless, these outcomes deserve more attention, because trust and liking of group members, for example, are important inputs to group and interpersonal processes (Craig & Kelly, 1999; Karau & Williams, 1997; Kidwell, Mossholder, & Bennett, 1997; Williams & Karau, 1991). Levels of liking and trust may be affected for a number of reasons. An individual's liking for another person is influenced by how much the other person likes or dislikes him or her (Aronson & Linder, 1965). People left out of the loop may take their lack of information as a sign of being disliked and in poor standing. Consequently, people left out of the loop may like their group members less. Moreover, the denial of information may lead to less liking of group members if it violates group norms or creates inequity (Adams, 1965). People who violate norms are liked less (Kiesler, 1973), and negative inequity leads to lower cohesion (Hogg & Abrams, 1988).

Decreased levels of liking may lead to reduced trusting of group members. Furthermore, people who violate norms are trusted less (Robinson & Rousseau, 1994). Therefore, if withholding information contradicts group norms, out-of-the-loop individuals may trust their group members less. Feelings of inequity created by information exclusion may also reduce trust of group members, because negative inequity leads to reduced trust (Scheer, Kumar, & Steenkamp, 2003).

### ***Perceptions of fairness***

In addition to evaluations about oneself and group members, consequences of information exclusion may also extend to more general perceptions. One important motivator in organizations is perceived justice or fairness (Aquino, Tripp, & Bies, 2006; Wenzel, 2006). Although being kept out of the loop may affect perceptions of many types of justice, in these studies we chose to examine procedural justice. Procedural justice relates to the fairness of processes used to distribute outcomes. To illustrate, an organizational member who learns that he or she has been out of the loop on a decision made at work, in the sorority, or some other context will probably be less satisfied with the displayed procedural fairness, as compared to a member who is in the

loop. In fact, level of inclusion in a group has been shown to influence people's satisfaction with procedural justice (van Prooijen, van den Bos, & Wilke, 2004). A person left out of the loop is unable to voice concerns about a particular action, and will probably perceive low procedural justice (Leventhal, 1980). Furthermore, lack of inclusion in information networks may lead to uncertainty about one's standing in a group. Research shows that self-uncertainty makes people more aware of lapses in procedural justice (De Cremer & Sedikides, 2005).

### **The role of benefits**

In this initial investigation of being out of the loop, we were interested in identifying possible boundary conditions and moderators of this phenomenon. Included in our definition of being out of the loop is the notion that the unknown information is relevant to social or task activities. Is being kept out of the loop sufficient to cause deleterious effects due to feelings of partial ostracism, or does being out of the loop produce the anticipated negative responses because lacking the information impedes the attainment of desired social or task outcomes? On the one hand, when groups seemingly withhold information from individuals, these individuals may assume they have fallen out of favor with the group (Smith & Williams, 2004; Taylor & Harper, 2003). Indeed, people disclose less information to signal withdrawal from or displeasure with another (Baxter, 1987). On the other hand, because information is a resource (Foa & Foa, 1980), the anticipated negative effects of being out of the loop could also occur as a result of this lost resource, which prevents progress towards a desired outcome. When one considers various out-of-the-loop situations, the lack of information may often be tied to a lost benefit. For instance, if co-workers withhold information about a promotion opportunity, the out-of-the-loop individual cannot benefit from a better job. According to equity theory (Adams, 1965), the possible threat of losing out on such a benefit as a result of being uninformed would lead to greater negative inequity, therefore amplifying

responses. Although losing or gaining a monetary reward did not alter the experience of completely ostracized individuals (van Beest & Williams, 2006), recent research suggests that the heavy-handed nature of many previous exclusion manipulations may conceal moderators (Chen & Williams, 2007).

## Overview

It is important to note that when people are denied group inclusion, they may be out of the loop as well. For example, when physically ostracized, information (along with attention and inclusion) will be withheld from the individual. We are particularly interested, however, in those instances in which individuals are not ostracized from the group, but are kept out of the loop with regard to particular information that is shared by others in the group. This information can be task-related, such as not being told about an important decision, revised deadlines, or key information for an event, or can be socially related, as in not being informed of gossip, group norms, or office holiday traditions.

In our paradigm, out-of-the-loop participants initially found themselves in a friendly 'get-to-know-you' session, where participants freely exchanged information to everyone. However, some participants later found themselves out of the loop on important task information. Experiment 1 investigated how losing out on a tangible benefit might impact group members' responses to being out of the loop. In short, compared to in-the-loop group members, we expected out-of-the-loop group members to report depleted fundamental needs, reduced mood and perceptions of fairness, and less liking and trust of group members. Nevertheless, these reductions might be provoked or amplified under various circumstances. Being out of the loop alone should lead to the aforementioned responses (no missed opportunity for a tangible benefit necessary), because of feelings of exclusion. However, the loss of a tangible benefit might also be an important contributor to the responses of out-of-the-loop group members for the reasons previously mentioned.

## Experiment 1: method

### *Participants and design*

Seventy-five undergraduates (33 females and 42 males) from a large Midwestern university participated in this experiment as partial fulfillment of a course requirement. Participants were randomly assigned to complete one condition of a 2 (loop status: in the loop vs. out of the loop)  $\times$  2 (benefit: none vs. benefit) between-subjects design.

### *Procedure and materials*

In groups of one to four, participants arrived at a waiting room. Then, participants were brought to their own room, each equipped with a computer. The experimenter closed the door to each room and instructed the participants not to begin until she knocked on the door. Because participants ostensibly were completing a group task with other participants (actually computer-simulated), if only one or two participants were actually signed up, the experimenter told participants that she would get the 'late participants'. After waiting several minutes, the experimenter knocked on the doors of the computer rooms, including the rooms of the fake participants. As a cover story, participants learned that the study involved examining group performance through computer mediation. The experiment involved three general components: a 'get-to-know-you' session, a *Clue* game, and questions about the group experience.

**Get-to-know-you session** To help participants feel like part of a group, and to enhance the feeling that they were actually working with real people, participants began with a 'get-to-know-you' session. Each group member took a turn selecting one of four questions to pose to the group (e.g. 'On which game show would you like to appear?'). The participant and other 'group members' responded to the posed question, and viewed everyone's responses. This process repeated for two more questions. In actuality, participants never interacted with real people. The responses of their two group members were pre-programmed.

**The Clue game** The next task of the experiment involved playing a game of *Clue* with these same group members. Instructions notified participants that they would be asked to solve one aspect of a crime to be revealed later. Although group members worked alone, each group member could individually ‘win’ by providing the correct answer to the game, irrespective of how other group members performed. It was not a zero-sum game. Then, participants memorized a list of possible suspects, weapons, and locations, which would prepare them to solve the crime.

Participants also received information on how clues to help solve the crime would be distributed and the likelihood of correctly solving the crime with each possible number of clues. Fabricated game statistics showed that participants had an 82% chance of reaching the correct solution with all four clues, but only a 59%, 35%, 22%, and 9% chance with three, two, one, and no clues, respectively. Participants could see that receiving more clues provided a better chance of correctly solving the game. Rules about clue distribution informed participants that they would have the opportunity to allocate up to four clues to each of their other group members (not four clues total), but that no player could receive more than four clues.

After distributing clues to the other group members, a subsequent screen indicated to participants how many clues each of the players received. Participants also learned that they should solve the crime location, and that they received either two or four clues (see loop status manipulation) to assist them. Participants provided an answer to the game. Then participants answered questions about their attitudes and feelings during and after the *Clue* game. To avoid the effects of success and failure on these questions, participants never learned the correct answer.

### **Independent variables**

**Loop status manipulation** Based on the game rules previously delineated, the number of clues that participants allocated to their group members was actually inconsequential. Participants’ group members always received four

clues. Participants who were assigned to be in the loop also received four clues. However, participants in the out-of-the-loop condition only received two clues.

**Benefit manipulation** In the description of the game rules, participants were either informed of a reward for correctly solving the crime (told they could skip an unrelated second task to be completed individually, allowing them to be finished 15 minutes early) or they were told nothing.

### **Manipulation checks**

Participants answered all questions using 7-point rating scales (1 = strongly disagree, 7 = strongly agree), except where indicated. At the end of the experiment, participants responded to several manipulation checks. To evaluate the manipulation of loop status ( $\alpha = .74$ ), participants provided three ratings (‘I received the same number of clues as my other group members’, ‘I felt “out of the loop” during this experiment’, or ‘I felt like I was lacking information during this experiment’). As a measure of perceived benefit, participants indicated agreement with this statement: ‘Providing the correct answer during the *Clue* game would be valuable to me.’

### **Dependent measures**

Although recent research shows moderation of ostracism effects with lighter manipulations (Chen & Williams, 2007), other research shows moderation of later rather than initial responses (Zadro, Boland, & Richardson, 2006). Consequently, many dependent variables were measured at two time points. Moreover, with two measurement points, the strength of the effects over time could be explored.

### **Index of needs, perceived competence, and emotions**

Twelve questions assessed participants’ fulfillment of four fundamental needs: belonging (e.g. ‘I felt like an outsider’), self-esteem (e.g. ‘I felt that the other players failed to perceive me as a worthy and likeable person’), control (e.g. ‘I had the feeling that the other players decided everything’), and meaningful existence (e.g. ‘I felt non-existent’). These needs

were measured twice. First, immediately after the *Clue* game, participants were asked to indicate how they felt during the game ( $\alpha = .85$ ). Second, at the end of the experiment (about 10 minutes later), participants were asked to report how they felt now ( $\alpha = .91$ ). The questions used were similar to those used in Zadrozny et al. (2004).

Three questions assessed participants' feelings of competence (e.g. 'I felt competent during the *Clue* game'). As with the fundamental needs, competence was measured at two time points: during the game ( $\alpha = .55$ ) and now ( $\alpha = .61$ ).

Participants indicated the extent to which they felt several emotions (happy, sad, angry) at two points: during the game (7-point scale) and now (Feldman Barrett, 2004; 5-point scale).

**Liking and trust of group members** Three questions each gauged participants' liking (e.g. 'I liked my group members;'  $\alpha = .67$ ) and trust of their group members (e.g. 'I can trust my group members;'  $\alpha = .82$ ).

**Fairness** Three questions ( $\alpha = .79$ ) measured participants' perceptions of fairness regarding the *Clue* game, primarily focusing on procedural justice (e.g. 'The method for distributing the clues was fair').

## Results

Two-way ANOVAs with loop status (in vs. out of the loop) and benefit (none vs. benefit) as the independent variables were conducted to examine their effect on the dependent measures. For dependent variables measured at two time occasions, a third independent variable of time (during *Clue* game vs. now) was included in analyses as a within-subjects variable. Cell means and standard deviations are reported in Tables 1–3.

### Manipulation checks

Consistent with the loop status manipulation, out-of-the-loop participants ( $M = 5.19$ ,  $SD = 1.12$ ) felt uninformed, but in-the-loop participants did not ( $M = 2.26$ ,  $SD = 1.06$ ),  $F(1, 71) = 140.40$ ,  $p < .001$ . Although the means were in the correct

direction, participants in the benefit condition ( $M = 5.28$ ,  $SD = 1.85$ ) did not report significantly greater value for correctly solving the *Clue* game than participants in the no benefit condition ( $M = 4.82$ ,  $SD = 1.73$ ),  $F(1, 71) = 1.19$ ,  $p = .28$ . This failure to find differences may have been due to a poor manipulation check question. Participants typically respond very favorably to finishing early. Many participants showed an intrinsic interest in the *Clue* game which might also explain the relatively high mean in the no benefit condition. Solving the game itself seemed to be valuable to them.

### Intrapersonal outcomes to being out of the loop

**Index of needs** For fundamental needs (see Tables 1 and 2), out-of-the-loop participants reported lower fulfillment of needs compared to in-the-loop participants,  $F(1, 71) = 32.72$ ,  $p < .001$ . However, the expected Loop Status  $\times$  Benefit interaction qualified the main effect for loop status,  $F(1, 71) = 7.04$ ,  $p < .01$ . A more marked depletion of needs for out-of-the-loop participants occurred when participants presumably received a benefit for a correct answer than when they did not,  $F(1, 34) = 24.42$ ,  $p < .001$  and  $F(1, 37) = 7.53$ ,  $p < .01$ , respectively. There were no significant effects of measurement time.

**Perceived competence** Out-of-the-loop participants reported feeling less competent (see Tables 1 and 2) relative to in-the-loop participants,  $F(1, 71) = 6.55$ ,  $p < .05$ . Nevertheless, the predicted Loop Status  $\times$  Benefit interaction qualified the interpretation of the main effect,  $F(1, 71) = 5.46$ ,  $p < .05$ . While loop status failed to impact perceptions of competence when no benefit was available,  $F(1, 37) = .03$ ,  $p = .87$ , loop status did matter when participants had the opportunity to leave early,  $F(1, 34) = 10.89$ ,  $p < .01$ . No significant effects of measurement time occurred.

**Emotions** Out-of-the-loop participants reported feeling marginally angrier,  $F(1, 71) = 3.51$ ,  $p = .07$ . However, a marginal Time  $\times$  Loop Status interaction qualified this main effect,  $F(1, 71) = 3.79$ ,  $p = .06$ . Compared to in-the-loop

Table 1. Means for needs, competence, and emotions at first measurement (game) of experiment 1

	No benefit		Benefit	
	In the loop (n = 20)	Out of the loop (n = 19)	In the loop (n = 19)	Out of the loop (n = 17)
Index of needs	4.82 (.72)	4.12 (.67)	5.02 (.62)	3.60 (.99)
Competence	4.42 (1.13)	4.49 (.90)	4.82 (.94)	3.84 (1.07)
Angry	2.10 (1.02)	2.68 (1.29)	2.00 (1.05)	2.94 (1.56)
Sad	1.90 (1.07)	2.37 (1.01)	1.89 (1.15)	3.35 (1.80)
Happy	4.65 (1.09)	4.32 (1.16)	4.37 (1.30)	3.65 (1.41)

Note: N = 75. Standard deviations are in parentheses. Cell sizes are the same for all measures in experiment 1.

Table 2. Means for needs, competence, and emotions at second measurement (now) of experiment 1

	No benefit		Benefit	
	In the loop	Out of the loop	In the loop	Out of the loop
Index of needs	4.92 (.87)	4.50 (.65)	5.09 (1.04)	3.47 (1.16)
Competence	4.83 (1.12)	4.67 (.89)	4.93 (1.10)	3.88 (1.07)
Angry	1.35 (.67)	1.11 (.32)	1.26 (.81)	1.65 (.86)
Sad	1.35 (.67)	1.16 (.37)	1.32 (.75)	1.76 (.97)
Happy	3.15 (.93)	3.21 (.92)	3.11 (.88)	2.71 (.92)

Note: N = 75. Standard deviations are in parentheses.

Table 3. Means for additional dependent measures of experiment 1

	No benefit		Benefit	
	In the loop	Out of the loop	In the loop	Out of the loop
Liking of group members	4.72 (1.14)	3.86 (1.01)	4.91 (1.47)	3.29 (1.42)
Trust of group members	4.63 (.96)	3.77 (.60)	4.93 (1.26)	3.20 (1.29)
Fairness	5.00 (.97)	3.54 (1.07)	5.16 (1.55)	3.02 (1.31)

Note: N = 75. Standard deviations are in parentheses.

participants, out-of-the-loop participants felt angrier during the *Clue* game, but not later at the second measurement point,  $F(1, 71) = 7.09$ ,  $p < .01$  and  $F(1, 71) = .19$ ,  $p = .66$ , respectively. Out-of-the-loop participants reported being sadder than in-the-loop participants,  $F(1, 71) = 5.36$ ,  $p < .05$ . Regardless of loop status condition, participants reported more sadness when a benefit could be obtained than when one could not,  $F(1, 71) = 3.90$ ,  $p = .05$ . However, both of these main effects were qualified by two interactions. A Loop Status  $\times$  Benefit interaction occurred,  $F(1, 71) = 4.45$ ,  $p < .05$ . Compared to in-the-loop participants, out-of-the-loop participants felt sadder when a benefit could be obtained,  $F(1, 34) = 5.67$ ,  $p < .05$ , but no differences occurred when a benefit could not

be obtained for a correct answer to the game,  $F(1, 37) = .06$ ,  $p = .82$ . A Time  $\times$  Loop Status interaction also occurred,  $F(1, 71) = 5.36$ ,  $p < .05$ . Similar to feelings of anger, out-of-the-loop participants reported feeling sadder during the *Clue* game,  $F(1, 71) = 10.62$ ,  $p < .01$ , but not later at the second measurement point,  $F(1, 71) = .60$ ,  $p = .44$ . No significant effects occurred for happiness.

**Interpersonal outcomes to being out of the loop**

Being out of the loop led to less trust of group members,  $F(1, 71) = 28.27$ ,  $p < .001$  (see Table 3). A marginal Loop Status  $\times$  Benefit interaction also occurred,  $F(1, 71) = 3.19$ ,  $p = .08$ . The distrust of group members while out of the loop was more pronounced when a benefit could be

obtained,  $F(1, 34) = 16.66, p < .001$ , than when one could not,  $F(1, 37) = 11.15, p < .01$ . Although the benefit manipulation impacted trust, only loop status affected liking of group members, with out-of-the-loop participants liking their group members less,  $F(1, 71) = 17.81, p < .001$  (see Table 3).

### *Perceptions of fairness*

Loop status alone influenced participants' perception of fairness regarding the procedure of the *Clue* game,  $F(1, 71) = 39.19, p < .001$ . Out-of-the-loop participants deemed the process less fair (see Table 3).

## Discussion

As predicted from the ostracism model (Williams, 1997, 2001), out-of-the-loop participants experienced lower fulfillment of four fundamental needs, compared to in-the-loop participants. This study painted a clear picture of an initially more negative emotional state for out-of-the-loop participants, and extended previous work on ostracism by showing an effect on participants' perceptions of themselves and others. When having less information decreased participants' chances at a tangible benefit (i.e. skipping a second task and leaving the experiment early), out-of-the-loop participants felt less competent than in-the-loop participants, both during the game and later in the experiment. In addition to these intrapersonal measures, being out of the loop impacted interpersonal measures of trust and liking for their group members.

When facing decreased odds of obtaining a tangible benefit, participants' responses to being out of the loop provided mixed results. For some dependent measures, a reduced probability of securing a tangible benefit was necessary to produce different responses from in- and out-of-the-loop participants. However, for other measures, a bleak outlook for obtaining a benefit either exacerbated the effect or had no impact. There did not appear to be a clear pattern to these differences. Before speculating about these differences, we felt a second study was warranted.

## Experiment 2

The results of Experiment 1 suggested important implications for social and work groups. Simply being out of the loop, regardless of tangible negative ramifications, was aversive and harmed intra- and interpersonal perceptions. However, two important questions arose from Experiment 1. First, because participants were always left out of the loop by group members, it remained unclear if the resulting self-reports were because of *others* not sharing information or simply having less information. Consequently, in Experiment 2, the source of clues varied (computer vs. group members). People often assume they have fallen out of favor with a group when they do not receive information from others (Smith & Williams, 2004; Taylor & Harper, 2003). Consistent with this notion, people withhold information to display dissatisfaction (Baxter, 1987). People also use group procedures to infer how much the group values and respects them (Lind & Tyler, 1988; Tyler & Lind, 1992). Questionable actions imply less acceptance and respect. Therefore, we hypothesized the following interaction for each dependent measure: Compared to being in the loop, the experience of being out of the loop would be more negative (e.g. depleted needs, less trust of group members) when group members rather than a computer distributed clues.

Second, in Experiment 1, facing reduced odds at securing a tangible benefit impacted participants' responses on some measures. Does the magnitude of a potentially lost tangible benefit also influence the intensity of participants' reactions? We expected increased value of the lost benefit to magnify participants' responses.

## Method

### *Participants and design*

One hundred and forty-five undergraduates (83 females and 62 males) from a large Midwestern university participated in this experiment as partial fulfillment of a course requirement. Participants were randomly assigned to complete one condition of a 2 (loop status: in the loop vs. out of the loop)  $\times$  2 (benefit: low-value vs. high-value)  $\times$  2

(distribution method: computer vs. group members) between-subjects design.

### **Procedure and materials**

Except for a few changes, the procedure and materials were identical to Experiment 1. In an attempt to intensify participants' reactions to being out of the loop and to capture stronger emotions, the *Clue* game consisted of three rounds, rather than one. As in Experiment 1, participants tried to identify the location of the murder in round 1. In the subsequent two rounds, the crime questions were to determine the suspect and weapon used in the murder. Furthermore, to distinguish between the effects of being left out of the loop by group members and simply having less information, the distribution method for clues varied across conditions. In half of the conditions, participants learned that clues would be distributed randomly by the computer. In the other half of conditions, participants discovered that group members would distribute clues to each other (as in Experiment 1). Instructions indicated that the assigned number of clues would hold for all three rounds.

The benefit manipulation also changed so that participants were informed of the opportunity to secure either a high- or low-value benefit for correctly solving the *Clue* game. In the low-value benefit condition, participants learned that they could skip a second task to be completed individually and leave the experiment five minutes early for correctly solving all three rounds of the game. In the high-value benefit condition, rules informed participants that they could skip a second task and leave the experiment 30 minutes early for correct answers. In reality, all participants could leave following this portion of the experiment, and correct answers were never revealed.

### **Dependent measures**

Dependent measures and manipulation checks were the same as Experiment 1. A manipulation check was included for the distribution method manipulation ('How were clues assigned to individual players?'). Participants had four options,

one relating to each level of the distribution manipulation and two foils. An improved check for the benefit manipulation was also included. A 7-point rating scale assessed participants' perceptions of the reward's value ('Getting out of the experiment 5/30 minutes early is a good reward for correctly solving the *Clue* game').

## **Results**

Three-way ANOVAs with loop status (in vs. out of the loop), benefit (low-value vs. high-value), and distribution method (computer vs. group members) as the independent variables were conducted to examine their effect on the dependent measures. For dependent variables measured at two time occasions, a fourth independent variable of time (during *Clue* game vs. now) was included in analyses as a within-subjects variable. Cell means and standard deviations are reported in Tables 4–6.

### **Manipulation checks**

Consistent with the loop status manipulation, out-of-the-loop participants felt uninformed ( $M = 5.20$ ,  $SD = 1.12$ ), while in-the-loop participants did not ( $M = 2.51$ ,  $SD = 1.11$ ),  $F(1, 137) = 208.02$ ,  $p < .001$  ( $\alpha = .67$ ). For the distribution method of clues, over 91% of participants correctly recalled how they were allotted (89.6% and 92.6% of participants in the computer and group member conditions, respectively). In addition, when compared to the low-value benefit condition ( $M = 4.80$ ,  $SD = 2.03$ ), participants in the high-value benefit condition ( $M = 6.10$ ,  $SD = 1.54$ ) more strongly agreed that the reward was good,  $F(1, 137) = 17.87$ ,  $p < .001$ .

### **Intrapersonal outcomes to being out of the loop**

**Index of needs** As in Experiment 1, out-of-the-loop participants reported lower fulfillment of fundamental needs ( $\alpha = .85$  at time 1,  $\alpha = .88$  at time 2) as compared to in-the-loop participants,  $F(1, 137) = 17.81$ ,  $p < .001$  (see Tables 4 and 5). Out-of-the-loop participants also experienced marginally lower fulfillment of needs when clues were distributed by fellow group members rather than the computer,  $F(1, 137) = 3.67$ ,  $p = .06$ .

However, three interactions qualified these main effects. Again, the expected Loop Status × Benefit interaction,  $F(1, 137) = 7.60, p < .01$ , showed that loop status impacted needs in the high-value benefit condition,  $F(1, 68) = 18.41, p < .001$ , but not the low-value benefit condition,  $F(1, 73) = 1.17, p = .28$ . Consistent with the

notion that being out of the loop is an important interpersonal phenomenon, the hypothesized Loop Status × Distribution Method interaction occurred,  $F(1, 137) = 7.97, p < .01$ . Loop status mattered when due to group members,  $F(1, 67) = 23.16, p < .001$ , but not when due to a computer,  $F(1, 74) = .80, p = .38$ . A Time × Loop Status

Table 4. Means for needs, competence, and emotions at first measurement (game) of experiment 2 as a function of loop status, distribution method, and benefit level

	By computer		By group members	
	In the loop	Out of the loop	In the loop	Out of the loop
Index of needs				
Low benefit	4.46 (.97)	4.50 (.89)	4.67 (.84)	3.94 (.62)
High benefit	4.90 (.74)	4.13 (1.23)	5.01 (.85)	3.60 (1.01)
Competence				
Low benefit	4.68 (1.21)	3.72 (.91)	4.45 (1.64)	4.22 (.97)
High benefit	4.93 (1.09)	3.98 (1.20)	4.92 (1.48)	3.41 (1.26)
Angry				
Low benefit	2.95 (1.66)	3.37 (1.86)	2.18 (1.33)	3.39 (1.72)
High benefit	2.32 (1.67)	3.00 (2.12)	2.13 (1.31)	4.00 (2.11)
Sad				
Low benefit	2.57 (1.36)	2.53 (1.47)	2.12 (1.27)	2.50 (1.47)
High benefit	1.79 (1.13)	2.59 (1.84)	1.63 (.89)	3.44 (1.85)
Happy				
Low benefit	4.48 (.93)	4.32 (1.57)	4.29 (1.65)	3.61 (1.24)
High benefit	4.26 (1.33)	3.82 (2.13)	4.81 (1.33)	3.17 (1.92)

Note:  $N = 145$ . Standard deviations are in parentheses.

Table 5. Means for needs, competence, and emotions at second measurement (now) of experiment 2 as a function of loop status, distribution method, and benefit level

	By computer		By group members	
	In the loop	Out of the loop	In the loop	Out of the loop
Index of needs				
Low benefit	4.27 (.81)	4.56 (.66)	4.25 (1.05)	3.84 (.63)
High benefit	4.77 (.88)	4.44 (1.24)	4.99 (.83)	3.64 (1.16)
Competence				
Low benefit	4.59 (1.08)	4.65 (.77)	4.63 (1.58)	4.48 (1.10)
High benefit	4.96 (1.35)	4.84 (1.44)	5.13 (1.11)	4.11 (1.49)
Angry				
Low benefit	1.14 (.48)	1.26 (.45)	1.12 (.33)	1.61 (1.14)
High benefit	1.05 (.23)	1.59 (1.00)	1.19 (.40)	1.89 (1.41)
Sad				
Low benefit	1.33 (.66)	1.21 (.42)	1.00 (.00)	1.33 (.59)
High benefit	1.05 (.23)	1.47 (.72)	1.25 (.45)	1.61 (1.09)
Happy				
Low benefit	2.95 (.92)	3.00 (1.05)	2.94 (.97)	2.72 (.89)
High benefit	2.95 (1.13)	2.47 (1.28)	3.13 (.72)	2.44 (1.10)

Note:  $N = 145$ . Standard deviations are in parentheses.

Table 6. Means for additional dependent measures of experiment 2 as a function of loop status, distribution method, and benefit level

	By computer		By group members	
	In the loop	Out of the loop	In the loop	Out of the loop
Liking of group members				
Low benefit	4.25 (.76) n = 21	4.40 (1.40) n = 19	4.57 (.98) n = 17	3.65 (1.24) n = 18
High benefit	4.58 (1.37) n = 19	4.45 (1.44) n = 17	4.67 (1.24) n = 16	2.93 (1.27) n = 18
Trust of group members				
Low benefit	4.21 (1.02)	4.25 (.98)	4.43 (1.46)	2.76 (.94)
High benefit	4.25 (1.46)	4.47 (1.20)	5.00 (1.27)	3.00 (1.38)
Fairness				
Low benefit	5.27 (1.31)	3.04 (1.13)	5.22 (1.39)	2.76 (1.21)
High benefit	5.72 (.93)	3.63 (1.67)	5.48 (1.28)	2.91 (1.64)

Note: N = 145. Standard deviations are in parentheses. Cell sizes are the same for all measures in experiment 2.

interaction occurred,  $F(1, 137) = 4.12, p < .05$ . Compared to in-the-loop participants, out-of-the-loop participants reported depleted needs during the *Clue* game,  $F(1, 143) = 20.12, p < .001$ , and this difference decreased by the second measurement point,  $F(1, 143) = 7.12, p < .01$ . No other interactions with measurement time point occurred.

**Perceived competence** Like Experiment 1, out-of-the loop participants reported feeling less competent ( $\alpha = .78$  at time 1,  $\alpha = .77$  at time 2) than in-the-loop participants,  $F(1, 137) = 11.26, p < .01$  (see Tables 4 and 5). However, the Loop Status  $\times$  Benefit interaction did not achieve significance this time,  $F(1, 137) = 2.55, p = .11$ . A main effect for time also occurred,  $F(1, 137) = 14.78, p < .001$ . The main effects for loop status and time were qualified by a Loop Status  $\times$  Time interaction,  $F(1, 137) = 9.20, p < .01$ . Unlike the first experiment, deficits in out-of-the-loop participants' perceptions of their competence only occurred during the *Clue* game,  $F(1, 143) = 20.04, p < .001$ , but not later,  $F(1, 143) = 1.99, p = .16$ .

**Emotions** Out-of-the-loop participants felt more angry than in-the-loop participants,  $F(1, 137) = 17.61, p < .001$ . No other significant effects occurred for anger. Compared to in-the-loop participants, out-of-the-loop participants felt sadder,  $F(1, 137) = 10.87, p < .01$ . However,

a significant Loop Status  $\times$  Benefit interaction,  $F(1, 137) = 5.08, p < .05$ , indicated that this increased sadness for out-of-the-loop participants occurred when participants could earn a high-value benefit for a correct answer,  $F(1, 68) = 11.37, p < .01$ , but not when they could only earn a low-value benefit,  $F(1, 73) = .58, p = .45$ . Finally, out-of-the-loop participants experienced less happiness than in-the-loop participants,  $F(1, 137) = 7.58, p < .01$ . No significant effects of measurement time occurred for any of these emotions, suggesting that experienced emotions persisted over time.

**Interpersonal outcomes to being out of the loop**

Once again, out-of-the-loop participants expressed less trust ( $\alpha = .79$ ) in their group members than in-the-loop participants,  $F(1, 137) = 17.43, p < .001$  (see Table 6). However, the Loop Status  $\times$  Benefit interaction did not replicate as in Experiment 1. Distribution method also yielded a main effect,  $F(1, 137) = 5.87, p < .05$ . Nevertheless, both of these main effects were qualified by the predicted Loop Status  $\times$  Distribution Method interaction,  $F(1, 137) = 23.26, p < .001$ . Compared to in-the-loop participants, out-of-the-loop participants expressed less trust when their group members supposedly distributed the clues,  $F(1, 67) = 35.31, p < .001$ , but not when these clues were ostensibly assigned randomly by the computer,  $F(1, 74) = .23, p = .64$ .

A similar picture emerged for liking of group members ( $\alpha = .79$ ). Main effects for loop status and distribution method occurred,  $F(1, 137) = 10.41, p < .01$  and  $F(1, 137) = 5.27, p < .05$ , but these effects were limited by the expected Loop Status  $\times$  Distribution Method interaction,  $F(1, 137) = 10.75, p < .01$  (see Table 6). As with trust, out-of-the-loop participants liked their group members less, but this only held true when participants believed that their group members allocated clues,  $F(1, 67) = 20.97, p < .001$ .

### *Perceptions of fairness*

Consistent with findings from Experiment 1, out-of-the-loop participants labeled the procedure for the *Clue* game as less fair ( $\alpha = .84$ ) than in-the-loop participants,  $F(1, 137) = 110.71, p < .001$ . No other significant effects occurred.

## **Discussion**

Experiment 2 replicated the findings of Experiment 1 by demonstrating again that being out of the loop is an aversive intra- and interpersonal experience. As compared to in-the-loop participants, out-of-the-loop participants experienced lower levels of belonging, self-esteem, control, and meaningful existence, as predicted from ostracism theory and research. Furthermore, out-of-the-loop participants reported lower levels of competence, positive affect, trust and liking of group members, and fairness. Importantly, the source of information exclusion mattered for a number of dependent measures, specifically those measuring interpersonal bonds and interactions (e.g. index of needs, liking and trust of group members). The effects of being out of the loop are not merely the result of having less information. Instead, for out-of-the-loop participants, a lack of information seemed to signal partial ostracism by the group, which in turn affected perceptions of social ties.

As demonstrated by measures of competence, fairness, and emotions, the source of the information disparity may not always be critical. These findings imply that out-of-the-loop situations where fellow group members are not deemed responsible for information disparities can still

have undesirable consequences. These results are consistent with research using the information sharing paradigm that shows drawbacks of having unique information (Sargis & Larson, 2002) and benefits of having shared information (Wittenbaum et al., 1999).

The effect of facing reduced odds at securing a tangible benefit (e.g. leaving the experiment 30 minutes early) presented a less consistent message. The limited interactions with the benefit manipulation suggest that reduced odds at acquiring a benefit is often not a necessary condition for fretting about being out of the loop. Although the impact of this manipulation replicated in both experiments for some measures, dissimilar results appeared for other measures. Overall, facing reduced chances of obtaining a tangible benefit seemed to play a consistent role in exacerbating reports of reduced belonging, self-esteem, control, and meaningful existence. Perhaps the chance of obtaining a benefit made these needs (e.g. belonging to the group) more important. However, the impact of the benefit manipulation produced mixed results for other dependent measures. Unlike Experiment 1, reduced chances of a benefit did not exacerbate the effects of being out of the loop on perceived competence and trust. The different benefit manipulations may account for these dissimilarities. The impact of the benefit manipulation may follow an 'all or none' rule for these dependent measures. For instance, it may be difficult to trust group members who withhold information that obstructs one's attainment of any-sized benefit.

## **General discussion**

The effects of being out of the loop, a form of partial ostracism, generally matched the research on full ostracism. Research has shown that targets of ostracism report deflated levels of belonging, self-esteem, control, meaningful existence, and increased anger and sadness. Similarly, out-of-the-loop participants in our studies expressed negative reactions after being left ignorant and excluded from task-relevant information. Notably, while the benefit manipulation produced mixed results on dependent measures, one message

seems clear. The effects of being out of the loop can be moderated by other variables. Chen and Williams (2007, 2008) suggest the effects of moderating variables are seen with subtler forms of ostracism (e.g. partial ostracism). Thus, factors that logically should minimize the distress of ostracism do in fact minimize the experiences of people who are partially ostracized or left out of the loop, but appear to be bypassed when completely ostracized (Eisenberger, Lieberman, & Williams, 2003; Williams, 2007).

In addition to partial ostracism, responses to being out of the loop may also be viewed in the context of self-categorization theory (Hogg & Terry, 2000; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Information could be considered a defining characteristic of group membership. When people feel uninformed, they may not perceive themselves as prototypical group members, leading to depleted needs and other deleterious effects.

The implications for being out of the loop remain important. Clearly, the out-of-the-loop individual experiences negative outcomes. In fact, the individual's response to being out of the loop has potential ramifications for group functioning as well. For instance, out-of-the-loop individuals expressed less liking and trust of their group members. Reductions in these variables have been shown to impair group effectiveness (e.g. Craig & Kelly, 1999).

### **Strengths and limitations**

The current research extended previous ostracism literature by showing many of the same negative emotional and behavioral effects, but in a subtler context. From the standpoint of the experiment, out-of-the-loop participants were included just as much as in-the-loop participants. Out-of-the-loop participants fully participated in the 'get-to-know-you' session and *Clue* game; they simply had less information during the game. Moreover, these studies examined the detection and perceptions of the out-of-the-loop phenomenon using experimental techniques, which have the advantage of showing a cause-effect relationship. Certainly, factors such as low self-esteem and distrust could lead people to act in ways that keep them out

of the loop, perpetuating the circle of negative impact. However, our experiments clearly show a causal link between being out of the loop and the constructs measured.

Of course, there are also limitations in this initial investigation of being kept out of the loop. First, in actual situations, people may discover that they have been out of the loop for a much longer period or on many other matters. Therefore, null effects in our studies may underestimate the impact and should be interpreted with caution. Despite this limitation, the observed immediate and robust effects on basic needs and mood after being left out of the loop, even in a relatively subtle situation, show the power and importance of this phenomenon. Second, only college undergraduates participated in our experiments. The task also did not directly reflect out-of-the-loop experiences that may be found in the workplace or real world, nor did it have serious consequences for the out-of-the-loop individual. Nevertheless, despite the trivial nature of the task and the lack of severe consequences, participants were psychologically engaged enough to display markedly different responses as a result of the manipulations. Following the experiment, participants frequently wanted to know the correct answer to the *Clue* game. In addition, out-of-the-loop participants specifically reported feeling out of the loop and often displayed other reactions consistent with these feelings. For example, one research assistant reported that a participant loudly voiced her shock when her group members only awarded her two clues.

### **Future directions**

There are many research questions that remain unanswered regarding the impact of being kept 'out of the loop'. The presented studies only examined participants' responses to being out of the loop for a relatively short period and when ostensibly caused intentionally by their fellow group members. Research can extend the conclusions of the current studies by examining other possible moderators. Does the duration of one's out-of-the-loop experience play a role in one's responses? Does it matter whether the cause of being out of the loop is perceived as

internal (e.g. caused by own fault or a poorly developed social network) or external (e.g. other people withheld information)? Future research can also address other motives (e.g. unintentional vs. punitive purposes) for which people may find themselves out of the loop. Furthermore, as discussed in the introduction, people may be uninformed of social or task information. In these studies, participants lacked task information. Future research can examine whether being uninformed of social or task information is worse, or if it depends on the context.

Moreover, the effects of being out of the loop were primarily examined at the level of the individual, in particular the individual's feelings. Future research should investigate behavioral effects such as performance (e.g. accuracy, efficiency), cooperation, organizational citizenship behaviors, loyalty, absenteeism, and burnout. In both studies, out-of-the-loop participants expressed a lack of fairness. Deficits in many types of organizational justice have been linked to many of the aforementioned outcomes and others (Colquitt, Conlon, Wesson, Porter, & Ng, 2001). In addition, the thoughts, feelings, and behaviors of out-of-the-loop individuals may potentially serve as important inputs for other group and organizational processes. A person's liking and trust of their group members influence the processes of work teams (e.g. Kidwell et al., 1997). Therefore, it is vital to understand how an individual's response to being out of the loop in turn affects group functioning.

## Conclusion

At the micro and macro level, being kept out of the loop is a subtle yet powerful form of stigmatization and marginalization. Out-of-the-loop practices should raise concerns about their impact on the functioning of the individual as well as the group. Given that there are numerous out-of-the-loop situations (e.g. being a newcomer to a social or occupational group, entering an unfamiliar cultural environment, or having information actively shared with some people and specifically withheld from other individuals), there are many important potential implications

for intrapersonal and interpersonal functioning. For example, information disparities between organizations may not be the only way that information distribution can lead to a competitive advantage. Based on the results of the current research, exploring how information can be used to help individuals connect with one another and feel important may be another way to increase the health and performance of group interactions.

## Acknowledgments

This material is based upon work supported by the National Science Foundation under Grant No. 0519209 awarded to the fourth author. We would also like to thank Meg Rohan for early discussions on this topic

## References

- Adams, J. S. (1965). Inequity in social exchange. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (2nd ed.) (pp. 267–299). New York: Academic Press.
- Aquino, K., Tripp, T. M., & Bies, R. J. (2006). Getting even or moving on? Power, procedural justice, and types of offense as predictors of revenge, forgiveness, reconciliation, and avoidance in organizations. *Journal of Applied Psychology, 91*, 653–668.
- Aronson, E., & Linder, D. (1965). Gain and loss of esteem as determinants of interpersonal attractiveness. *Journal of Experimental Social Psychology, 1*, 156–171.
- Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology, 88*, 589–604.
- Baumeister, R. F., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: Anticipated aloneness reduces intelligent thought. *Journal of Personality and Social Psychology, 83*, 817–827.
- Baxter, L. A. (1987). Self-disclosure and disengagement. In V. J. Derlega & J. H. Berg (Eds.), *Self-disclosure: Theory, research, and therapy* (pp. 155–174). New York: Plenum.
- Chen, Z., & Williams, K. D. (2007). Partial ostracism as a means of discovering moderators. Paper presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

- Chen, Z., & Williams, K. D. (2008). The velvet hammer: Effect of partial ostracism on distress and cognitive effort. Manuscript submitted for publication.
- Clark, H. H., & Brennan, S. E. (1991). Grounding in communication. In L. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 127–149). Washington, DC: American Psychological Association.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O. L. H., & Ng, K. Y. (2001). Justice at the millennium: A meta-analytic review of 25 years of organizational justice research. *Journal of Applied Psychology, 86*, 425–445.
- Craig, T. Y., & Kelly, J. R. (1999). Group cohesiveness and creative performance. *Group Dynamics: Theory, Research, and Practice, 3*, 243–256.
- De Cremer, D., & Sedikides, C. (2005). Self-uncertainty and responsiveness to procedural justice. *Journal of Experimental and Social Psychology, 41*, 157–173.
- Deloitte Touche Tohmatsu and Economist Intelligence Unit (2007). Aligned at the top: How business and HR executives view today's most significant people challenges and what they're doing about it. Retrieved June 5, 2007, from [http://www.deloitte.com/dtt/cda/doc/content/us\\_consulting\\_alignedatthetopsurvey\\_v2.pdf](http://www.deloitte.com/dtt/cda/doc/content/us_consulting_alignedatthetopsurvey_v2.pdf)
- Eisenberger, N. I., Lieberman, M. D., & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science, 302*, 290–292.
- Feldman Barrett, L. (2004). Feelings or words? Understanding the content in self-report ratings of experienced emotion. *Journal of Personality and Social Psychology, 87*, 266–281.
- Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*, 117–140.
- Fiske, S. T. (2003). Five core social motives, plus or minus five. In S. J. Spencer, S. Fein, M. P. Zanna, & J. M. Olson (Eds.), *Motivated social perception: The Ontario Symposium* (Vol. 9, pp. 233–246). Mahwah, NJ: Erlbaum.
- Foa, E. B., & Foa, U. G. (1980). Resource theory: Interpersonal behavior as exchange. In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), *Social exchange: Advances in theory and research*. New York: Plenum Press.
- Galt, V. (2007, May 29). HR often out of the loop on 'people issues'. *The Globe and Mail*. Retrieved June 5, 2007, from <http://theglobeandmail.com>
- Gardner, W. L., Pickett, C. L., Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin, 26*, 486–496.
- Gonsalkorale, K., & Williams, K. D. (2007). The KKK won't let me play: Ostracism even by a despised outgroup hurts. *European Journal of Social Psychology, 37*, 1176–1186.
- Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.
- Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25*, 121–140.
- Hollingshead, A. B. (1998). Retrieval processes in transactive memory systems. *Journal of Personality and Social Psychology, 74*, 659–671.
- Jahn, G. (2008, April 25). IAEA's ElBaradei criticizes US for holding back information. *Associated Press*. Retrieved April 26, 2008, from <http://ap.google.com/article/ALeqM5gwu1N6NdbI7MThXmiNHyFH-ZMHygD9093COG0>
- Jones, E. E., Carter-Sowell, A. R., Kelly, J. R., & Williams, K. D. (2007) Emotional responses to being out of the loop. Unpublished raw data.
- Kameda, T., Ohtsubo, Y., & Takezawa, M. (1997). Centrality in sociocognitive networks and social influence: An illustration in a group decision-making context. *Journal of Personality and Social Psychology, 73*, 296–309.
- Karau, S. J., & Williams, K. D. (1997). The effects of group cohesiveness on social loafing and social compensation. *Group Dynamics: Theory, Research, and Practice, 1*, 156–168.
- Kidwell, R. E., Jr., Mossholder, K. W., & Bennett, N. (1997). Cohesiveness and organizational citizenship behavior: A multilevel analysis using work groups and individuals. *Journal of Management, 23*, 775–793.
- Kiesler, S. B. (1973). Preference for predictability or unpredictability as a mediator of reactions to norm violations. *Journal of Personality and Social Psychology, 27*, 354–359.
- Leary, M. R., Tambor, E. S., Terdal, S. K., & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The Sociometer Hypothesis. *Journal of Personality and Social Psychology, 68*, 518–530.
- Leventhal, G. S. (1980). What should be done with equity theory? New approaches to the study of fairness in social relationships. In K. J. Gergen, M. S. Greenberg, & R. H. Willis (Eds.), *Social exchanges: Advances in theory and research* (pp. 27–55). New York: Plenum Press.
- Liang, D. W., Moreland, R., & Argote, L. (1995). Group versus individual training and group

- performance: The mediating factor of transactive memory. *Personality and Social Psychology Bulletin*, 21, 384–393.
- Lind, E. A., & Tyler, T. R. (1988). *The social psychology of procedural justice*. New York: Plenum Press.
- Loven, J. (2008, May 28). Former spokesman bashes Bush in new book. *Associated Press*. Retrieved May 28, 2008, from [http://news.yahoo.com/s/ap/20080529/ap\\_on\\_go\\_pr\\_wh/mcclellan\\_book](http://news.yahoo.com/s/ap/20080529/ap_on_go_pr_wh/mcclellan_book)
- Nezlek, J. B., Kowalski, R. M., Leary, M. R., Blevins, T., & Holgate, S. (1997). Personality moderators of reactions to interpersonal rejection: Depression and trait self-esteem. *Personality and Social Psychology Bulletin*, 23, 1235–1244.
- Oaten, M., Williams, K. D., Jones, A., & Zadro, L. (2008). The effects of ostracism on self-regulation in the socially anxious. *Journal of Social and Clinical Psychology*, 27, 471–504.
- Robinson, S. L., & Rousseau, D. M. (1994). Violating the psychological contract: Not the exception but the norm. *Journal of Organizational Behavior*, 15, 245–259.
- Sargis, E. G., & Larson, J. R. (2002). Informational centrality and member participation during group decision making. *Group Processes & Intergroup Relations*, 5, 333–347.
- Scheer, L. K., Kumar, N., & Steenkamp, J. E. M. (2003). Reactions to perceived inequity in U.S. and Dutch interorganizational relationships. *Academy of Management Journal*, 46, 303–316.
- Smith, A., & Williams, K. D. (2004). R U There? Ostracism by cell phone text messages. *Group Dynamics: Theory, Research, and Practice*, 8, 291–301.
- Stasser, G., & Titus, W. (1985). Pooling of unshared information in group decision making: Biased information sampling during discussion. *Journal of Personality and Social Psychology*, 48, 1467–1478.
- Suls, J., & Wheeler, L. (Eds.). (2000). *Handbook of social comparison: Theory and research*. Dordrecht: Kluwer Academic Publishers.
- Taylor, A. S., & Harper, R. (2003). The gift of the gab?: A design oriented sociology of young people's use of mobiles. *Computer Supported Cooperative Work*, 12, 267–296.
- Thierry, H. (1998). The reflection theory on compensation. In M. Erez, U. Kleinbeck, & H. Thierry (Eds.), *Work motivation in the context of a globalizing economy*. Hillsdale, NJ: Erlbaum.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Cambridge, MA: Basil Blackwell.
- Tyler, T. R., & Lind, E. A. (1992). A relational model of authority in groups. *Advances in Experimental Social Psychology*, 25, 115–191.
- van Beest, I., & Williams, K. D. (2006). When inclusion costs and ostracism pays, ostracism still hurts. *Journal of Personality and Social Psychology*, 91, 918–928.
- van Prooijen, J. W., van den Bos, K., & Wilke, H. A. M. (2004). Group belongingness and procedural justice: Social inclusion and exclusion by peers affects the psychology of voice. *Journal of Personality and Social Psychology*, 87, 66–79.
- Wegner, D. M., Erber, R., & Raymond, P. (1991). Transactive memory in close relationships. *Journal of Personality and Social Psychology*, 61, 923–929.
- Wenzel, M. (2006). A letter from the tax office: Compliance effects of informational and interpersonal justice. *Social Justice Research*, 19, 345–364.
- Williams, K. D. (1997). Social ostracism. In R. M. Kowalski (Ed.), *Aversive interpersonal behaviors* (pp. 133–170). New York: Plenum Press.
- Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford Press.
- Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, 58, 425–452.
- 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.
- Williams, K. D., & Karau, S. J. (1991). Social loafing and social compensation: The effects of expectations of co-worker performance. *Journal of Personality and Social Psychology*, 61, 570–581.
- Williams, K. D., & Sommer, K. L. (1997). Social ostracism by co-workers: Does rejection lead to loafing or compensation? *Personality and Social Psychology Bulletin*, 23, 693–706.
- Wittenbaum, G. M., Hubbell, A. P., & Zuckerman, C. (1999). Mutual enhancement: Toward an understanding of the collective preference for shared information. *Journal of Personality and Social Psychology*, 77, 967–978.
- 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.
- 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.

*Paper accepted 13 June 2008; revised version accepted 27 August 2008.*

## **Biographical notes**

ERIC E. JONES is a PhD candidate in social psychology at Purdue University. He received his BA in psychology and business management from Hope College. His research focuses on the areas of group processes, group performance, and jury decision making.

ADRIENNE R. CARTER-SOWELL is a PhD candidate in the social psychology program at Purdue

University. She received her BA from the University of Virginia. Her research focuses on how individuals and grouped individuals respond to ostracism. She also studies workplace topics in regards to race, gender, and social ostracism.

JANICE R. KELLY is a professor of social psychology at Purdue University. Her primary research focuses on the effects of temporal constraints (e.g. time limits or time pressure) on group performance and interaction, as well as on the effects of mood and gender composition on group and dyadic interaction.

KIPLING D. WILLIAMS is a professor of psychological sciences at Purdue University. In addition to his interest in ostracism, he has studied social loafing and social influence in the courtroom.